

REPORT ON THE ACTUARIAL INVESTIGATION OF THE

- STATE AUTHORITIES SUPERANNUATION SCHEME**
- STATE AUTHORITIES NON-CONTRIBUTORY
SUPERANNUATION SCHEME**
- STATE SUPERANNUATION SCHEME**
- POLICE SUPERANNUATION SCHEME**

AS AT 30 JUNE 2015

VOLUME II

SAS TRUSTEE CORPORATION

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Summary of Financial Data

1.1. Total Pooled Fund

The table below summarises the total income and expenditure of the Pooled Fund over the period from 1 July 2012 to 30 June 2015. The data has been taken from the audited financial statements of the Fund.

Financial Year ending 30 June	2013 \$m	2014 \$m	2015 \$m	3 years to 2015 \$m
Reserves at beginning	34,351.9	38,209.0	40,248.2	34,351.9
Income				
Contributions				
- Employer	1,434.8	1,401.1	1,481.0	4,316.9
- Salary sacrifice	294.8	274.5	252.0	821.3
- Employee	161.0	134.6	114.2	409.8
Investment income	6,262.2	4,924.8	4,625.0	15,812.0
Miscellaneous	2.2	2.4	2.5	7.1
Net Transfers	0.9	-1.0	0.5	0.4
Total income	8,155.9	6,736.4	6,475.2	21,367.5
Expenditure				
Total benefits	4,050.7	4,456.1	4,435.6	12,942.4
Expenses of management	35.4	40.0	53.4	128.8
Investment Expenses	95.8	102.6	125.8	324.2
Tax	124.2	106.4	126.5	357.1
Superannuation Contributions Surcharge	-7.3	-7.9	-5.9	-21.1
Total expenditure	4,298.8	4,697.2	4,735.4	13,731.4
Reserves at 30 June	38,209.0	40,248.2	41,988.0	41,988.0

1.2. Employer Contributions

The Employer contributions (excluding salary sacrifice contributions) paid over the period from 1 July 2012 to 30 June 2015 for each Scheme were:

Financial Year ending 30 June	2013 \$m	2014 \$m	2015 \$m	3 years to 2015 \$m
SASS	456.7	758.5	456.6	1,671.8
SANCS	182.9	253.0	141.3	577.2
SSS	503.2	309.5	682.5	1,495.1
PSS	292.0	80.1	200.7	572.8
Total Employer Contributions	1,434.8	1,401.1	1,481.0	4,316.9

1.3. Total Benefits

Total benefits paid over the period from 1 July 2012 to 30 June 2015 for each Scheme were:

Financial Year ending 30 June	2013 \$m	2014 \$m	2015 \$m	3 years to 2015 \$m
SASS	1,169.4	1,398.7	1,335.4	3,903.5
SANCS	333.2	356.5	271.7	961.4
SSS	2,093.6	2,239.2	2,359.4	6,692.2
PSS	447.2	453.8	463.2	1,364.2
Total Benefits	4,050.7	4,456.1	4,435.6	12,942.4

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Summary and Analysis of Membership Data

2.1. Summary of the Movements of Defined Benefit Members from 1 July 2012 to 30 June 2015

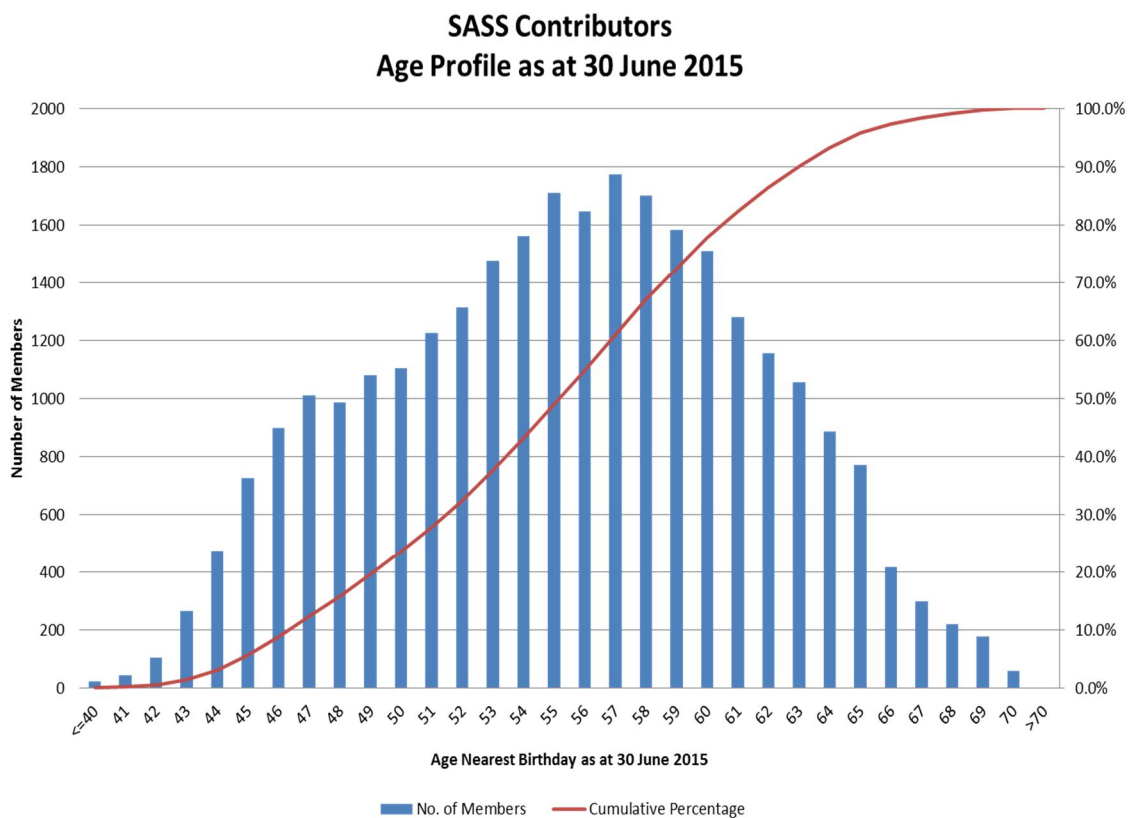
	SASS*		SSS				PSS		
	Contributors	Pensioners	Contributors	Deferred	Pensioners	Fully commuted pensioners	Contributors	Deferred	Pensioners
Members at 30 June 2012	38,004	3,888	13,405	2,302	49,068	17,652	1,666	133	6,522
Late Movements and Corrections, Transfers, Reinstatements (Net)	(200)	-	(213)	-	-	-	(6)	-	-
Exits	(9,252)	(751)	(6,079)	(826)	(3,168)	(520)	(385)	(19)	(495)
New entrants	-	1,030	-	75	7,598	145	-	-	528
Members at 30 June 2015	28,552	4,167	7,113	1,551	53,498	17,277	1,275	114	6,555
Total salaries at 30 June 2015	\$2,738m	-	\$765m	-	-	-	\$162m	-	-
Average salaries at 30 June 2015	\$95,896	-	\$107,553	-	-	-	\$126,934	-	-
Total Annual Pension amount as at 30 June 2015	-	\$86m	-	-	\$2,262m	-	-	-	\$408m
Average Annual Pension amount as at 30 June 2015	-	\$20,637	-	-	\$42,282	-	-	-	\$62,171
Average age at 30 June 2015	55	75	57	56	73	-	53	54	63

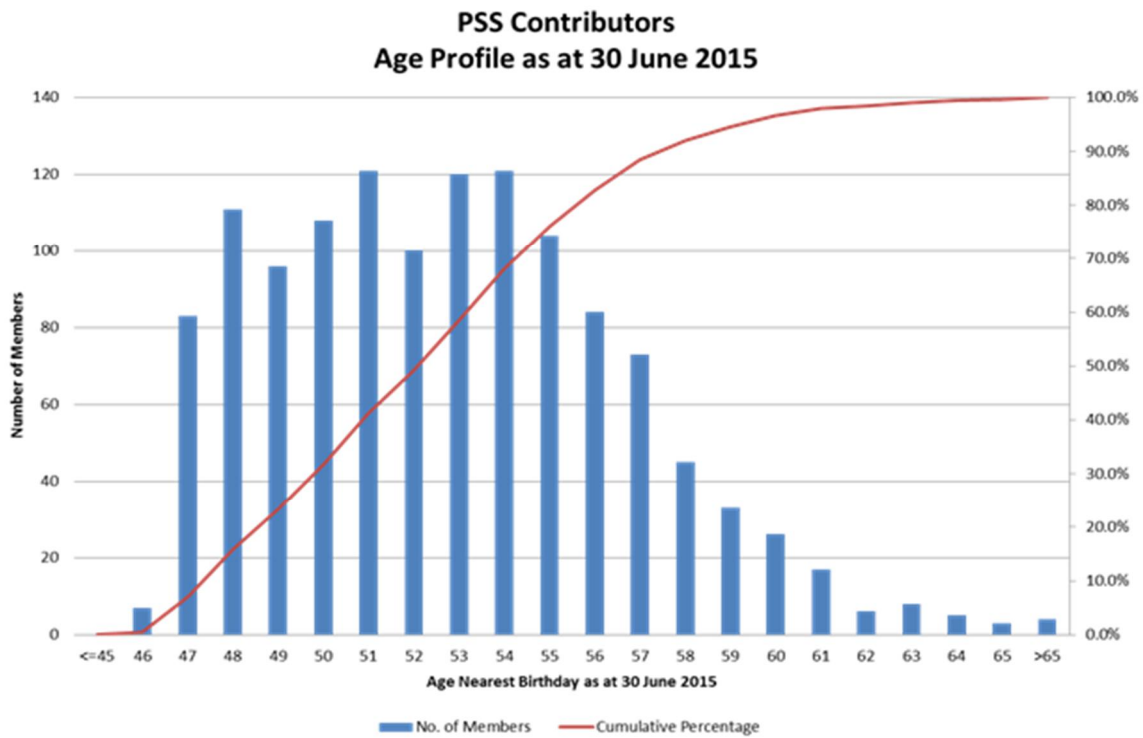
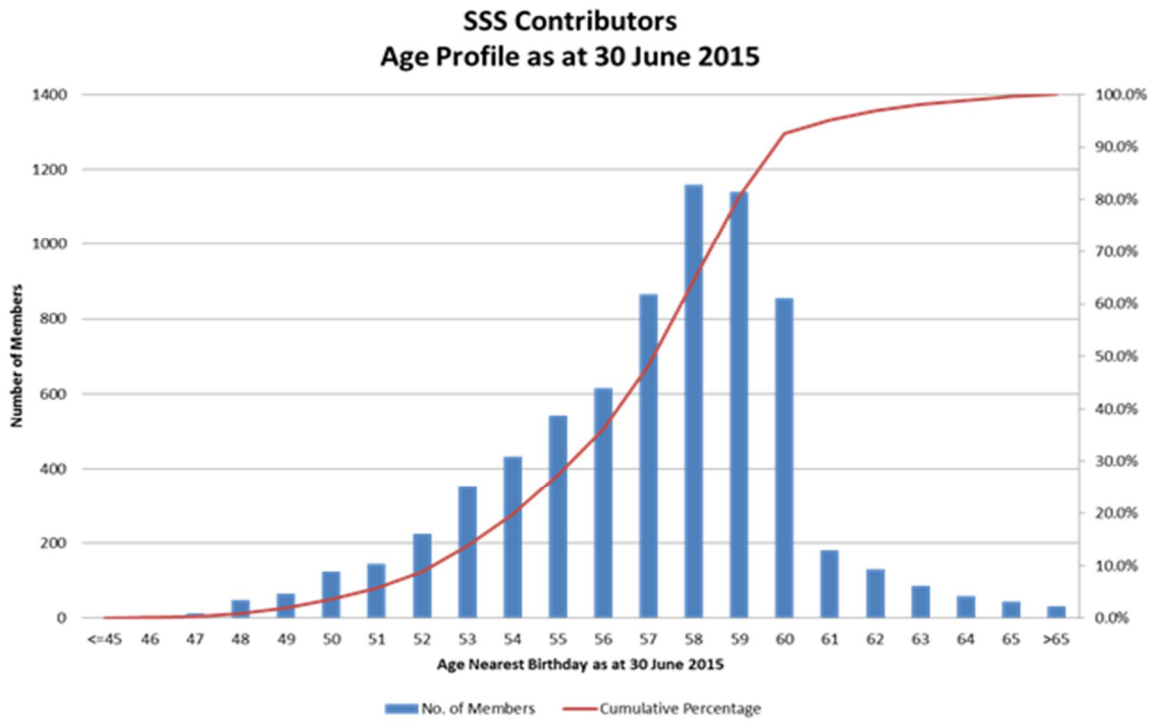
* SASS deferred members have been excluded as they are only entitled to accumulation style benefits.

2.2. Summary of Contributor Exits by Exit Type

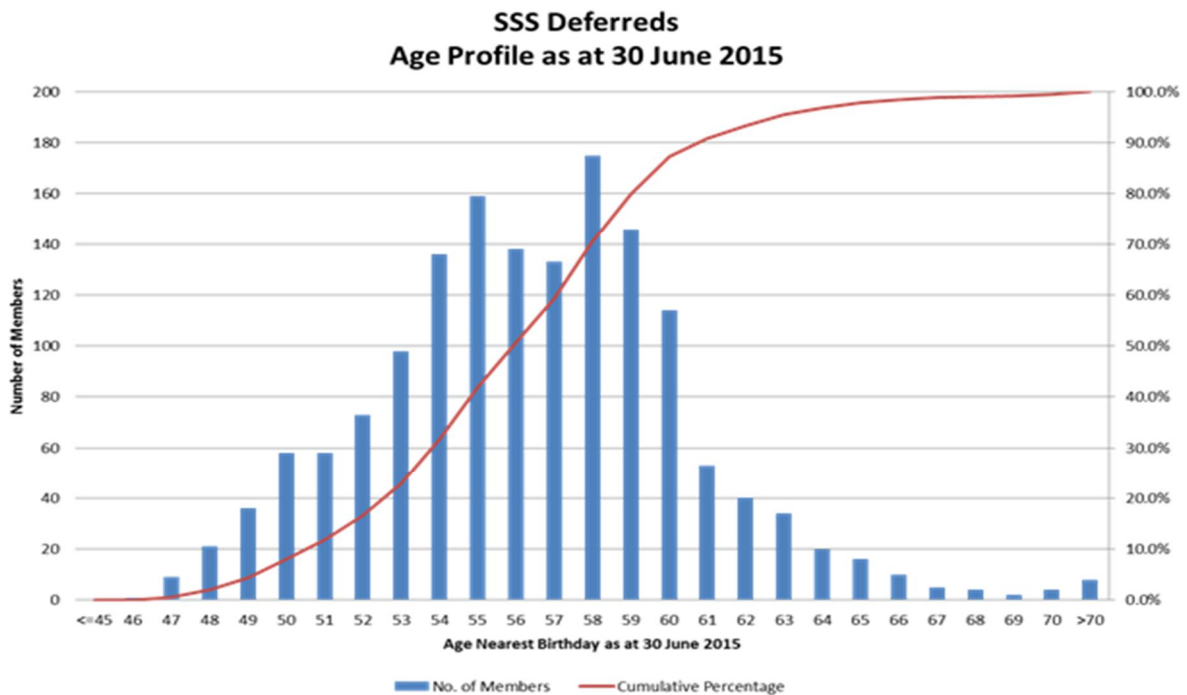
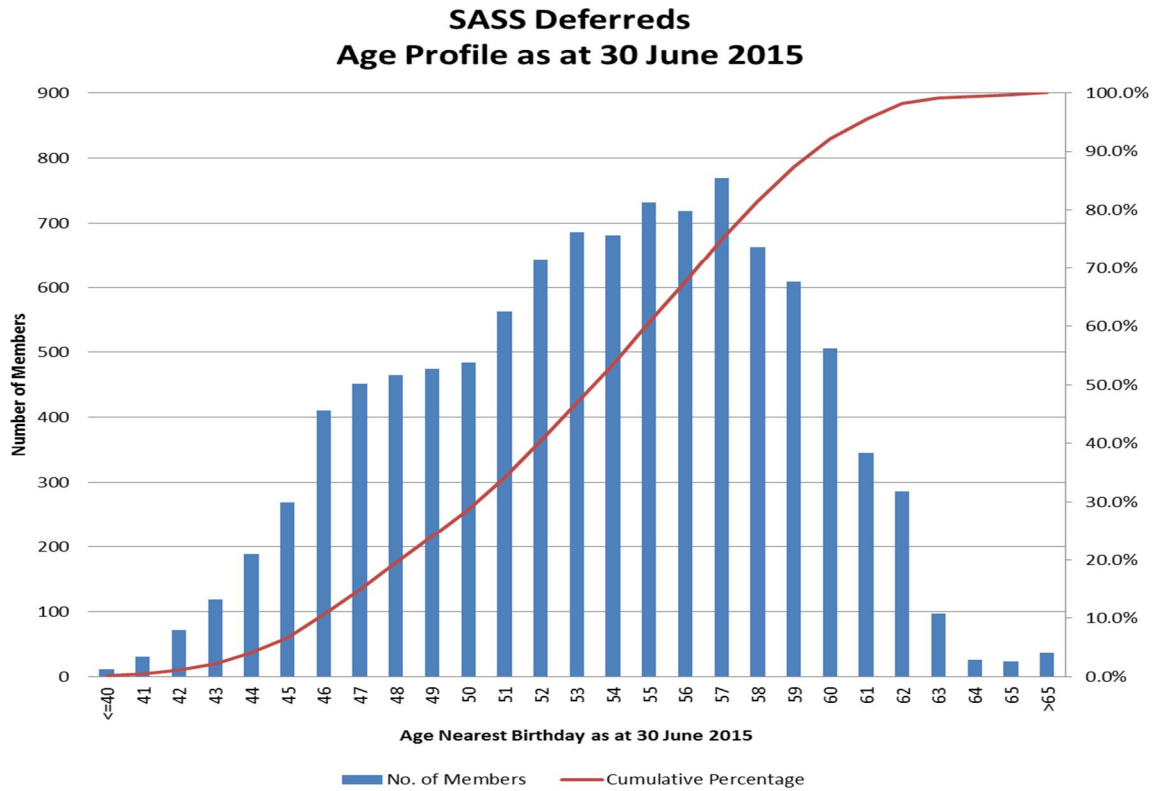
Contributor Exits	SASS	SSS	PSS
Deaths	142	31	8
Disabilities	345	363	292
Resignations	591	59	1
Retirements	7,135	79	84
Retrenchments	1,039	5,547	0
Total	9,252	6,079	385

2.3. Age Profile for Contributors at 30 June 2015

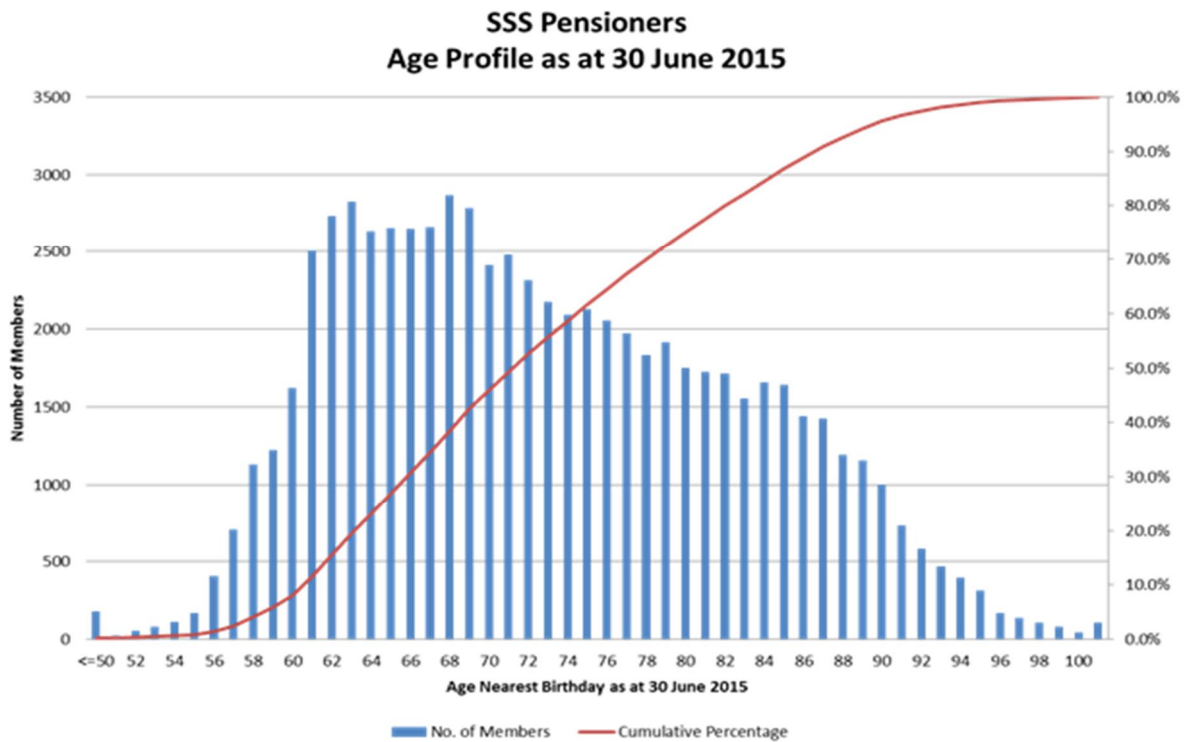
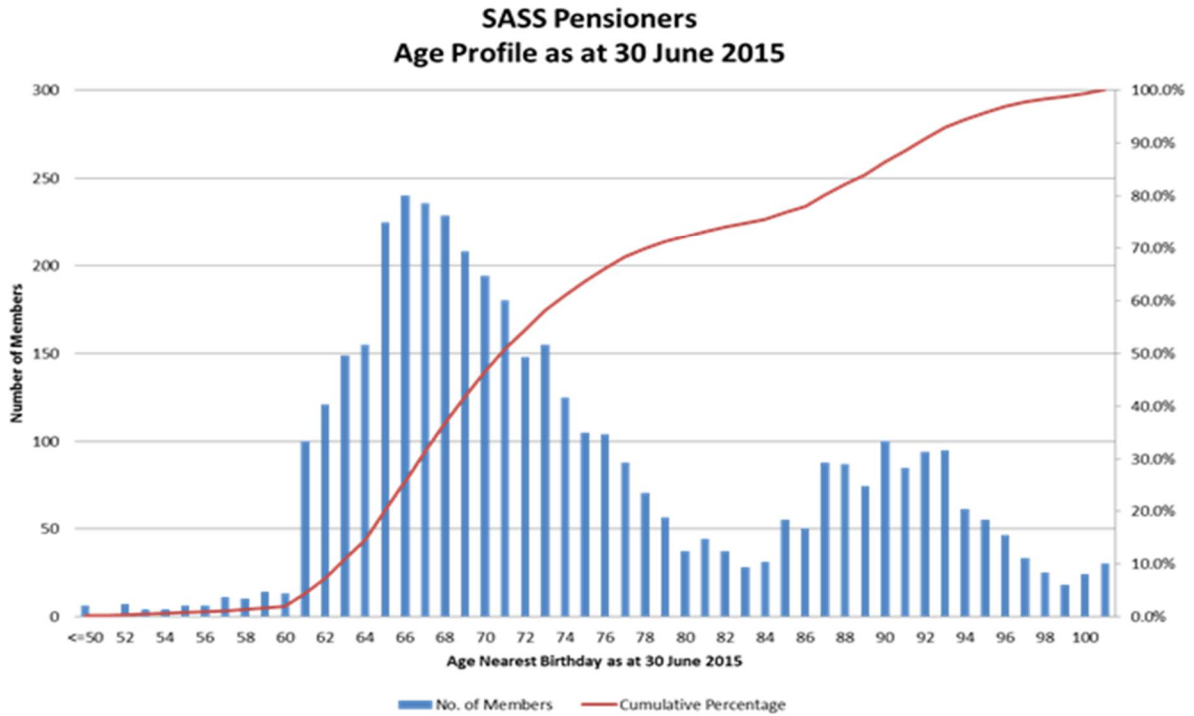




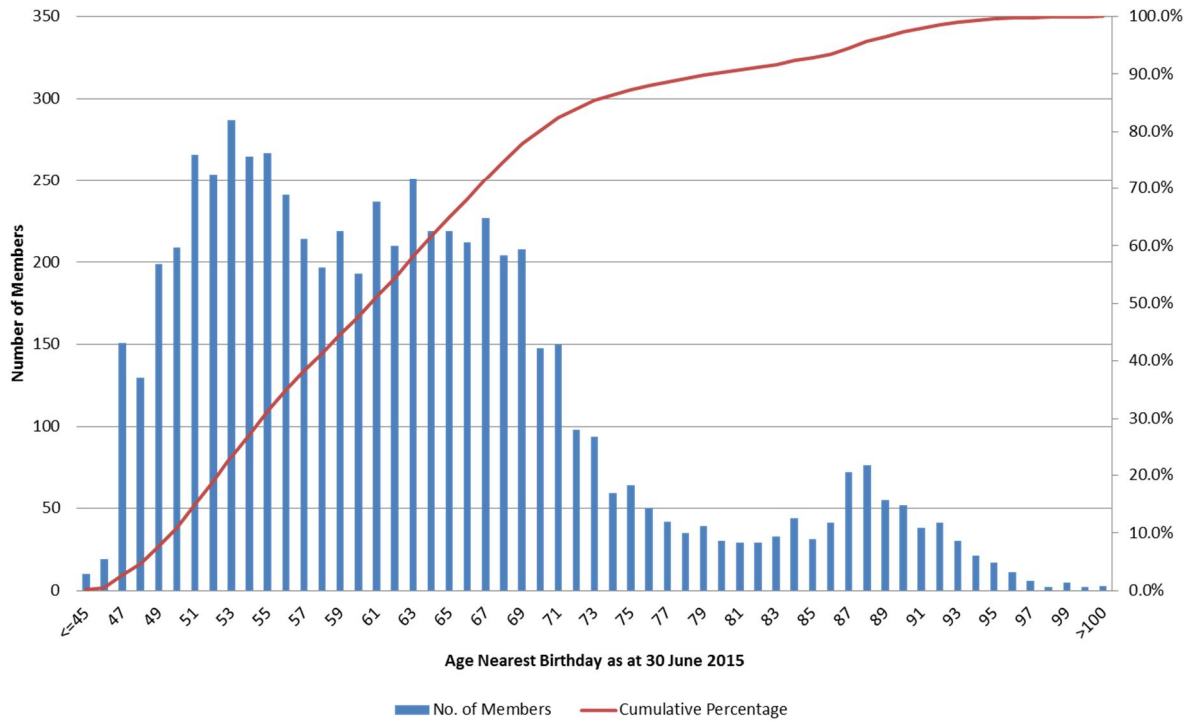
2.4. Age Profile of Deferred Members at 30 June 2015



2.5. Age Profile for Pensioners at 30 June 2015



PSS Pensioners Age Profile as at 30 June 2015



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Financial Structure of Each Scheme

3.1. Asset Reserves in Each Scheme

The following asset reserves exist for each Scheme:

Scheme	Member Reserves	Employer Reserves	Deferred Benefits Reserves	Self-Insurance Reserve
SASS	Yes	Yes	Yes	Yes
SANCS	Yes*	Yes	Yes	N/A
SSS	Yes	Yes	N/A	N/A
PSS	Yes	Yes	N/A	N/A

*Members are not required to contribute to SANCS. SANCS Other Accounts, including accumulation-style benefits such as government co-contributions, are disclosed as SANCS Member Reserves for the purposes of presentation in this valuation report.

3.2. Member Reserves


The Member Reserves or Contributor Reserves operate in a similar manner to a personal bank account. An account is maintained for each contributor to the Scheme, and the following cash flows go in and out of the account:

Member Reserves

<p>SASS, SSS and PSS - Member Defined Benefit contributions</p> <p>SANCS only - government co-contributions</p> <p>Investment earnings</p>	<p>Contribution tax if salary sacrifice</p> <p>SASS only</p> <ul style="list-style-type: none"> - Expense of management - member-portion of Additional Benefits levies if applicable <p>Account balance is paid on member ceasing employment (to the member or Employer Reserve or Deferred Benefits Reserve depending on the Scheme and the exit type)</p>
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3.3. Employer Reserves

An Employer Reserve account is maintained for each employer (a single employer account is maintained for all Part 3 employers), and the following cash flows go in and out of the account:

 Employer Reserves	
Employer contributions	Contribution tax
Investment earnings	Expense of management
SSS and PSS Only - transfer in of Member Reserve on member exit or deferral	SASS only - Employer portion of Additional Benefits levies
SASS only - transfer in of deferred benefits reserve balance in excess of accumulated cash resignation benefit on deferred member exiting prior to attaining a SIS condition of release	Employer funded benefit payments in lump sum or pension
<div style="border: 1px solid black; padding: 5px;"> + / - transfers of employer assets for contributors transferring between employers + / - Employer Reserve death and disability benefits pooling adjustments </div>	

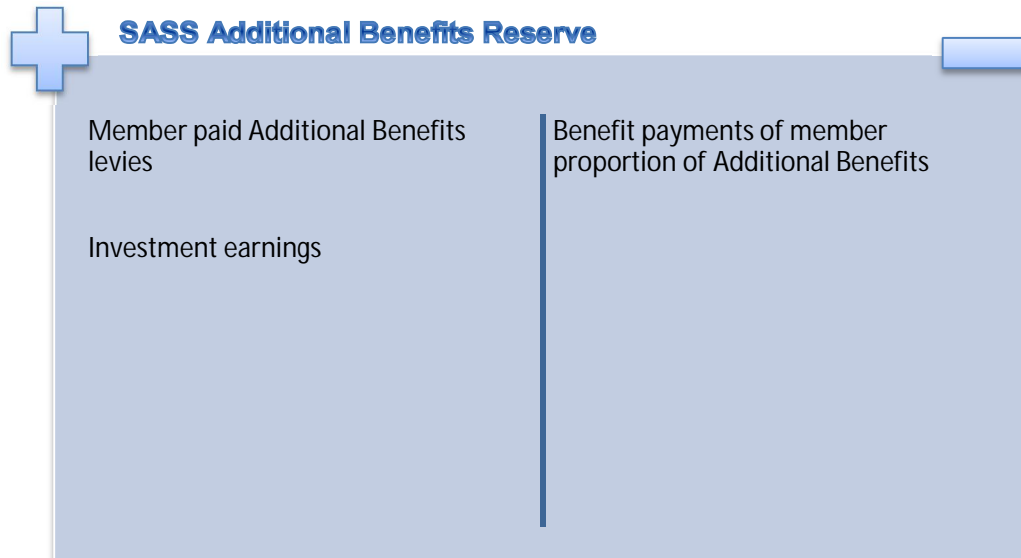
3.4. Deferred Benefit Reserves

The Deferred Benefits Reserves are maintained for SASS and SANCS deferred members. An account is maintained for each deferred member and the following cash flows go in and out of the account:

 Deferred Benefits Reserves (SASS and SANCS Only)	
Transfer in of Employer and Member Reserves when a member defers benefit on exit	Expense of management
Investment earnings	Benefit payments on exits of deferred members
	For SASS members, deferred benefits reserve balance in excess of accumulated cash resignation benefit is transferred to the Employer Reserve on a deferred member exiting prior to attaining a SIS condition of release

3.5. SASS Self-Insurance / Additional Benefits Reserve

The SASS Additional Benefits Reserve is a self-insurance reserve set up for the administration of the members' proportion of the SASS Additional Benefits. The following cash flows go in and out of the account:



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Apportionment of Benefits

4.1. SASS

Where liabilities for expected future benefit payments under SASS in this valuation have been apportioned between past service liabilities (benefits in respect of membership prior to the valuation date) and future service liabilities (membership after the valuation date), the method of apportioning to past service is as set out below. Future service liabilities are the difference between the total liabilities and the past service liabilities.

For benefits payable at time t years after the valuation date:

- on retirement, partial disability, withdrawal with deferred benefit (before discount) and on total disability:

Past service component

$$= SAL_t \times ABP_0 \times 0.025 \times \left(1 - \frac{\text{TaxPS}+t}{\text{PS}+t} \times 0.15 \right)$$

- on death:

Past service component

$$= SAL_t \times ABP_0 \times 0.025$$

- on resignation with 10 years' membership:

Past service component

$$= (\text{PS}+t) \times \text{MCI}_t \times \frac{\text{ABP}_0}{Y_t} \times 0.025 \times \left(1 - \frac{\text{TaxPS}+t}{\text{PS}+t} \times 0.15 \right)$$

where:

ABP_0 = accrued benefit points at time 0, subject to maximum points limit.

Y_t = as ABP_t except not subject to maximum points limit

PS = membership period to valuation date, including previous fund membership

TaxPS = membership period to valuation date, excluding any period before 1 July 1988

SAL_t = salary at time t (Final Salary or Final Average Salary as appropriate to the particular benefit)

MCI_t = member contributions plus interest at time t, less expenses and additional benefits levy where applicable. Member is assumed to continue to contribute at his/her contribution rate at the valuation date until achieving maximum points limit, then member contribution rate reduces as per valuation assumption.

4.2. SANCS

Where liabilities for expected future benefit payments under SANCS in this valuation have been apportioned between past service liabilities (benefits in respect of membership prior to the valuation date) and future service liabilities (membership after the valuation date), the method of apportioning to past service is as set out below. Future service liabilities are the difference between the total liabilities and the past service liabilities.

For benefits payable at time t years after the valuation date:

Past service component

$$= \frac{PS}{PS+t} \times (\text{benefit payable in respect of SANCS membership})$$

$$+ \frac{SGPS}{SGPS+t} \times (\text{SG top-up, if any})$$

where:

PS = membership period to valuation date

SGPS = membership period to valuation date, excluding any period before 30 June 1992

4.3. SSS

Where liabilities for expected future employer-financed benefit payments under SSS in this valuation have been apportioned between past service liabilities (benefits in respect of membership prior to the valuation date) and future service liabilities (membership after the valuation date), the method of apportioning to past service is as set out below. Future service liabilities are the difference between the total liabilities and the past service liabilities.

For benefits payable at time t years after the valuation date:

- on retirement, withdrawal and preservation:

Past service component

$$= \frac{PS}{PS+t} \times \text{Value of employer-financed benefit commencing payment at time } t$$

- on death or disability:

Past service component

$$= \frac{PS}{TS} \times \text{Value of employer-financed benefit commencing payment at time } t$$

where:

PS = membership period to valuation date, or normal retirement age if earlier

TS = membership period to normal retirement age.

PS+t = membership period to time t, or normal retirement age if earlier.

Value of employer-financed benefit = Value total benefit less amount of accumulated member contributions at time t.

4.4. PSS

Where liabilities for expected future benefit payments under PSS in this valuation have been apportioned between past service liabilities (benefits in respect of membership prior to the valuation date) and future service liabilities (membership after the valuation date), the method of apportioning to past service is as set out below. Future service liabilities are the difference between the total liabilities and the past service liabilities.

For benefits payable at time t years after the valuation date:

- on retirement, withdrawal and preservation:

Past service component

$$= \frac{PS}{PS+t} \times \text{Value of benefit commencing payment at time } t$$

- on death or invalidity:

Past service component

$$= \frac{PS}{PS+t} \times \frac{PS+t(\max 30)}{TS(\max 30)} \times \text{Value of benefit commencing payment at time } t$$

where:

- PS = membership period to valuation date, or normal retirement age if earlier
- TS(max 30) = lesser of membership period to normal retirement age or 30 years.
- PS+t = membership period to time t, or normal retirement age if earlier.
- PS+t(max 30) = membership period to time t, or normal retirement age if earlier, limited to 30 years.

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Benefit Design Summary

5.1. SASS

5.1.1. Definitions

"Accrued benefit points" at a contributor's exit date means the number of benefit points contributed to that date, or the contributor's maximum benefit points at that date if less.

"Accumulation of contributions" means, in respect of a contributor, the amount of contributions made to the Fund by that contributor plus interest less death and disability charges (if covered for additional benefits) less tax (where contributions are made on a salary sacrifice basis) less administration costs.

"Additional benefit" means the additional amount of 4% times final salary (or final average salary if higher) times prospective benefit points. The additional benefit is payable on death or total and permanent disability for those contributors who are covered. Contributors who are covered pay a levy (deducted from their accumulation of contributions) for one quarter of these additional benefits.

"Benefit points" - a contributor accrues 1/12th of a benefit point for each one per cent of salary contributed for a whole month. The maximum number of benefit points a contributor may accrue is the lesser of 180 or half the number of months the contributor is (or is deemed to be) a contributor to the Scheme.

"Continuous contributory service", in relation to a contributor, means the period beginning with the contributor's entry date and ending with the contributor's exit date.

"Early retirement age" means the age of 58 years or, if some lower age (but not lower than the age of 55) is prescribed, that lower age.

"Employers under Part 1" - The Crown and other employers. See Section 6.

"Employers under Part 3" - Hospitals and Other Bodies. See Section 6.

"Final average salary" in respect of a contributor means the average of full-time salaries on the contributor's exit date and on 31 December in each of the 2 years immediately preceding that in which he ceased to be an employee.

"Final salary" means the annual rate of full-time salary payable to a contributor immediately before exit.

"Prospective benefit points" means the future benefit points accruing to a contributor if he were to continue to contribute until early retirement age 58 (or earlier prescribed age) at the average rate at which he has contributed since becoming a contributor to a points-based scheme, limited to the points required to reach the contributor's maximum benefit points at early retirement age.

"Salary" means for contributions payable in a superannuation year commencing on 1 April the annual rate of salary paid to a contributor at the previous 31 December (or entry if later).

"Taxable date" means the date on which the Trustee first became liable to pay income tax under a Commonwealth taxation law in respect of employers' contributions to the Fund, which was 1 July 1988.

5.1.2. Contributions

5.1.2.1. Contributions by contributors

- contributors may elect to contribute at 1, 2, 3, 4, 5, 6, 7, 8 or 9 per cent of salary;
- STC may approve a contribution rate of 0% in some circumstances, e.g. financial hardship.
- the elected rate of contribution may be altered each superannuation year (commencing 1 April).
- contributions are payable until the end of the month prior to exit or until age 70.

5.1.2.2. Contributions by employers

- Part 1 employers - where the contributor is an employee of an employer under Part 1, the employer pays a multiple of employee contribution as determined by STC with the concurrence of the Treasurer.
- Part 3 employers - where a contributor is an employee of an employer under Part 3, the employer shall contribute 1.0 (or such higher factor prescribed with the concurrence of the Treasurer) times the contributor's contributions

5.1.3. Benefits

5.1.3.1. Retirement on or after early retirement age

The benefit payable to a contributor on exit on or after early retirement age is:

- a lump sum equal to the accumulation of the former contributor's contributions; plus
- a lump sum equal to $F \times A \times 0.025 \times (1 - 0.15 \times B/C)$;

Where	F	Is the contributor's final average salary;
	A	is the contributor's accrued benefit points;
	B	represents the period in days of continuous contributory service that began on the taxable date;
		represents the period in days of continuous contributory service for the contributor;
	0.15	represents the tax rate of the Fund on employers' contributions.

5.1.3.2. Death

The benefit payable on death of the contributor after early retirement age is the benefit which would have become payable had he or she retired on the date of his death, but is not subject to reduction for tax, i.e. the factor B/C is zero.

The benefit payable on death of the contributor before attaining early retirement age is:

- a lump sum equal to the accumulation of the former contributor's contributions; plus
- a lump sum equal to $S \times A \times 0.025$;

Where S is the former contributor's final salary, or final average salary if this is higher;
 A is the contributor's accrued benefit points;

plus

- where the contributor was covered for additional benefits, the amount of the additional benefit (i.e. 4% times S times prospective benefit points).

5.1.3.3. Total and permanent invalidity before early retirement age

The benefit payable to a former contributor who retires before attaining early retirement age due to total and permanent invalidity is:

- a lump sum equal to the accumulation of the contributor's contributions; plus
- a lump sum equal to $S \times A \times 0.025 \times (1 - 0.15 \times B/C)$;

Where S is the contributor's final salary or final average salary if this is higher;
 A is the contributor's accrued benefit points;
 B represents the period in days of continuous contributory service that began on the taxable date;
 C represents the period in days of continuous contributory service for the contributor;
 0.15 represents the tax rate of the Fund on employers' contributions.

plus

- where a contributor is covered for additional benefits, the amount of the additional benefit (i.e. 4% times S times prospective benefit points).

5.1.3.4. Partial and permanent invalidity

The benefit payable to a contributor who retires before attaining the early retirement age due to partial and permanent invalidity is:

- a lump sum equal to the accumulation of the contributor's contributions; plus
- a lump sum equal to $S \times A \times 0.025 \times (1 - 0.15 \times B/C)$;

Where	S	is the contributor's final salary or final average salary if this is higher;
	A	is the contributor's accrued benefit points;
	B	represents the period in days of continuous contributory service that began on the taxable date;
	C	represents the period in days of continuous contributory service for the contributor;

5.1.3.5. Retrenchment

The benefit payable to a contributor who is retrenched before attaining the early retirement age is the same as for partial and permanent invalidity.

5.1.3.6. Resignation, dismissal or discharge after 10 years' membership

The benefit payable to a contributor who resigns or is dismissed or discharged before attaining the early retirement age and who has been a member for 10 years or more is:

- a lump sum equal to the accumulation of the contributor's contributions; plus
- a lump sum equal to $(V - 0.15 \times T) \times R \times A/Y \times 0.025$;

Where	V	is the number of years of continuous contributory service (including fractional parts of a year);
	T	is the number of years of continuous contributory service that commenced on the taxable date or entry date (whichever occurred later) including fractional parts of a year;
	R	is the contributor's accumulated contributions;
	A	is the contributor's accrued benefit points;
	Y	is the total benefit points the member would have accrued at exit had no maximum applied.

That part of the benefit above the maximum non-deferred amount calculated at 1 July 1999 must be taken in deferred form.

5.1.3.7. On attainment of age 65 or 70

On attainment of age 65, or at an age between 65 and 70 as elected by the contributor (providing the contributor continues to work at least 10 hours per week), the contributor must be paid the retirement benefit, but may elect to preserve the benefit. After attainment of age 70 no further benefits may accrue and no further contributions are payable.

5.1.3.8. Deferred benefits

A contributor who becomes entitled to a benefit on retrenchment, resignation, dismissal or discharge, on early retirement or attainment of age 65 (or 65 to 70 if relevant) may elect instead for a deferred benefit unless the benefit is less than \$500 or the contributor elects to take a cash benefit. The deferred benefit is payable on:

- application on attainment of early retirement age;
- death;
- total and permanent invalidity before early retirement age;
- retirement from the workforce (or effective retirement after 65 or 70 defined as working less than 10 or 30 hours a week respectively);
- on application if the benefit was deferred after early retirement age.

The deferred benefit is:

- a lump sum equal to the accumulated contributor's contributions, plus interest from the date of exit to the date of payment; plus
- a lump sum equal to $F \times A \times 0.025 \times D \times (1 - 0.15 \times B/C)$ plus interest from the date of exit to the date of payment.

Where	F	is the contributor's final average salary;
	A	is the contributor's accrued benefit points;
	D	equals an actuarial discount factor (currently 0.99 for ages at exit under early retirement age, otherwise 1.0) raised to the power of (early retirement age less age at exit including fractions of a year);
	B	represents the period in days of continuous contributory service that began on the taxable date;
	C	represents the period in days of continuous contributory service for the contributor;

A retrenched member may elect to preserve, instead of the above, the amount of the cash retrenchment benefit.

A member may elect instead to receive a cash benefit (limited to the maximum amount to which he would have been entitled at exit) plus interest to the date of payment at an earlier date than the deferred benefit (which would then be appropriately reduced to reflect the cash payment).

5.1.3.9. Provisions for part-time contributors

- i. Benefits are calculated on the equivalent full-time salary.
- ii. Accrued benefit points for each month are reduced by salary ratio (actual salary divided by salary if full-time).
- iii. The maximum number of points attainable is scaled down by salary ratio for each month.
- iv. Prospective benefit points are scaled down by salary ratio at commencement of month in which exit occurs.
- v. Contributions are reduced by applying the salary ratio.

5.1.3.10. Superannuation Guarantee

The employer-financed benefit on exit for any reason, together with the employer-financed benefit payable for the State Authorities Non-Contributory Superannuation (SANCS) Fund is subject to a minimum benefit as specified in the current Benefit Certificate so that benefits paid by these schemes can be used to meet employers' obligations under the Superannuation Guarantee (Administration) Act. The shortfall, if any, is to be provided from the SANCS Fund.

The MRB (Minimum Requisite Benefit) specified in the Benefit Certificate adopted in the valuation in respect of SASS members is described below. This is the amount below which the combined SASS and SANCS benefits payable may not fall. The MRB is that set out in the Benefit Certificate valid from 1 July 2008, extended in a consistent manner to cover future periods.

MRB = the accumulation of the former contributor's contributions (including salary sacrifice contributions net of tax, and any co-contributions); plus

- a pre 1 July 1992 component; plus
- FASEX x 1.0524 x DF x SGLM1; plus
- FASOTE x 1.08 x DF x SGLM2

Where FASEX is the contributor's final average salary at exit

FASOTE is the annual average of the Employee's Ordinary Time Earnings as defined in sub-section 6(1) of the Superannuation Guarantee (Administration) Act 1992, earned over the period commencing on the 1 January in the year two years before the date of determination and ending on the date of determination.

DF is .7 for age at exit < 45
 1 - .015 x (65 - age at exit) for 45 < age at exit < 65
 1 for age at exit >= 65.

SGLM1 is the total accrued Superannuation Guarantee Levy multiple at 30 June 2008 comprising the sum over the contributor's service to 30 June 2008 of the multiple applying at a particular period times the number of years' service during that period where the multiples are as follows:

Multiple accruing per year of service	Period over which given multiple applies
.04	1/07/1992 to 31/12/1992
.05	1/01/1993 to 30/06/1995
.06	1/07/1995 to 30/06/1998
.07	1/07/1998 to 30/06/2000
.08	1/07/2000 to 30/06/2002
.09	1/07/2002 to 30/06/2013
.0925	1/07/2013 to 30/06/2014
.095	1/07/2014 to 30/06/2021
.10	1/07/2021 to 30/06/2022
.105	1/07/2022 to 30/06/2023
.11	1/07/2023 to 30/06/2024
.115	1/07/2024 to 30/06/2025
.12	after 1/07/2025

SGLM1 is the total accrued Superannuation Guarantee Levy multiple accrued post 1 July 2008 comprising the contributor's service from 1 July 2008 to exit date times the multiple applying at that period.

The pre 1 July 1992 component is the total of employer-financed cash benefits which would have been paid had the contributor resigned or retired on 1 July 1992 (except that for final salary or final average salary the amount used is the fund salary at 1 July 1992, i.e. salary at 31 December 1991) updated to the date of MRB calculation by the ratio of FASEX to salary at 31 December 1991 or later entry.

The MRB is reduced by the member's surcharge liability (if any), any adjustment for Family Law payments (if any), and adjusted for net MRB transfer payments (if any).

5.1.3.11. Transitional arrangements – Recognition of Previous Scheme membership

A. Public Authorities Superannuation Scheme (PASS)

- i. The additional benefit and associated levy automatically applies to a contributor who was qualified for the additional benefit under the PASS;
- ii. The contributor's account was to be credited at 1 April 1988 with the corresponding account balance under the PASS as at 31 March 1988;
- iii. Initial accrued benefit points will be the number of accrued benefit points under PASS as at 31 March 1988 multiplied by 0.72;
- iv. The contributor's entry date is deemed to be the date service commenced or was deemed to have commenced under PASS;
- v. Prospective benefit points will be subject to a minimum of 0.7 times the number of prospective benefit points that would have been calculated if early retirement age were 60;
- vi. Benefits are reduced where broken service has been recognised in the case of a contributor who had employment involuntarily terminated under Clause 5 of the New South Wales Retirement Benefits Regulation 1983;

B. Local Government Pension Fund (LGPF)

- i. Transitional arrangements for ex-LGPF members are as for ex-PASS members with some additional special provisions.
- ii. (An additional lump sum is payable to qualified contributors on death or total and permanent disablement before age 60 equal to

$$\frac{S}{100} \times (P-R)$$

- Where
- | | |
|---|---|
| S | is final salary; |
| P | is prospective benefit points to age 65; |
| R | is prospective benefit points under SASS. |

- iii. Minimum lump sum benefits on death or total and permanent disablement apply to certain contributors.
- iv. Employer-financed benefits on retirement after age 60 may be taken completely or in part pension form as for LGPF except that benefit points provide .2223% pension, discounted for retirement before age 65 (special additional pension points are provided to ensure pensions always exceed LGPF pensions), as follows:

$$\text{Pension} = S \times C \times .002223x (1-.025T)$$

Where S is final salary;
 C is the number of benefit points converted to pension
 T is the number of whole years that the member's exit date precedes his 65th birthday.

These benefits are subject to a reduction to account for contribution tax liability to the Fund as follows:

$$\text{Reduction} = A \times B/C \times Q \times 0.15 \times \text{Pension Benefit}$$

Where A represents the contributor's accrued benefit points;
 B represents the period in days of continuous contributory service that began on the taxable date;
 C represents the period in days of continuous contributory service for the contributor;
 Q represents the proportion of accrued benefit points to be converted to a pension.

There are also pension options on death and disability.

- v. Pensions in respect of children are payable as for LGPF. The child pension amount differs by if a parent survives or no parent survives. The total pension to dependents is not to exceed that which would have been payable on total and permanent disablement.

C. NSW Retirement Fund (NRF)

- i. Transitional arrangements for ex-NRF members are as for ex-PASS members with some additional special provisions.
- ii. Contributions may be made at rates specified by regulation such that a certain benefit point accrual is attained (except that contributions shall not exceed 9% of salary).
- iii. Points accrual for each 1% of salary contributed after 1 April 1988 and before attainment of age 59 11/12 by contributors born in May 1926 or later may be obtained from Schedule 2 to the Regulation "State Authorities Superannuation (Transitional Provisions) Regulation 1988" (subject to a maximum annual accrual of 9 points), or is calculated as $(L \times 1.8 + 0.7)/2.5$ if greater.

Where L is 1/9 of the maximum points the contributor could have acquired in the year commencing 1 April 1987

To accrue each benefit point the percentage of salary to be contributed by contributors born in April 1926 or earlier is the smaller of (percentage contribution rate at 31 March 1988)/(adjusted points limit), subject to a maximum annual accrual of 9 points or the adjusted points limit if greater, and 1%. The adjusted points limit is

$$\frac{(N \times 1.8 + 0.7)}{2.5}$$

Where N is the number of points accrued in the year commencing 1 April 1987.

(If a contributor is contributing 0% on 31 March 1988 they shall be deemed to be contributing 1%).

- iv. Employer-financed benefits and additional benefits may be taken in pension form as for NRF (i.e. as for LGPF with additional option to take a non-reversionary pension with higher value, the factor being .2778%).
- v. Minimum benefits are provided on death or invalidity before early retirement age.

D. State Public Service Superannuation Scheme (SPSSS)

(transferred at 1 April 1989)

- i. The additional benefit and associated levy will automatically apply to a contributor who was qualified for the supplementary benefit under the SPSSS.
- ii. The contributor's account will be credited at 1 April 1989 with the corresponding account balance under the SPSSS as at 31 March 1989.
- iii. Initial accrued benefit points will be the number of accrued benefit points under SPSSS as at 31 March 1989.
- iv. The contributor's entry date will be deemed to be the date service commenced or was deemed to have commenced under SPSSS.
- v. The initial contributed points figure will be the corresponding figure under SPSSS.
- vi. The contributor's early retirement age is prescribed as age 55.
- vii. The maximum benefit points applying to a transferred contributor are:

age 55 or less	162
age 55 to 58	162 plus 6 per year after age 55
age 58 or more	180
- viii. The employer financed benefits are to be calculated using a multiple of 0.03 except for benefits on resignation, dismissal or discharge before early retirement where a multiple of 0.025 is used.

E. Transport Officers' Gratuity Scheme (TOGS)

(transferred at 1 April 1989)

- i. Initial accrued benefit points will be calculated as follows:

$$P = Y \times 2.3$$

Where Y represents the number of completed years of service (with the fractional part of any year calculated on the basis of completed calendar months) which would have been taken into account under TOGS before 1 April 1989.

- ii. For each year of service after 1 April 1989 both contributors and non-contributors shall accrue 2.3 benefit points per annum in addition to any other accrual of benefit points under standard SASS provisions.
- iii. Transferred transport officers may elect to contribute at 0, 1, 2, 3, 4, 5, 6 or 6.7 per cent of salary.

Officers who elect to contribute at 1% or more on transfer cannot subsequently elect to become non-contributors.

- iv. The contributor's entry date will be deemed to be the date service commenced or was deemed to have commenced under TOGS.
- v. The points calculated under (i) and (ii) above will only be applied in the calculation of benefits paid on retirement, death, invalidity or retrenchment while employed by an employer which participated in TOGS. These points do not apply in the calculation of a resignation benefit or deferred benefit calculated under section 43.
- vi. Minimum benefits apply on exit from the Fund at or after early retirement age.

F. Closed Local Government Schemes

Local Government Provident Fund and Superannuation Benefits Funds and Local Government Superannuation Board insurance policyholders (effective 1 May 1990).

- i. The additional benefit and associated levy will automatically apply to a contributor who was qualified for the additional benefit in the Benefits Fund or was an insurance policyholder.
- ii. Accumulated credits and the proceeds on cancellation or surrender of insurance policies for each transferred contributor are allocated in certain ratios between contributor account and employer reserve.
- iii. A "notional accumulation" is developed from the amount allocated to the employer reserve plus estimated notional future employer contributions plus interest.
- iv. Initial accrued benefit points are calculated based on various formulae as stated in the "State Authorities Superannuation (Closed Local Government Schemes Transfer) Regulation 1990":

- | | |
|--|---|
| Insurance policyholders and fixed rate Provident Fund contributors | - points calculated according to Schedule 1 to the Regulation, based on sum assured and date of contribution/premium payment |
| Variable rate Provident Fund contributors | - 0.02 points per 1% of salary contributed per month to 30 June 1985 and 0.03 points per 1% per month from 1 July 1985 to 30 April 1990 |
| Benefits Fund | - 0.21 points per month of contributory membership |
- v Minimum employer financed benefits of the "notional accumulation" are provided.
 - vi A minimum death and invalidity benefit based on a multiple of salary plus the notional accumulation applies to former Benefits Fund members covered for additional benefits.
 - vii Early retirement age is 55 for ex-Sydney County Council employees with twenty or more years of service and for ex-Benefits Fund females.

Transferred contributors may elect to contribute at normal SASS rates.

Transferred contributors who do not make an election are deemed to have elected the following:

Benefits Fund and variable rate Provident Fund contributors	-3.5%
Insurance policyholders and fixed rate Provident Fund contributors	-1%

G. Government Railways Superannuation Scheme (RSA)
(Transferred at 1 June 1990)

- i Ex-RSA contributors may elect to contribute at 1, 2, 3, 4, 5, 6, 7, 8 or 9 per cent of salary. Anyone not electing a rate will be assumed to have elected to contribute at 1 per cent.
- ii The contributor's account will be credited at the date of transfer with the corresponding RSA account balance at that date.
- iii Initial accrued benefit points will be calculated by the following formula:

$$TP = \frac{(1/40 \times K \times S \times 10) - EC}{W \times 0.025}$$

- Where
- TP represents the number of points to be calculated ("Transfer Points"), rounded up to four decimal places;
 - K represents the amount of \$1,600 (CPI indexed);
 - S represents the number of complete years of service of the transferred contributor (maximum 40 years);

EC represents the contributions of the transferred contributor
 W represents salary.

- iv Transferred contributors may under certain circumstances elect a pension benefit with lower lump sum rather than the SASS lump sum.
- v The contributor's entry date will be calculated by subtracting from the transfer date the number of days of RSA service during which contributions were made to the account recognised under (iii) above, except that for the calculation of final average salary and prospective benefit points the entry date will be deemed to be the transfer date.

H. Hunter District Water Board Employees' Provident Fund (HDWB)
 (effective 1 July 1990)

- i The contributor's account will be credited at 1 July 1990 with sub-accounts 1 and 2 of the contributor's account in the HDWB Fund as at 30 June 1990.
- ii The employer reserve in SASS will be credited at 1 July 1990 with sub-accounts 3 and 4 of the contributor's account in the HDWB Fund as at 30 June 1990.
- iii The contributor's entry date will be deemed to be the date service commenced or was deemed to have commenced under HDWB, except that for the calculation of final average salary and prospective benefit points the entry date will be deemed to be 1 July 1990.
- iv Initial accrued benefit points will be calculated as per the following formula:

$$P = \frac{E}{0.025 \times W}$$

- Where
- P represents the initial points credit;
 - E represents the amount relating to the contributor which was credited to the appropriate employer reserve in the SASS Fund from sub-accounts 3 and 4 of the HDWB Fund;
 - W represents the contributor's annual salary at the transfer date.
- v A notional accumulation is set up for each transferred contributor consisting of sub-accounts 3 and 4 of the HDWB Fund plus a notional future contribution based on a percentage of salary as set out in the transfer Regulation.
 - vi Minimum benefits based on the notional accumulation are provided on death or invalidity before early retirement age if not covered for additional benefits, or on resignation before early retirement age.
 - vii Transferred contributors may elect to contribute at normal SASS rates or at the rate at which they were contributing to the HDWB Fund prior to transfer, rounded up to the nearest whole percentage.

5.2. SANCS

5.2.1. Definitions

"Contributing Employee" is an employee who is a contributor to an associated superannuation scheme (SASS, SSS or Police Superannuation Scheme). All others are deemed "non-contributing employees".

"Eligible service" in respect of a member means service with an Employer. The eligible service accrued in respect of any day is a proportion of one day equal to the salary ratio of the member on that day.

"Employers under Part 1" - The Crown and other employers. See Section 6.

"Employers under Part 3" - Hospitals and Other Bodies. See Section 6.

"Final average salary" in respect of a member means the average of full time or attributed salaries on the member's exit date and on 31 December in each of the two years immediately preceding that in which he/she ceased to be a member.

"Final salary" means the annual rate of full time or attributed salary payable to a member immediately before exit.

"Salary ratio" means for a part-time employee the ratio of the employee's salary to the salary that would be payable to the employee if he/she was a full time employee. The salary ratio of a full-time employee equals 1.0.

"Taxable date" means the date on which the Trustee first became liable to pay income tax under a Commonwealth taxation law in respect of employers' contributions under the Scheme. Thus the taxable date is 1 July 1988.

5.2.2. Contributions

Part 1 employers - where the member is an employee of an employer under Part 1, the employer pays a percentage of the salary of the member as determined by the Trustee with the concurrence of the Treasurer.

Part 3 employers - where the member is an employee of an employer under Part 3, the employer pays a percentage of the salary of the member as determined by the Trustee with the concurrence of the Treasurer.

5.2.2.1. Contributions by members: Nil

5.2.3. Benefits

5.2.3.1. Death

The benefit payable on death of a member is calculated as:

a lump sum equal to $0.03 \times F \times Y$

Where	F	is, in the case of a member who is aged 55 or over, the member's final average salary; or in any other case the member's final salary
	Y	is the years of eligible service commencing on 1 April 1988 or entry date (whichever is the later) including fractional parts of a year on a daily basis

5.2.3.2. Retirement, Resignation, Retrenchment and Total and Permanent Invalidity

The benefit payable on the retirement, resignation, retrenchment, total and permanent invalidity or any other prescribed circumstances is as follows:

a lump sum equal to $0.03 \times F \times (Y - 0.15 \times Z)$

Where	F	is, in the case of the retrenchment or cessation of employment before age 55 due to physical or mental incapacity of a member, the member's final salary; or in any other case the member's final average salary
	Y	is the years of eligible service commencing on 1 April 1988 or entry date (whichever is the later) including fractional parts of a year
	Z	is the years of eligible service commencing on the taxable date or entry date (whichever is the later) including fractional parts of a year on a daily basis
	0.15	represents the tax rate of the Scheme for employer's contributions

5.2.3.3. Preservation of Benefits

All benefits are subject to the preservation rules as prescribed by the Superannuation Industry (Supervision) Regulations.

5.2.3.4. Provisions for Part-time Employees

In the case of part-time employees the amount of eligible service accrued by the employee is reduced in proportion to the salary ratio.

5.2.4. Superannuation Guarantee

Members are entitled to minimum benefits assuming no superannuation guarantee shortfall under the Acts governing the associated superannuation schemes. The difference between the unsupplemented benefit and the minimum benefit is payable from the appropriate reserve in the SANCS Scheme.

The Minimum Requisite Benefit (MRB) specified in the current Benefit Certificate is described below. This is the minimum applying to the total benefits payable from SANCS and the associated superannuation scheme in respect of a member on exit.

In the case of SASS or SSS members:

MRB = the accumulation of the former contributor's contributions (including salary sacrifice contributions net of tax, and any co-contributions); plus

- a pre-1 July 1992 component; plus
- FASEX x 1.0524 x DF x SGLM1; plus
- FASOTE x 1.08 x DF x SGLM2

Where FASEX is the contributor's final average salary at exit

FASOTE is the annual average of the Employee's Ordinary Time Earnings as defined in sub-section 6(1) of the Superannuation Guarantee (Administration) Act 1992, earned over the period commencing on the 1 January in the year two years before the date of determination and ending on the date of determination.

DF is .7 when age at exit < 45
 .7 + .015 x (65 - age at exit) for 45 < age at exit < 65
 1 for age at exit >= 65.

SGLM1 is the total accrued Superannuation Guarantee Levy multiple at 30 June 2008 as follows:

Multiple accruing per year of service	Period over which given multiple applies
.04	1/07/1992 to 31/12/1992
.05	1/01/1993 to 30/06/1995
.06	1/07/1995 to 30/06/1998
.07	1/07/1998 to 30/06/2000
.08	1/07/2000 to 30/06/2002
.09	1/07/2002 to 30/06/2013
.0925	1/07/2013 to 30/06/2014
.095	1/07/2014 to 30/06/2021
.10	1/07/2021 to 30/06/2022
.105	1/07/2022 to 30/06/2023

.11	1/07/2023 to 30/06/2024
.115	1/07/2024 to 30/06/2025
.12	after 1/07/2025

SGLM2 is the Superannuation Guarantee Levy multiple accrued post 1 July 2008.

The pre 1 July 1992 component is the total of the employer-financed benefits (from SANCS and the associated scheme) which would have been paid had the contributor resigned or retired on 1 July 1992 (except that for final average salary or final salary the amount used is the fund salary at 1 July 1992 for SASS members. For SSS members, salaries and commutation factors are as set out in the Benefit Certificate) updated to exit date by the ratio of FASEX for SASS members, final salary at exit for SSS members, to fund salary at 1 July 1992.

Further, in the case of SSS members the Minimum benefit is limited to:

The amount provided by an alternative MRB equal to the SSS benefit plus the SANCS benefit plus a post 1 July 1992 amount calculated using Superannuation Guarantee Levy Multiples 3% lower than in the table above; with the further proviso that the minimum SSS benefit for purposes of the alternative MRB calculation is the member's accumulated contributions.

In the case of PSS members:

MRB =

- a pre 1 July 1992 component; plus
- FASEX x 1.0524 x DF x SGLM1; plus
- FASOTE x 1.08 x DF x SGLM2; plus
- 0.06 / 0.85 x post 1 July 1992 service x DF x FS

Where FASEX, FASOTE, DF and SGLM are as for SASS and SSS above
FS is final salary at exit

the pre 1 July 1992 component is the total of the cash benefit from SANCS which would have been paid had the contributor resigned or retired on 1 July 1992; plus 85% of the vested benefit as for the PSS at 1 July 1992; plus 15% of the member's contributions between 1 July 1983 and 30 June 1992; updated to exit date by the ratio of FS to fund salary at 1 July 1992.

The MRB is reduced by the member's surcharge liability (if any), any adjustment for Family Law payments (if any), and adjusted for net MRB transfer payments (if any).

5.3. SSS

5.3.1. Definitions

"Annual review date" means for contributors whose birthday falls in the first half of the calendar year, 28 July, for the rest 9 February.

"Annual adjustment date" means for contributors whose birthday falls in the first half of the calendar year, 21 October, for the rest 5 May.

"Abandoned Units" are units for which no contribution is being made. The amount of these is the difference between Unit Entitlement and Contributory Units. They are also referred to as Reduced Value Units.

"Accumulation of contributions" means, in respect of a contributor, the amount of contributions made to the Fund by that contributor plus interest. Interest was at the rate of 3.5% pa until 30 June 1972, thereafter a rate determined by the Trustee based on the earnings of the Fund. This is called the "Section 33B Accumulation" and is the amount maintained in respect of each contributor in the Contributors' Reserve.

"Contributory Units" are units for which the member is paying (or has paid) contributions.

"Retirement Age" is 60 years, except in the case of a woman who elects to contribute at rates to retire at age 55 (denoted R55 members), for whom it is 55 years.

"Unit Entitlement" - A member's unit entitlement is governed by the amount of salary notified as being received, in accordance with the following formula-

$$\text{Salary} / \$260 + 9 \times \text{factor}$$

where 'factor' is an allowance for the increase shown in the last published Consumer Price Index (All Groups) Sydney since 30 June 1982. The two components of the entitlement are separately calculated and their total rounded up to the next whole number.

"Salary" means the annual rate of salary paid to a contributor at the relevant date (exit, annual review date).

"Taxable date" means the date on which the Trustee became liable to pay income tax under Commonwealth taxation law in respect of employers' contributions to the Fund, which was 1 July 1988.

5.3.2. Contributions

5.3.2.1. Employee Contributions

- Employees pay a 4-weekly contribution towards each contributory unit. The total contribution payable over each year depends on the number of units held and the cost per unit, and is adjusted each annual review date with effect from the annual adjustment date.
- An employee must contribute for the full unit entitlement as at the annual review date unless the resulting contributions would exceed 6% of salary, when units

may be 'abandoned'. Abandoned units confer a smaller benefit entitlement, but may be 'taken up' on exit or next annual review day.

- The contribution per unit depends on:
 - the employee's sex and age when contributions for the unit commence,
 - for a female, whether election has been made to contribute for retirement on full pension at age 55, and
 - the date of commencement of service.
- Contributions for units commenced before (5 years prior to the Retirement Age) cease at Retirement Age. Contributions for units taken up after attaining age 55 (or 50 for R55 females) are payable over five years in 65 instalments (with any instalments outstanding at retirement due then).
- Contributions cannot be accepted from a contributor over 70 years of age.
- During periods of leave without pay in excess of three months, a contributor has the option of accepting a permanent reduction in unit entitlement, otherwise the contributor may be required to pay the employer liability during the period of leave without pay.

5.3.2.2. Employer contributions

- Employers are required to meet the balance of the cost of benefits, i.e. that part of the benefit not covered by the Contributor's Reserve plus expenses and Contributions Tax.
- The amount of the normal contribution payable by the employer is a multiple of the contributions made by the employees. The multiple for each employer is periodically fixed by the Trustee, having regard to meeting the full cost of the liabilities under this Division. Additional employer contributions may be required in respect of past contributors for unfunded benefit payments.
- An Employer Reserve is maintained for each employer into which contributions are paid and interest earnings credited. Benefit payments, expenses and taxes are paid from this reserve. When an employee becomes eligible for a benefit, the contributor reserve (limited to the total value of the benefit) is transferred into the employer reserve and the employer reserve becomes liable for the total benefit (i.e. all future pension payments).

5.3.3. Benefits

5.3.3.1. Retirement on or after attaining retirement age

Subject to completion of at least ten years of service, a fortnightly pension commencing at

$$(\$5.50 \times \text{CU} + \$3.30 \times \text{RVU}) \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

CU =	contributory units
RVU =	abandoned or reduced value units
0.15 =	the tax rate of the Fund on the employers' contributions
B =	the period in days of contributory service that began on the taxable date

C = the period in days of the contributory service for the contributor
 ppn e'er = the proportion of the benefit deemed to be employer-financed
 calculated as:

$$\frac{(\text{unreduced pension} \times \text{capitalisation factor} - 33\text{B accumulation at exit})}{(\text{unreduced pension} \times \text{capitalisation factor})}$$

where the unreduced pension is $(\$5.50 \times \text{CU} + \$3.30 \times \text{RVU})$, and the capitalisation factors are valuation factors for pensions at emergence depending on age and sex supplied for this purpose from time to time.

5.3.3.2. Early Retirement

Subject to continuous contribution to the Fund for at least ten years, a reduced pension is payable on retirement after having attained the age of 55 years if contributing at rates prescribed for retirement at age 60. The amount of the fortnightly pension at commencement is:

$$(\$2.20 \times \text{EPU} \times (1 - .07 \times \text{TM}) + \$3.30 \times \text{UE} \times \text{S} / (\text{S} + \text{TM}) \times (1 - .04 \times \text{TM})) \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

EPU = Contributory units adjusted to reflect non-payment of contributions due to early retirement.

TM = number of years (with fractions included on daily basis) from exit date to Retirement Age

UE = Unit Entitlement in respect of salary at exit

0.15 = the tax rate of the Fund on the employers' contributions

B = the period in days of contributory service that began on the taxable date

C = the period in days of the contributory service for the contributor

Ppn e'er = the proportion of the benefit deemed to be employer-financed
 calculated as:

$$\frac{(\text{unreduced pension} \times \text{capitalisation factor} - 33\text{B accumulation at exit})}{(\text{unreduced pension} \times \text{capitalisation factor})}$$

where the unreduced pension is:

$$(\$2.20 \times \text{EPU} \times (1 - .07 \times \text{TM}) + \$3.30 \times \text{UE} \times \text{S} / (\text{S} + \text{TM}) \times (1 - .04 \times \text{TM})),$$

and the capitalisation factors are valuation factors for pensions at emergence depending on age and sex supplied for this purpose from time to time.

5.3.3.3. Retirement owing to physical or mental incapacity

A proportion of the full retirement pension; the proportion being 80 per cent immediately on joining the Fund, increasing uniformly each year thereafter to reach 100 per cent either after ten years of contributory service, or at normal retirement age, whichever occurs first. The pension at commencement is:

$$\text{P(DIS)} \times (\$5.50 \times \text{CU} + \$3.30 \times \text{RVU}) \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

P(DIS) =	proportion between .8 and 1.0 depending upon years of service
CU =	Contributory units
RVU =	Abandoned or reduced value units
0.15 =	the tax rate of the Fund on the employers' contributions
B =	the period in days of contributory service that began on the taxable date
C =	the period in days of the contributory service the contributor would have attained had he remained in service until his retirement age.
ppn e'er =	the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{unreduced pension} \times \text{capitalisation factor} - 33\text{B accumulation at exit})}{(\text{unreduced pension} \times \text{capitalisation factor})}$$

where the unreduced pension is $P(\text{DIS}) \times (\$5.50 \times \text{CU} + \$3.30 \times \text{RVU})$, and the capitalisation factors are valuation factors for invalidity pensions at emergence depending on age and sex supplied for this purpose from time to time.

Reemployment and Scheme reinstatement can occur if health is restored.

5.3.3.4. Resignation, dismissal or discharge

- a lump sum equal to the employee's accumulation of contributions, plus
- if contributory service exceeds ten years, an additional lump sum of $.025 \times A \times \text{TS} \times (1 - 0.15 \times B/C)$

where:

A =	the employee's 33B accumulation of contributions
TS =	years of contributory service (including fractional parts of a year)
0.15 =	the tax rate of the Fund on the employers' contributions
B =	the period in days of contributory service that began on the taxable date
C =	the period in days of the contributory service for the contributor

Alternatively, at the option of the employee, a benefit may be deferred in the Fund until retirement or earlier death or disability.

The total lump sum resignation benefit is capped at the lump sum payable to a contributor on commutation of the retirement pension he/she would have been entitled to had they been age 55 (or current age if higher). The retirement pension for contributors under age 55 is the deferred pension adjusted for commencement at age 55.

5.3.3.5. Death

On the death of a married contributor a pension is payable to the spouse at two-thirds of the rate of the pension which would have been payable to the contributor had he or she retired on the grounds of ill-health (but with the tax reduction calculated using the capitalised value of the spouse pension to derive the proportion employer financed). In addition, a pension is paid for each eligible child. If the spouse then dies, the excess of the resignation benefit over spouse benefits already

paid is refunded to the deceased contributor's personal representative. Any child's pension can be ignored or may cause the excess payment to be delayed.

Child pensions are payable for each child under 18 years (or 25 if a full time student).

On the death before retirement of an unmarried contributor, at the Trustee's discretion a cash withdrawal benefit as in 1.3.3.4 but without reduction for contributions tax, is payable to the deceased personal representative, or an orphan's pension is payable to each eligible child and members contributions without interest. The guaranteed minimum then applies when the last child's pension ceases.

On the death of a married pensioner, a pension is payable to the spouse (but only if married prior to the pensioner's retirement or married to an invalidity pensioner for the 3 years immediately prior to the retirement age), equal to two-thirds of the pension that the deceased pensioner would have been receiving if none of it had been commuted, and children's pensions as above.

5.3.3.6. Retrenchment

After three years contributory service, an immediate lump sum is payable (unless aged 55 years or over) equal to

$$(\$2.20 \times \text{EPU} \times (0.96^{M-A}) \times F + \$3.30 \times \text{UE} \times S / (S + \text{TM}) \times (0.98^{M-A}) \times F) \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

- EPU = contributory units adjusted to reflect non-payment of contributions due to shorter service.
- M = retirement Age
- A = age in years (including fractional parts of a year) on the exit date
- F = 285 if M = 60; 320 if M = 55
- UE = Unit Entitlement in respect of salary at exit
- S = number of years of contributory service (with fractions included on a daily basis)
- 0.15 = the tax rate of the Fund on the employers' contributions
- B = the period in days of contributory service that began on the taxable date
- C = the period in days of the contributory service for the contributor
- TM = Number of years from exit to Retirement Age
- ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced benefit} - 33\text{B accumulation at exit})}{(\text{Unreduced benefit})}$$

where the unreduced benefit is:

$$(\$2.20 \times \text{EPU} \times (0.96^{M-A}) \times F + \$3.30 \times \text{UE} \times S / (S + \text{TM}) \times (0.98^{M-A}) \times F)$$

Alternatively the benefit may be taken as an equivalent pension or a deferred benefit.

On retrenchment after age 55, the retirement or early retirement benefit applies.

5.3.3.7. Pensions

Pensions in payment are adjusted each October in line with the Consumer Price Index (All Groups) Sydney.

A pension, other than a child's pension, may be exchanged for a lump sum, at age 55 years or later emergence (even if after age 60). A right of commutation applies at age 60 to a person who has not exercised their one and only right to commute. Commutation factors per dollar of fortnightly pension are specified in the Act. On commutation by an ex-contributor of all or part of a pension, the reversionary pension to a spouse is unaffected.

5.3.3.8. Deferred Benefits

A contributor who becomes entitled to a benefit on retrenchment, resignation, dismissal or discharge, on early retirement or attainment of age 65 (or 65 to 70 if relevant) is provided with a deferred benefit. The deferred benefit commences payment on:

- application on attainment of early retirement age. The pension components are then reduced by the early retirement discount factors (P1 by 7%, P2 by 4%);
- death;
- total and permanent invalidity before early retirement age;
- retirement from the workforce (or effective retirement after 65 or 70 defined as working less than 10 or 30 hours a week respectively). Early retirement discount factors apply if age is less than normal retirement age.
- application if the benefit was deferred after early retirement age. Early retirement discount factors apply if age at commencement is less than normal retirement age.

The deferred benefit is a deferred pension calculated in two components. The amount of the fortnightly pension components at preservation date is set out below. Between deferral date and commencement the "employer-financed component" (P2) is indexed to CPI.

$$\text{Total Pension} = (P1 + P2U) \times (1 - 0.15 \times B/C \times \text{ppn } e^{\text{er}})$$

$$P2 = \text{Total Pension} - P1$$

where:

P1 =	\$2.20 x EPU
P2U =	\$3.30 x UE x S / (S + TM)
EPU =	contributory units adjusted to reflect non-payment of contributions due to early exit.
TM =	number of years (with fractions included on daily basis) from exit date to Retirement Age
UE =	Unit Entitlement in respect of salary at exit
S =	number of years of contributory service (with fractions included on a daily basis)
0.15 =	the tax rate of the Fund on the employers' contributions

B = the period in days of contributory service that began on the taxable date
 C = the period in days of the contributory service for the contributor
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Capitalised unreduced pension} - 33B \text{ accumulation at exit})}{(\text{Capitalised unreduced pension})}$$

where the capitalised unreduced pension is:

$$(\text{P1} \times \text{employee component capitalisation factor} + \text{P2U} \times \text{employer component capitalisation factor}),$$

and the capitalisation factors are valuation factors for deferred pensions at preservation depending on age and sex supplied for this purpose from time to time.

5.3.3.9. Provisions for part time contributors

A contributor may move to permanent part-time employment. Contributions paid prior to the change will purchase paid-up units, and a permanent reduction in unit entitlement is made, to reflect the service that will not be given. Appropriate provisions are made for subsequent changes in hours worked.

5.3.3.10. Superannuation Guarantee

The employer-financed benefit on exit for any reason, together with the employer-financed benefit payable for the State Authorities Non-Contributory Superannuation (SANCS) Fund is subject to a minimum benefit as specified in the current Benefit Certificate so that benefits paid by these schemes can be used to meet employers' obligations under the Superannuation Guarantee (Administration) Act. The shortfall, if any, is to be provided from the SANCS Fund. The employee-financed benefit from SSS is defined as the s33B Accumulation (or total benefit if less), and the balance of the benefit is the employer-financed benefit.

The MRB (Minimum Requisite Benefit) specified in the Benefit Certificate adopted in the valuation in respect of SSS members is described below. This is the amount below which the combined total SSS and SANCS benefits payable may not fall. The MRB is that set out in the Benefit Certificate valid from 1 July 2008, extended in a consistent manner to cover future periods.

MRB = the accumulation of the former contributor's contributions (including salary sacrifice contributions net of tax, and any co-contributions); plus

- a pre 1 July 1992 component; plus
- FASEX x 1.0524 x DF x SGLM1; plus
- FASOTE x 1.08 x DF x SGLM2

Where FASEX is the contributor's final average salary at exit
 FASOTE is the annual average of the Employee's Ordinary Time Earnings as defined in sub-section 6(1) of the Superannuation Guarantee (Administration) Act 1992, earned over the period commencing on the 1 January in the year two years before the date of determination and

ending on the date of determination.

- DF is
- .7 for age at exit < 45
 - .7 + .015 x (65 - age at exit) for 45 < age at exit < 65
 - 1 for age at exit >= 65.
- SGLM1 is the accrued Superannuation Guarantee Levy multiple at 30 June 2008 where the multiple accrued as follows:

Multiple accruing per year of service	Period over which given multiple applies
.04	1/07/1992 to 31/12/1992
.05	1/01/1993 to 30/06/1995
.06	1/07/1995 to 30/06/1998
.07	1/07/1998 to 30/06/2000
.08	1/07/2000 to 30/06/2002
.09	1/07/2002 to 30/06/2013
.0925	1/07/2013 to 30/06/2014
.095	1/07/2014 to 30/06/2021
.10	1/07/2021 to 30/06/2022
.105	1/07/2022 to 30/06/2023
.11	1/07/2023 to 30/06/2024
.115	1/07/2024 to 30/06/2025
.12	after 1/07/2025

- SGLM2 is the Superannuation Guarantee Levy multiple accrued post 1 July 2008.

The pre 1 July 1992 component is the total of the employer-financed benefits (from SSS and SANCS) which would have been paid had the contributor resigned or retired on 1 July 1992 with salaries and commutation factors as set out in the Benefit Certificate, updated to exit date by the ratio of final salary at exit to fund salary at 1 July 1992.

The Minimum Benefit as derived above is limited to:

The amount provided by an alternative MRB equal to the SSS benefit plus the SANCS benefit plus a post 1 July 1992 amount calculated using Superannuation Guarantee Levy Multiples 3% lower than in the table above; with the further proviso that the minimum SSS benefit for purposes of the alternative MRB calculation is the member's accumulated contributions.

The MRB is reduced by the member's surcharge liability (if any), any adjustment for Family Law payments (if any), and adjusted for net MRB transfer payments (if any).

5.4. PSS

5.4.1. Definitions

"Accumulation of contributions" means, in respect of a contributor, the amount of contributions made to the Fund by that contributor plus interest from 23 November 1984. A contributor reserve is maintained for each member.

"Normal Retirement Age" is 60 years.

"Salary" means the annual rate of salary last nominated as paid to a contributor at the relevant date.

"Taxable date" means the date on which the Trustee first became liable to pay income tax under the Commonwealth Law in respect of employers' contributions to the Fund, which was 1 July 1988.

5.4.2. Contributions

5.4.2.1. Employee Contributions

Members contribute 6% of salary.

5.4.2.2. Employer Contributions

The balance of the cost of benefits i.e. that part of the benefits and expenses not covered by the members' contributions, plus Contributions Tax is paid from the PSS employer reserve set up for this purpose.

5.4.3. Benefits

5.4.3.1. Retirement on or after attaining retirement age

Subject to completion of at least twenty years of service, a pension commencing at

$$\text{Salary} \times 2.425\% \times \text{YPS} \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

YPS = service (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years
 0.15 = the tax rate on the employer contributions
 B = the period in days of contributory service that began on the taxable date
 C = the period in days of the contributory service for the contributor
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced pension} \times \text{capitalisation factor} - \text{accumulation of contributions at exit})}{(\text{Unreduced pension} \times \text{capitalisation factor})}$$

where the unreduced pension is $\text{Salary} \times .02425 \times \text{YPS}$, and the capitalisation factors are valuation factors for pensions at emergence depending on age and sex supplied for this purpose from time to time.

Alternatively, at the member's discretion, a lump sum benefit of:

$$\text{Salary} \times \text{LSF} \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

- LSF = as given in Schedule 3 of the Act, for various ages at retirement and entry
 0.15 = the tax rate on the employer contributions
 B = the period in days of contributory service that began on the taxable date
 C = the period in days of the contributory service for the contributor
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Salary} \times \text{LSF} - \text{accumulation of contributions at exit})}{(\text{Salary} \times \text{LSF})}$$

The lump sum benefit equates to the annual pension benefit multiplied by 10.92

5.4.3.2. Early Retirement

An early retirement pension is payable on retirement after having attained the age of 55 years. The amount of the pension at commencement is:

$$\text{Salary} \times 2.425\% \times \text{YPS} \times (1 - 0.04 \times (60 - A)) \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

- YPS = service (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years
 A = age at the date of retirement (with complete months counting as fractions)
 0.15 = the tax rate on the employer contributions
 B = the period in days of contributory service that began on the taxable date
 C = the period in days of the contributory service for the contributor
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced pension} \times \text{capitalisation factor} - \text{accumulation of contributions at exit})}{(\text{Unreduced pension} \times \text{capitalisation factor})}$$

where the unreduced pension is:

$$\text{Salary} \times 2.425\% \times \text{YPS} \times (1 - 0.04 \times (60 - A))$$

and the capitalisation factors are valuation factors for pensions at emergence depending on age and sex supplied for this purpose from time to time

Alternatively, a lump sum benefit of

$$\text{Salary} \times \text{LSF} \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

- LSF = as given in Schedule 3 of the Act, for various ages at retirement and entry.
 0.15 = the tax rate on the employer contributions
 B = the period in days of contributory service that began on the taxable date
 C = the period in days of the contributory service for the contributor
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Salary} \times \text{LSF} - \text{accumulation of contributions at exit})}{(\text{Salary} \times \text{LSF})}$$

5.4.3.3. Retirement owing to invalidity

Not Hurt on Duty

If service is less than 20 years, a lump sum of:

$$2 \times \text{Salary} - (2 \times \text{salary} - \text{accumulation of contributions at exit}) \times .15 \times \text{B/C}$$

where:

- A = age at the date of retirement (with complete months counting as fractions)
 0.15 = the tax rate on the employer contributions
 B = the period in days of contributory service that began on the taxable date
 C = the period in days of the contributory service for the contributor
 If 20 years or more service, a pension of:

$$\text{Salary} \times 2.425\% \times \text{YPS} \times (1 - 0.15 \times \text{B/C} \times \text{ppn e'er})$$

where:

- YPS = service (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years
 0.15 = the tax rate on the employer contributions
 B = the period in days of contributory service that began on the taxable date
 C = the period in days of the contributory service for the contributor
 ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced pension} \times \text{capitalisation factor} - \text{accumulation of contributions at exit})}{(\text{Unreduced pension} \times \text{capitalisation factor})}$$

where the unreduced pension is Salary x 2.425% x YPS, and the capitalisation factors are valuation factors for invalidity pensions at emergence depending on age and sex supplied for this purpose from time to time.

Hurt on Duty

A pension of:

$$P(\text{HOD}) \times \text{Salary} \times (1 - 0.15 \times B/\text{TS} \times \text{ppn e'er})$$

Where:

- P(HOD)= 72.75% minimum, increasing to 100% at STC's discretion. For valuation purposes, the maximum benefit is assumed. (Injury pre 21 November 1979 is 72.75% maximum.)
- 0.15 = the tax rate on the employer contributions
- B = the period in days of contributory service that began on the taxable date
- TS = the period in days of the contributory service for the contributor to normal retirement
- ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced pension} \times \text{capitalisation factor} - \text{accumulation of contributions at exit})}{(\text{Unreduced pension} \times \text{capitalisation factor})}$$

where the unreduced pension is P(HOD) x Salary, and the capitalisation factors are valuation factors for invalidity pensions at emergence depending on age and sex supplied for this purpose from time to time.

Special benefits may be paid for specific injuries in accordance with Division 3,4 and 5 of Part 3 of the Workers Compensation Act 1987.

5.4.3.4. Resignation, dismissal or discharge

A lump sum equal to the employee's accumulation of contributions. In the case of dismissal interest is only payable from 1 July 1990.

Alternatively, at the option of the employee, a benefit may be deferred in the Fund until retirement or earlier death or disability.

5.4.3.5. Death

Not Killed on Duty

A lump sum of:

$$\text{Salary} \times 12\% \times (\text{YPS} + \text{YPS55})$$

where:

- YPS = service (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years
- YPS55 = service to age 55 (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years

Killed on Duty

Pension to spouse of:

$$P(\text{KOD}) \times \text{Salary} \times (1 - 0.15 \times B/\text{TS} \times \text{ppn e'er})$$

Where:

- P(KOD) = 55% minimum, increasing to 62.5% at STC's discretion. For valuation purposes, the maximum benefit is assumed.
- 0.15 = the tax rate on the employer contributions
- B = the period in days of contributory service that began on the taxable date
- TS = the period in days of the contributory service for the contributor to normal retirement (60)
- ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(\text{Unreduced pension} \times \text{capitalisation factor} - \text{accumulation of contributions at exit})}{(\text{Unreduced pension} \times \text{capitalisation factor})}$$

where the unreduced pension is $P(\text{KOD}) \times \text{Salary}$, and the capitalisation factors are valuation factors for spouse pensions at emergence depending on age and sex supplied for this purpose from time to time.

The equivalent of a spouse pension may also be paid to dependants of the deceased member. If those dependants are children, the pension is payable to age 25.

A lump sum benefit may also be payable in accordance with Division 1 of Part 3 of the Workers Compensation Act 1987.

In addition to the spouse pension, a pension may be paid for each eligible child (under age 18, or 21 if a student). The amount of pension payable is set out in Division 1 of Part 3 of the Workers Compensation Act 1987.

The alternative lump sum or benefit if no spouse is the not-killed-on-duty amount.

Death of pensioner

On the death of a married pensioner, a pension is payable to the spouse (but only if married prior to the pensioner's retirement), equal to 62.5% of the pension that the deceased pensioner was receiving. No spouse pension is payable if the former member had commuted the pension.

5.4.3.6. Pensions

Pensions in payment are adjusted each October in line with the Consumer Price Index (All Groups) Sydney with the proviso that a pension cannot fall below the level at emergence.

An invalidity pension may be exchanged for a lump sum, at age 55 years, 60 years or later emergence. The commuted lump sum equals a commutation factor times the

annual pension, where the commutation factor ranges from 11.82 at age 55 to 10.92 at 60 and over.

The invalidity hurt on duty pension above 72.75% may be exchanged for a lump sum before aged 60 at STC's discretion. The commutation factor is as in Schedule 3 of the Act.

5.4.3.7. Deferred Benefits

A contributor who becomes entitled to a benefit on resignation, dismissal or discharge or on early retirement may elect instead for a deferred benefit. The deferred benefit commences payment on:

- application on attainment of age 55;
- death;
- total and permanent invalidity before age 55;
- retirement from the workforce (or effective retirement after 65 or 70 defined as working less than 10 or 30 hours a week respectively);
- on application if the benefit was deferred after age 55.

The former member can at any time exchange the deferred benefit for the withdrawal benefit applicable at the date of preservation plus interest to payment date.

The deferred benefit is a lump sum indexed to CPI between preservation date and payment. The lump sum at preservation date is the greater of:

(A) 2.5 x member's own contributions (with no interest), and

(B) $E \times YPS/YPS55 \times .97^{(55-A)} \times (1 - 0.15 \times B/C \times \text{ppn e'er})$

where

- E = early retirement lump sum which would have been payable had the former member continued in service until age 55 (obtained by reference to Schedule 3 of the Act, for various ages at entry).
- YPS = service (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years
- YPS55 = service to age 55 (with fractions of a year in complete months) since joining PSS, limited to a maximum of 30 years
- A = age at the date of preservation (with complete months counting as fractions)
- 0.15 = the tax rate on the employer contributions
- B = the period in days of contributory service that began on the taxable date
- C = the period in days of the contributory service for the contributor
- ppn e'er = the proportion of the benefit deemed to be employer-financed calculated as:

$$\frac{(E \times YPS/YPS55 \times .97^{(55-A)} - \text{accumulation of contributions at exit})}{(E \times YPS/YPS55 \times .97^{(55-A)})}$$

Where a member is over age 55 the deferred benefit is the lump sum early retirement benefit.

5.4.3.8. Provisions for part time contributions

Proportionately reduced contributions and service accrual recognise part time employment.

5.4.3.9. Superannuation Guarantee

The benefit on exit for any reason, together with the benefit payable for the State Authorities Non-Contributory Superannuation (SANCS) Fund is subject to a minimum benefit as specified in the current Benefit Certificate so that benefits paid by these schemes can be used to meet employers' obligations under the Superannuation Guarantee (Administration) Act. The shortfall, if any, is to be provided from the SANCS Fund.

The MRB (Minimum Requisite Benefit) specified in the Benefit Certificate adopted in the valuation in respect of PSS members is described below. This is the amount below which the combined total PSS and SANCS benefits payable may not fall. The MRB is that set out in the Benefit Certificate valid from 1 July 2008, extended in a consistent manner to cover future periods.

MRB =

- a pre 1 July 1992 component; plus
- FASEX x 1.0524 x DF x SGLM1; plus
- FASOTE x 1.08 x DF x SGLM2
- 0.06 / 0.85 x post 1 July 1992 service x DF x FS

Where FASEX is the contributor's final average salary at exit

FASOTE is the annual average of the Employee's Ordinary Time Earnings as defined in sub-section 6(1) of the Superannuation Guarantee (Administration) Act 1992, earned over the period commencing on the 1 January in the year two years before the date of determination and ending on the date of determination.

DF is .7 when age at exit < 45
 .7 + .015 x (65 - age at exit) for 45 < age at exit < 65
 1 when age at exit >= 65.

FS is final salary at exit

SGLM1 is the accrued Superannuation Guarantee Levy Multiple at 30 June 2008 where the multiple accrued as follows:

Multiple accruing per year of service	Period over which given multiple applies
.04	1/07/1992 to 31/12/1992
.05	1/01/1993 to 30/06/1995
.06	1/07/1995 to 30/06/1998
.07	1/07/1998 to 30/06/2000
.08	1/07/2000 to 30/06/2002
.09	1/07/2002 to 30/06/2013
.0925	1/07/2013 to 30/06/2014
.095	1/07/2014 to 30/06/2021

.10	1/07/2021 to 30/06/2022
.105	1/07/2022 to 30/06/2023
.11	1/07/2023 to 30/06/2024
.115	1/07/2024 to 30/06/2025
.12	after 1/07/2025

SGLM2 is the accrued Superannuation Guarantee Levy Multiple for the period from 1 July 2008 to exit date, where the multiple accrued as above.

The pre 1 July 1992 component is the total of the cash benefit from SANCS which would have been paid had the contributor resigned or retired on 1 July 1992; plus 85% of the vested benefit as for the PSS at 1 July 1992; plus 15% of the member's contributions between 1 July 1983 and 30 June 1992; updated to exit date by the ratio of FS to fund salary at 1 July 1992.

The MRB is reduced by the member's surcharge liability (if any), any adjustment for Family Law payments (if any), and adjusted for net MRB transfer payments (if any).

Appendix A:

Economic Assumptions

		2015 Valuation
Rate of Investment Return / Discount Rate		
Assets supporting pensioner liabilities		7.8% p.a.
Assets supporting non-pensioner liabilities		6.8% p.a.
General Salary Increase Assumption*	Short term	3.0% p.a. for the 4 years to 30 June 2019
	Long term	3.5% p.a.
Rate of CPI Increase		2.5% p.a.

The assumption for investment returns/discount rate is based on the expected long-term investment return for the Fund's current benchmark investment mix, calculated using Mercer Investment Consulting's assumptions of the means and standard deviations of returns from the various underlying asset classes and the correlations of returns between those asset classes.

The general salary increase assumption is based on long-term economic forecasts consistent with the expected investment return assumptions. Past experience and the expectations for short term future salary increases are also taken into account in setting the general salary increase assumption.

The expected rate of CPI increase (for pension indexation) is based on the target range of the Reserve Bank of Australia.

Administration Expenses

The administration expenses are the same as the 2012 valuation. These are as follows:

SASS	1.0% of employee contributions (assumed deducted from member accounts) plus 1.0% of benefit payments.
SANCS	1.0% of benefit payments.
SSS	1.0% of employee contributions (not deducted from member reserves) plus 1.0% of benefit payments.
PSS	1.0% of benefit payments

Promotional Salary Increase

Age nearest Birthday	All Schemes Male and Female Promotional Salary Increase (%)
35	2.4
36	2.3
37	2.2
38	2.1
39	2.0
40	1.8
41	1.6
42	1.4
43	1.2
44	1.0
45	0.8
46	0.6
47	0.4
48	0.2
49+	-

Demographic Assumptions for the
Pooled Fund Triennial Actuarial
Investigation as at 30 June 2015

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APPENDIX B

B1. SASS Contributors

B1.1. Member Contribution Rate

It is assumed that contributors maintain their current contribution rate through to retirement, unless they reach maximum benefit points when 20% of members are assumed to reduce their contribution rate to the minimum contribution rate of 1% of salary and the remaining 80% assumed to maintain their current contribution rate to retirement.

B1.2. Retirement

Retirement assumptions for contributors remain the same as the 2012 valuation.

SASS Contributor Age Retirement – Male (per 10,000 at age shown)		
Age Nearest Birthday	Part 1 Employers	Part 3 Employers
57	260	230
58	620	720
59	850	850
60	1,550	1,420
61	1,400	1,050
62	1,250	920
63	1,200	1,330
64	2,200	1,980
65	4,000	4,200
66	2,300	2,800
67	2,300	3,250
68	2,300	2,350
69	5,600	6,800
70	10,000	10,000

SASS Contributor Age Retirement – Female (per 10,000 at age shown)		
Age Nearest Birthday	Part 1 Employers	Part 3 Employers
57	430	270
58	1,000	750
59	1,000	770
60	1,500	1,350
61	1,350	1,200
62	1,300	1,200
63	1,800	1,500
64	2,300	2,350
65	2,750	2,400
66	2,200	2,400
67	2,200	2,270
68	2,200	1,700
69	6,600	5,600
70	10,000	10,000

APPENDIX B

B1.3. Resignation

SASS Contributor Resignation – Male (per 10,000 at age shown)						
Age Nearest Birthday	Part 1 Employers			Part 3 Employers		
	2012	2015	Change	2012	2015	Change
35	210	147	-63	319	223	-96
36	195	137	-58	307	215	-92
37	180	126	-54	290	203	-87
38	165	116	-49	274	192	-82
39	155	109	-46	264	185	-79
40	150	105	-45	253	177	-76
41	145	102	-43	243	170	-73
42	140	98	-42	229	160	-69
43	135	95	-40	216	151	-65
44	130	91	-39	202	141	-61
45	125	88	-37	189	132	-57
46	120	84	-36	180	126	-54
47	118	83	-35	171	120	-51
48	116	81	-35	162	113	-49
49	114	80	-34	157	110	-47
50	112	78	-34	152	106	-46
51	110	77	-33	147	103	-44
52	108	76	-32	142	99	-43
53	106	74	-32	139	97	-42
54	104	73	-31	136	95	-41
55	102	71	-31	135	95	-40
56	100	70	-30	134	94	-40
57	98	69	-29	133	93	-40

SASS Contributor Resignation – Female (per 10,000 at age shown)						
Age Nearest Birthday	Part 1 Employers			Part 3 Employers		
	2012	2015	Change	2012	2015	Change
35	230	161	-69	417	292	-125
36	215	151	-64	383	268	-115
37	205	144	-61	349	244	-105
38	195	137	-58	315	221	-94
39	185	130	-55	289	202	-87
40	175	123	-52	265	186	-79
41	165	116	-49	250	175	-75
42	155	109	-46	240	168	-72
43	145	102	-43	235	165	-70
44	135	95	-40	230	161	-69
45	135	95	-40	230	161	-69
46	135	95	-40	230	161	-69
47	137	96	-41	230	161	-69

APPENDIX B

SASS Contributor Resignation – Female (per 10,000 at age shown)						
Age Nearest Birthday	Part 1 Employers			Part 3 Employers		
	2012	2015	Change	2012	2015	Change
48	139	97	-42	230	161	-69
49	141	99	-42	230	161	-69
50	144	101	-43	230	161	-69
51	147	103	-44	230	161	-69
52	150	105	-45	230	161	-69
53	155	109	-46	230	161	-69
54	170	119	-51	230	161	-69
55	185	130	-55	230	161	-69
56	200	140	-60	230	161	-69
57	200	140	-60	230	161	-69

B1.4. Retrenchment

SASS Contributor Retrenchment Male and Female under Early Retirement Age				
Year Ending 30 June	General Government Sector	PTEs	Rest of Part 1 Employers	Part 3 Employers
2015	0.54%	1.5%	1.5%	0.54%
2016	0.48%	1.5%	1.5%	0.48%
2017	0.54%	1.5%	1.5%	0.54%
2018	0.69%	1.5%	1.5%	0.69%
Thereafter	1.5%	1.5%	1.5%	nil
Male and Female over Early Retirement Age				
Year Ending 30 June	General Government Sector	PTEs	Rest of Part 1 Employers	Part 3 Employers
2015	0.54%	3.8%	1.5%	0.54%
2016	0.48%	20.4%	1.5%	0.48%
2017	0.54%	10.6%	1.5%	0.54%
2018	0.69%	9.5%	1.5%	0.69%
Thereafter	1.5%	1.5%	1.5%	nil

These rates are set after consultations with the NSW Treasury.

APPENDIX B

B1.5. Invalidity

B1.5.1.Total and Permanent Invalidity

SASS Contributors Total and Permanent Invalidity (per 10,000 at age shown)			
Age Nearest Birthday	Non-Police		Police
	Male	Female	Unisex
35	7	2	201
36	7	3	201
37	8	3	201
38	8	3	201
39	8	3	201
40	9	3	201
41	9	4	201
42	10	5	221
43	10	5	234
44	12	7	241
45	11	8	250
46	11	10	250
47	11	11	253
48	13	13	261
49	15	15	271
50	18	18	301
51	19	21	305
52	23	25	316
53	26	28	331
54	29	32	385
55	33	36	442
56	36	39	574
57	39	43	619

B1.5.2.Partial and Permanent Invalidity

SASS Contributors Partial and Permanent Invalidity (per 10,000 at age shown)			
Age Nearest Birthday	Non-Police		Police
	Male	Female	Unisex
35	28	6	134
36	28	9	134
37	32	9	134
38	32	9	134
39	32	9	134
40	36	9	134
41	36	12	134
42	40	15	147
43	40	15	156
44	48	21	161
45	44	24	166
46	39	25	167
47	39	28	169

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SASS Contributors Partial and Permanent Invalidity (per 10,000 at age shown)			
Age Nearest Birthday	Non-Police		Police
	Male	Female	Unisex
48	46	33	174
49	53	38	180
50	63	45	200
51	29	24	204
52	35	29	210
53	39	32	220
54	44	37	256
55	50	41	294
56	54	45	383
57	59	49	413

APPENDIX B

B1.6. Mortality

Mortality assumptions for contributors remain the same as for the 2012 valuation.

SASS Contributor Mortality (per 10,000 at age shown)		
Age Nearest Birthday	Male	Female
35	4	2
36	4	2
37	4	2
38	4	2
39	4	2
40	5	3
41	5	3
42	5	3
43	6	3
44	6	4
45	6	4
46	7	4
47	7	5
48	8	5
49	9	5
50	9	6
51	10	6
52	11	7
53	12	7
54	12	8
55	14	8
56	15	9
57	16	10
58	17	11
59	19	12
60	21	13
61	24	15
62	26	16
63	29	18
64	32	19
65	36	21
66	39	23
67	43	25
68	48	28
69	52	31

APPENDIX B

B1.7. Preservation of Benefits

On resignation, the proportions of SASS contributors electing to take a deferred benefit in lieu of the cash benefit are assumed to be:

SASS Contributors						
Percentage Electing Deferred Benefit on Resignation						
Age Nearest Birthday	Males			Females		
	2012	2015	change	2012	2015	change
26-49	60	75	15	70	75	5
50	65	75	10	70	95	25
51	70	80	10	75	95	20
52	75	80	5	80	95	15
53	80	85	5	85	95	10
54	85	90	5	90	95	5
55	90	95	5	95	100	5
56	95	100	5	100	100	-
57	100	100	-	100	100	-

B1.8. Rate of Pension Take-up

Former Local Government Pension Fund, NSW Retirement Fund and Government Railways Superannuation Scheme (RSA) SASS contributors may elect to receive pension benefits instead of a lump sum on retirement, disability and death.

SASS Rate of Pension Take-up for Eligible SASS Contributors		
2012	2015	Change
28%	50%	+22%

APPENDIX B

B2. SSS Contributors and Deferred Members

B2.1. Proportion of Optional Units Take-up

All available optional units are assumed to be taken up immediately by SSS contributors.

B2.2. Retirement

Retirement assumptions for contributors remain the same as the 2012 valuation.

SSS Contributor Age Retirement (per 10,000 at age shown)			
Age Nearest Birthday	Male	Female 55	Female 60
55	390	6,700	300
56	200	3,300	300
57	275	1,750	300
58	450	2,400	380
59	2,700	2,350	2,300
60	7,600	2,950	7,000
61	4,200	2,350	3,400
62	2,550	2,900	2,000
63	2,350	625	2,000
64	3,500	2,500	3,000
65	10,000	10,000	10,000

B2.3. Resignation

Nil resignation rate is assumed for SSS contributors in the 2015 valuation.

B2.4. Retrenchment

SSS Contributor Retrenchment Male and Female under Early Retirement Age			
Year Ending 30 June	General Government Sector	PTEs	Other employers
2015	0.65%	nil	nil
2016	0.67%	nil	nil
2017	0.88%	nil	nil
2018	0.69%	nil	nil
Thereafter	nil	nil	nil
(Male and Female over Early Retirement Age)			
Year Ending 30 June	General Government Sector	PTEs	Other employers
2015	0.65%	3.8%	nil
2016	0.67%	20.4%	nil
2017	0.88%	10.6%	nil
2018	0.69%	9.5%	nil
Thereafter	nil	nil	nil

These rates are set after consultations with the NSW Treasury.

APPENDIX B

B2.5. Breakdown

Breakdown assumptions for SSS contributors remain the same as for the 2012 valuation.

SSS Contributor Breakdown (per 10,000 at age shown)		
Age Nearest Birthday	Male	Female
41	58	24
42	63	27
43	67	33
44	75	39
45	84	45
46	86	58
47	91	65
48	105	75
49	123	88
50	144	103
51	151	108
52	156	112
53	179	128
54	201	144
55	224	160
56	246	176
57	268	192
58	291	208
59	313	224

B2.6. Mortality

Mortality assumptions for SSS contributors remain the same as for the 2012 valuation.

SSS Contributor Mortality (per 10,000 at age shown)		
Age Nearest Birthday	Male	Female
35	4	2
36	4	2
37	4	2
38	4	2
39	4	2
40	5	3
41	5	3
42	5	3
43	6	3
44	6	4
45	6	4
46	7	4
47	7	5
48	8	5
49	9	5
50	9	6
51	10	6

APPENDIX B

SSS Contributor Mortality (per 10,000 at age shown)		
Age Nearest Birthday	Male	Female
52	11	7
53	12	7
54	12	8
55	14	8
56	15	9
57	16	10
58	17	11
59	19	12
60	21	13
61	24	15
62	26	16
63	29	18
64	32	19

B2.7. Deferred Members

SSS deferred members are assumed to receive benefits from age 60. No mortality or disability exit is assumed during deferral period.

B3. PSS Contributors and Deferred Members

B3.1. Retirement

PSS Contributor Age Retirement (per 10,000 at age shown)			
Age Nearest Birthday	2012	2015	Change
55	800	0	-800
56	100	0	-100
57	100	0	-100
58	400	0	-400
59	400	0	-400
60	10,000	10,000	-

B3.2. Resignation and Retrenchment

Nil resignation or retrenchment is assumed for PSS contributors.

B3.3. Invalidity

PSS Contributors Invalidity (per 10,000 at age shown)				
Age Nearest Birthday	Not Hurt on Duty	Hurt on Duty		
	2012 and 2015	2012	2015	Change
41	35	585	600	15
42	43	636	650	14
43	50	675	680	5
44	62	680	680	0
45	76	686	680	-6
46	77	711	680	-31
47	82	711	680	-31
48	95	745	680	-65
49	111	814	680	-134
50	151	884	700	-184
51	159	914	700	-214
52	176	929	700	-229
53	201	1049	700	-349
54	241	1139	800	-339
55	286	1186	900	-286
56	332	1208	1250	42
57	382	1216	1300	84
58	437	1216	1300	84
59	493	1216	1300	84

APPENDIX B

B3.4. Mortality

Mortality assumptions for contributors remain the same as for the 2012 valuation.

PSS Contributor Mortality (per 10,000 at age shown)			
Age Nearest Birthday	Not Killed on Duty		Killed on Duty
	Male	Female	Unisex
41	5	3	2
42	5	3	2
43	6	3	2
44	6	4	2
45	6	4	2
46	7	4	2
47	7	5	2
48	8	5	2
49	9	5	2
50	9	6	2
51	10	6	1
52	11	7	1
53	12	7	1
54	12	8	1
55	14	8	1
56	15	9	1
57	16	10	1
58	17	11	1
59	19	12	1

B3.5. Level of Discretionary Hurt on Duty Pensions

The level of hurt on duty pension assumed is the maximum discretionary amount, i.e.100% salary at exit.

B3.6. Deferred Members

PSS deferred members are assumed to receive benefits from age 55. No mortality or disability exit is assumed during deferral period.

B4. Pensioners

B4.1. Pensioner Mortality

B4.1.1. Retiree and Spouse Pensioners

Retiree and Spouse Pensioners Mortality Assumptions (per 10,000 at age shown)				
Age Nearest Birthday	SSS and PSS		SASS	
	Male	Female	Male	Female
50	13	11	13	11
51	13	12	13	12
52	13	12	13	12
53	14	13	14	13
54	15	14	15	14
55	16	15	16	15
56	18	17	18	17
57	19	18	19	18
58	21	20	21	20
59	22	21	22	21
60	24	22	24	22
61	25	23	25	23
62	26	24	26	24
63	28	25	28	25
64	30	26	30	26
65	36	31	36	31
66	44	34	44	34
67	53	38	53	38
68	63	44	63	44
69	73	50	73	50
70	83	52	83	52
71	93	55	93	55
72	105	63	105	63
73	119	73	119	73
74	135	92	135	92
75	155	112	171	134
76	177	134	195	161
77	205	158	226	190
78	235	184	282	239
79	275	217	330	282
80	320	263	432	368
81	380	308	513	431
82	460	359	621	503
83	540	418	729	585
84	620	484	837	678
85	700	552	945	773
86	790	622	1,067	871
87	900	701	1,215	981
88	1,005	789	1,357	1,104
89	1,123	886	1,516	1,240

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Retiree and Spouse Pensioners Mortality Assumptions (per 10,000 at age shown)				
Age Nearest Birthday	SSS and PSS		SASS	
	Male	Female	Male	Female
90	1,273	1,115	1,719	1,450
91	1,453	1,270	1,962	1,650
92	1,663	1,436	2,245	1,867
93	1,873	1,611	2,529	2,094
94	2,083	1,790	2,812	2,327
95	2,303	1,970	3,109	2,561
96	2,523	2,147	3,406	2,791
97	2,743	2,318	3,703	3,013
98	2,943	2,480	3,973	3,224
99	3,113	2,606	4,203	3,388
100	3,253	2,716	4,392	3,531
101	3,393	2,833	4,581	3,683
102	3,523	2,943	4,756	3,826
103	3,643	3,047	4,918	3,961
104	3,763	3,174	5,080	4,126
105	3,883	3,297	5,242	4,286
106	4,003	3,416	5,404	4,441
107	4,123	3,531	5,566	4,590
108	4,243	3,642	5,728	4,735
109	4,363	3,749	5,890	4,873
110	10,000	10,000	10,000	10,000

Pensioner mortality rates above apply for the year from 1 July 2015. Mortality rates for subsequent years are reduced according to assumed rates of future improvement.

APPENDIX B

B4.1.2. Invalidity Pensioners

All Schemes – Invalidity Pensioner Mortality Assumptions (per 10,000 at age shown)					
Age Nearest Birthday	Male	Female	Age Nearest Birthday	Male	Female
50	22	21	81	600	561
51	23	22	82	685	650
52	25	24	83	780	740
53	26	25	84	870	835
54	27	26	85	965	932
55	29	28	86	1,050	989
56	30	29	87	1,142	1,040
57	34	32	88	1,243	1,080
58	37	34	89	1,468	1,120
59	42	37	90	1,706	1,220
60	48	40	91	1,892	1,360
61	51	43	92	2,065	1,550
62	57	49	93	2,242	1,750
63	62	57	94	2,457	1,930
64	69	64	95	2,760	2,110
65	78	71	96	3,060	2,300
66	88	79	97	3,400	2,517
67	105	86	98	3,760	2,688
68	126	94	99	4,120	2,860
69	148	102	100	4,500	3,002
70	165	110	101	4,880	3,144
71	180	121	102	5,100	3,284
72	195	136	103	5,320	3,424
73	212	159	104	5,559	3,562
74	231	194	105	5,764	3,699
75	262	245	106	5,953	3,835
76	313	285	107	6,143	3,969
77	367	322	108	6,333	4,102
78	420	372	109	6,524	4,233
79	479	429	110	10,000	10,000
80	540	481			

For invalidity pensioners, a select mortality rate is assumed for the first year of invalidity, a rate of 5% is assumed for ages up to 39 and 2.5% assumed for ages thereafter, for both male and female.

Pensioner mortality rates above apply for the year from 1 July 2015. Mortality rates for subsequent years are reduced according to assumed rates of future improvement.

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B4.2. Improvement Factors

Pensioner Mortality Improvement rates				
Age	For years 2015-2021		For years post 2021	
	Male	Female	Male	Female
50	0.02285	0.01978	0.01485	0.01631
51	0.02384	0.02040	0.01460	0.01603
52	0.02479	0.02098	0.01437	0.01581
53	0.02568	0.02155	0.01414	0.01562
54	0.02653	0.02208	0.01393	0.01546
55	0.02732	0.02258	0.01375	0.01533
56	0.02806	0.02306	0.01358	0.01518
57	0.02874	0.02350	0.01338	0.01499
58	0.02937	0.02390	0.01316	0.01478
59	0.02993	0.02427	0.01291	0.01450
60	0.03042	0.02461	0.01262	0.01420
61	0.03085	0.02490	0.01232	0.01392
62	0.03121	0.02515	0.01201	0.01367
63	0.03150	0.02536	0.01176	0.01347
64	0.03172	0.02552	0.01165	0.01349
65	0.03186	0.02563	0.01171	0.01386
66	0.03192	0.02570	0.01180	0.01418
67	0.03191	0.02572	0.01175	0.01416
68	0.03181	0.02568	0.01154	0.01389
69	0.03163	0.02559	0.01119	0.01346
70	0.03136	0.02545	0.01069	0.01289
71	0.03100	0.02525	0.01019	0.01231
72	0.03055	0.02499	0.00985	0.01185
73	0.03000	0.02467	0.00963	0.01158
74	0.02936	0.02429	0.00948	0.01148
75	0.02859	0.02384	0.00929	0.01146
76	0.02767	0.02333	0.00906	0.01140
77	0.02663	0.02275	0.00879	0.01127
78	0.02548	0.02210	0.00848	0.01108
79	0.02425	0.02138	0.00811	0.01083
80	0.02293	0.02059	0.00771	0.01053
81	0.02157	0.01972	0.00728	0.01017
82	0.02024	0.01878	0.00686	0.00976
83	0.01896	0.01795	0.00644	0.00931
84	0.01778	0.01663	0.00602	0.00882
85	0.01659	0.01524	0.00562	0.00829
86	0.01532	0.01383	0.00522	0.00773
87	0.01395	0.01240	0.00483	0.00715
88	0.01243	0.01101	0.00445	0.00658
89	0.01076	0.00965	0.00408	0.00601
90	0.00893	0.00830	0.00372	0.00545
91	0.00699	0.00695	0.00338	0.00491
92	0.00505	0.00559	0.00307	0.00438
93	0.00310	0.00428	0.00280	0.00390
94	0.00116	0.00306	0.00254	0.00349

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Pensioner Mortality Improvement rates				
Age	For years 2015-2021		For years post 2021	
	Male	Female	Male	Female
95	0.00000	0.00196	0.00227	0.00308
96	0.00000	0.00087	0.00200	0.00267
97	0.00000	0.00000	0.00174	0.00226
98	0.00000	0.00000	0.00147	0.00184
99	0.00000	0.00000	0.00121	0.00143
100	0.00000	0.00000	0.00094	0.00102
101	0.00000	0.00000	0.00068	0.00061
102	0.00000	0.00000	0.00041	0.00020
103	0.00000	0.00000	0.00015	0.00000
104	0.00000	0.00000	0.00000	0.00000
105	0.00000	0.00000	0.00000	0.00000
106	0.00000	0.00000	0.00000	0.00000
107	0.00000	0.00000	0.00000	0.00000
108	0.00000	0.00000	0.00000	0.00000
109	0.00000	0.00000	0.00000	0.00000
110	0.00000	0.00000	0.00000	0.00000

APPENDIX B

B4.3. Commutation of Pension Benefits

B4.3.1. SSS Commutation of Pension Benefits

SSS Commutation of Pension Benefits	
Retirement Pensioners	5%
Spouse Pensioners	40%

B4.3.2. PSS Commutation of Pension Benefits

PSS Commutation of Pension Benefits			
	2012	2015	change
Commutation at retirement	45%	0%	-45%
Disability Pensioners on attainment of age 60	5%	0%	-5%

B4.4. Child Pensioners

Given the maturity of contributor membership of the Pooled Fund, no allowance is made for new child pensioners.

For current child pensioners, they are assumed to be paid pensions until the age of 25.

APPENDIX B

B5. All Members

B5.1. Percentage with Spouse at Death

All Pooled Fund Members – Percentage with Spouse at Death					
Age Nearest Birthday	Male	Female	Age Nearest Birthday	Male	Female
40	80%	55%	76	74%	35%
41	80%	55%	77	73%	33%
42	80%	55%	78	72%	31%
43	80%	55%	79	71%	28%
44	80%	55%	80	70%	26%
45	80%	55%	81	67%	24%
46	80%	55%	82	64%	22%
47	80%	55%	83	62%	20%
48	80%	55%	84	60%	18%
49	80%	55%	85	58%	16%
50	80%	55%	86	56%	14%
51	80%	55%	87	54%	12%
52	80%	55%	88	52%	10%
53	80%	55%	89	50%	9%
54	80%	55%	90	48%	8%
55	80%	55%	91	46%	7%
56	80%	55%	92	43%	6%
57	80%	55%	93	40%	5%
58	80%	55%	94	37%	4%
59	80%	55%	95	34%	3%
60	80%	55%	96	31%	2%
61	79%	55%	97	28%	1%
62	78%	55%	98	25%	-
63	77%	55%	99	22%	-
64	76%	55%	100	19%	-
65	75%	55%	101	16%	-
66	75%	55%	102	13%	-
67	75%	55%	103	10%	-
68	75%	55%	104	7%	-
69	75%	55%	105	4%	-
70	75%	55%	106	1%	-
71	75%	51%	107	-	-
72	75%	47%	108	-	-
73	75%	43%	109	-	-
74	75%	39%	110	-	-
75	75%	37%			

APPENDIX B

B5.2. Spouse Age Difference

When the spouse's date of birth is not provided in the data, the following assumptions are made:

All Pooled Fund Members - Spouse Age Difference	
Male	4 years older than spouse
Female	2 years younger than spouse

Appendix C:

Report on the Pooled Fund Analysis of Demographic Experience from 30 June 2011 to 30 June 2014

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C1. SASS Contributors

C1.1. Member Contribution Rate

For the 2012 valuation it was assumed that contributors maintained their contribution rate as provided in membership data through to retirement, unless they reached maximum benefit points when 20% of members were assumed to reduce their contribution rate to the minimum contribution rate of 1% of salary and the remaining 80% assumed to maintain their current contribution rate to retirement.

Member contributions post maximum benefit points increase members' accumulation benefits but have minimal financial impact on employer funded defined benefits; therefore the 2012 valuation assumption is maintained for the 2015 valuation.

C1.2. Retirement

The tables below show the actual numbers (A) of contributor retirements in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) based on the 2012 valuation assumptions.

Note that as there were significant numbers of retirement exits who left before 30 June 2014 but were not notified until the provision of 31 October 2014 data, these have been included in the actual exits for the purposes of this analysis.

Retrenchments over early retirement age are recorded by the administrator as retirement exits; they are not separately identified as retrenchments. Therefore for the purposes of this analysis, retrenchments assumed for ages over early retirement age, at the long term assumed rate of 1.5% per annum for Part 1 and nil for Part 3, are included with the expected retirements.

SASS Contributor Age Retirements – Male						
Age Nearest Birthday	Part 1 Employers			Part 3 Employers		
	Actual	Expected	A/E	Actual	Expected	A/E
55	29	-	-	0	-	-
56	25	-	-	1	-	-
57	94	55.3	1.7	16	14.0	1.1
58	211	157.7	1.3	47	44.6	1.1
59	209	195.8	1.1	37	49.4	0.7
60	389	308.2	1.3	102	77.5	1.3
61	275	239.6	1.1	59	48.0	1.2
62	234	181.5	1.3	53	37.6	1.4
63	231	145.2	1.6	40	51.7	0.8
64	293	205.8	1.4	83	65.6	1.3
65	282	267.4	1.1	115	107.0	1.1
66	132	87.0	1.5	35	37.9	0.9
67	80	54.6	1.5	30	33.2	0.9
68	38	36.8	1.0	15	15.7	1.0
69	82	76.1	1.1	38	33.3	1.1
70	46	44.7	1.0	15	14.0	1.1

SASS Contributor Age Retirements – Male						
Age Nearest Birthday	Part 1 Employers			Part 3 Employers		
	Actual	Expected	A/E	Actual	Expected	A/E
Total	2650	2055.6	1.3	686	629.6	1.1

SASS Contributor Age Retirements – Female						
Age Nearest Birthday	Part 1 Employers			Part 3 Employers		
	Actual	Expected	A/E	Actual	Expected	A/E
55	19	-	-	2	-	-
56	19	-	-	0	-	-
57	98	73.3	1.3	38	38.1	1.0
58	220	210.4	1.0	84	104.2	0.8
59	220	208.8	1.1	95	105.3	0.9
60	341	296.0	1.2	186	172.1	1.1
61	217	235.6	0.9	166	142.5	1.2
62	234	198.8	1.2	128	123.9	1.0
63	188	231.2	0.8	134	137.1	1.0
64	259	236.4	1.1	194	187.1	1.0
65	265	210.3	1.3	210	138.0	1.5
66	113	105.5	1.1	109	87.4	1.2
67	88	82.0	1.1	63	56.1	1.1
68	64	58.0	1.1	40	28.6	1.4
69	105	116.8	0.9	76	71.4	1.1
70	61	57.9	1.1	51	49.0	1.0
Total	2511	2320.9	1.1	1576	1440.5	1.1

Members of some legacy schemes within SASS are eligible to retire from age 55, however the number of actual retirements is not significant and therefore nil retirement is assumed at these earlier ages.

Actual retirements (including retrenchments recorded as retirement exits) over the three years to 30 June 2014 were higher than expected. This is consistent with higher retrenchment rates assumed in the 2012 valuation and the general expectation that members at older ages are more likely to accept redundancy packages.

To avoid allowing for expected redundancies over early retirement age twice, we have maintained the 2012 valuation retirement assumptions, with separate retrenchment assumptions for under and over early retirement age set after consultations with the NSW Treasury.

C1.3. Resignation

The table below shows the actual numbers (A) of contributor resignations in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) based on the 2012 valuation assumptions.

SASS Contributor Resignations – 3-year period to 30 June 2014												
Age group	Males						Females					
	Part 1 Employers			Part 3 Employers			Part 1 Employers			Part 3 Employers		
	A	E	A/E	A	E	A/E	A	E	A/E	A	E	A/E
31-35	1	0.1	10.7	0	0.0	-	0	0.0	-	0	0.0	-
36-40	9	16.3	0.6	1	1.0	1.0	5	9.3	0.5	0	2.6	0.0
41-45	45	85.6	0.5	8	11.7	0.7	32	64.3	0.5	21	37.3	0.6
46-50	53	104.7	0.5	12	22.0	0.5	42	84.9	0.5	24	76.0	0.3
51-55	85	121.5	0.7	26	38.8	0.7	89	118.4	0.8	86	147.5	0.6
56-57	41	42.4	1.0	12	16.9	0.7	42	65.4	0.6	43	64.6	0.7
Total	234	370.5	0.6	59	90.4	0.7	210	342.3	0.6	174	328.1	0.5

SASS also experienced lower than expected resignations in the three years to 30 June 2011. The table below compares the actual numbers of resignations (A) that occurred in the six-year period from 1 July 2008 to 30 June 2014 with the expected numbers (E) based on the 2012 valuation assumptions.

SASS Contributor Resignations – 6-year period to 30 June 2014												
Age group	Males						Females					
	Part 1 Employers			Part 3 Employers			Part 1 Employers			Part 3 Employers		
	A	E	A/E	A	E	A/E	A	E	A/E	A	E	A/E
31-35	3	2.9	1.0	0	0.1	0.0	1	1.4	0.7	1	0.5	2.2
36-40	61	96.0	0.6	4	8.9	0.5	39	64.7	0.6	19	28.5	0.7
41-45	120	201.8	0.6	26	33.7	0.8	97	154.2	0.6	60	102.3	0.6
46-50	164	240.5	0.7	36	60.2	0.6	89	187.4	0.5	89	199.4	0.4
51-55	200	252.2	0.8	61	86.9	0.7	216	266.2	0.8	215	324.6	0.7
56-57	77	87.3	0.9	26	34.5	0.8	96	157.5	0.6	92	136.7	0.7
Total	625	880.7	0.7	153	224.4	0.7	538	831.4	0.6	476	792.1	0.6

Resignation rates used for the 2012 valuation are reduced by 30% for the 2015 valuation.

C1.4. Retrenchment

Retrenchments over early retirement age are recorded by the administrator as retirement exits; they are not separately identified as retrenchments, therefore they have been included in the rates of retirement analysis above.

The 2012 valuation adopted quite high retrenchment assumptions for SASS members in the general government sector (including Part 3 Employers), from 4.8% in the year to 30 June 2013 to 7.6% in the year to 30 June 2016 for males and females at all ages. These high retrenchment rates did not materialise in the years to 30 June 2014 for members under the early retirement age.

The following table shows the percentage of membership under early retirement age who were retrenched in each year.

SASS Retrenchments under Early Retirement Age						
Year to 30 June	Part 1 Employers			Part 3 Employers		
	2012	2013	2014	2012	2013	2014
Males	0.8%	1.6%	1.3%	0.2%	0.4%	0.3%
Females	0.7%	1.0%	1.1%	0.2%	0.2%	0.2%

For the 2015 valuation, retrenchment assumptions are distinguished for members over and under early retirement age, as members over early retirement age are more likely to accept redundancy packages. This is consistent with both general expectation and past experience of the Fund. Retrenchment assumptions are set following consultations with the NSW Treasury.

C1.5. Invalidity

C1.5.1. SASS Non-Police Contributors

The table below shows the actual numbers (A) of SASS non-Police contributor exits in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) based on the 2012 valuation assumptions due to total and permanent invalidity (TPI) and partial and permanent invalidity (PPI) and for males and females respectively.

SASS Non-Police Contributors - Males									
Age Group	TPI			PPI			Total Invalidity		
	A	E	A/E	A	E	A/E	A	E	A/E
36-40	0	0.7	0.0	0	2.6	0.0	0	3.3	0.0
41-45	1	5.0	0.2	21	20.1	1.0	22	25.1	0.9
46-50	11	13.4	0.8	23	46.9	0.5	34	60.3	0.6
51-55	16	36.3	0.4	66	54.6	1.2	82	90.9	0.9
56-60	5	20.4	0.2	31	30.6	1.0	36	50.9	0.7
Total	33	75.7	0.4	141	154.8	0.9	174	230.5	0.8

SASS Non-Police Contributors - Females									
Age Group	TPI			PPI			Total Invalidity		
	A	E	A/E	A	E	A/E	A	E	A/E
36-40	0	0.2	0.0	1	0.4	2.3	1	0.6	1.7
41-45	3	3.4	0.9	4	10.2	0.4	7	13.6	0.5
46-50	7	12.5	0.6	16	31.3	0.5	23	43.8	0.5
51-55	13	38.8	0.3	33	44.6	0.7	46	83.4	0.6
56-60	6	24.5	0.2	17	28.2	0.6	23	52.8	0.4
Total	29	79.4	0.4	71	14.8	0.6	100	194.2	0.5

The actual invalidity experienced by SASS non-police contributors were lower than expected. However given the maturity of the membership and the relatively small number of disablements (when compared to other types of exits) the 2012 valuation assumptions are maintained for the 2015 valuation.

C1.5.2.SASS Police Contributors

The table below shows the actual numbers (A) of SASS Police contributor exits in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) based on the 2012 valuation assumptions due to total and permanent invalidity (TPI) and partial and permanent invalidity (PPI) and for males and females respectively.

SASS Police Contributors - Invalidity									
Age Group	TPI			PPI			Total Invalidity		
	A	E	A/E	A	E	A/E	A	E	A/E
Males									
36-40	15	3.5	4.3	7	13.9	0.5	22	17.4	1.3
41-45	51	31.7	1.6	39	126.7	0.3	90	158.4	0.6
46-50	19	15.8	1.2	17	55.4	0.3	36	71.2	0.5
51-55	7	17.8	0.4	11	27.0	0.4	18	44.8	0.4
56-60	4	6.2	0.6	0	9.0	0.0	4	15.1	0.3
Total	96	75.0	1.3	74	232.0	0.3	170	306.9	0.6
Females									
36-40	5	1.7	3.0	3	5.0	0.6	8	6.7	1.2
41-45	22	10.6	2.1	10	31.4	0.3	32	42.0	0.8
46-50	2	5.7	0.4	1	14.3	0.1	3	20.0	0.2
51-55	0	9.3	0.0	2	10.8	0.2	2	20.0	0.1
56-60	0	3.9	0.0	0	4.5	0.0	0	8.5	0.0
Total	29	31.2	0.9	16	66.0	0.2	45	97.2	0.5

The overall invalidity rates experienced by SASS Police contributors were lower than expected. However the TPI experience was worse than expected for male members.

The invalidity assumptions for SASS Police contributors are set based on PSS invalidity rates (both Not Hurt on Duty and Hurt on Duty), and these rates are then apportioned between TPI and PPI. This approach to assumption setting reflects that SASS police contributors are more likely to have similar invalidity experience to PSS members (rather than comparable to SASS non-Police contributors).

For the 2015 valuation to better align with experience, the SASS Police contributor total invalidity assumptions are set equal to Police Not Hurt on Duty rates plus 50% of PSS Hurt on Duty rates. The total invalidity assumptions are then apportioned as 60% TPI and 40% PPI.

C1.6. Mortality

The table below shows the actual numbers (A) of contributor deaths in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) based on the 2012 valuation assumptions.

SASS Contributor Mortality						
Age	Males			Females		
	A	E	A/E	A	E	A/E
36-40	2	0.5	4.2	1	0.2	6.4
41-45	5	3.9	1.3	2	2.1	0.9
46-50	12	8.1	1.5	11	4.7	2.3
51-55	17	16.1	1.1	11	9.9	1.1
56-60	36	21.3	1.7	20	16.4	1.2
61-65	21	17.3	1.2	12	15.9	0.8
66-70	7	4.2	1.7	3	4.6	0.7
71-75	0	0.0	-	0	0.0	-
Total	100	71.3	1.4	60	53.8	1.1

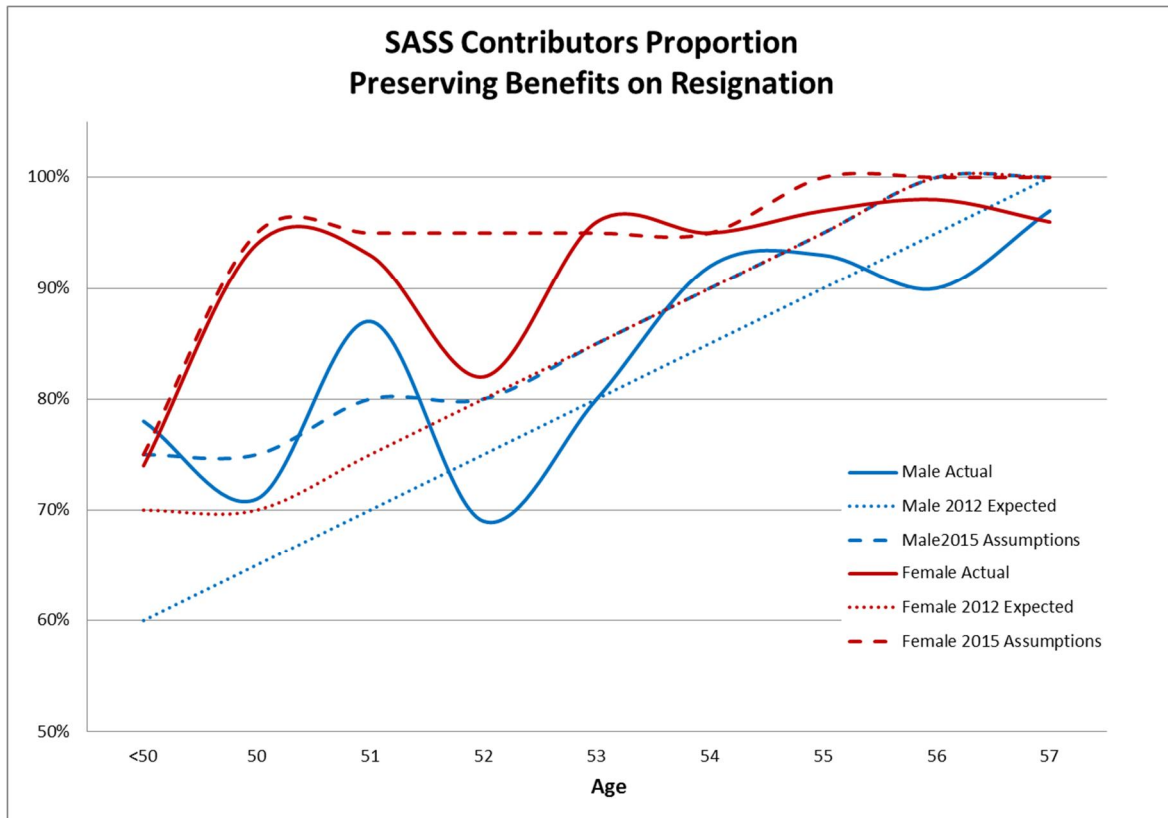
Given the small number of deaths compared to other types of contributor exits, the 2012 valuation assumptions are maintained for the 2015 valuation.

C1.7. Preservation of Benefits

On resignation, SASS contributors can elect deferred benefits in lieu of cash benefits. The table below shows the actual proportion of SASS contributors electing to preserve benefits compared with the expected proportion based on the 2012 assumptions and the 2015 assumptions.

SASS Contributor Proportion Preserving Benefits on Resignation						
Age	Males			Females		
	Actual	2012 Expected	2015 Assumptions	Actual	2012 Expected	2015 Assumptions
<50	78%	60%	75%	74%	70%	75%
50	71%	65%	75%	94%	70%	95%
51	87%	70%	80%	93%	75%	95%
52	69%	75%	80%	82%	80%	95%
53	80%	80%	85%	96%	85%	95%
54	92%	85%	90%	95%	90%	95%
55	93%	90%	95%	97%	95%	100%
56	90%	95%	100%	98%	100%	100%
57	97%	100%	100%	96%	100%	100%

The following chart is a graphical representation of the experience and assumptions shown in the table above.



From the chart, it can be seen that

- Female SASS contributors have higher proportions preserving benefits than males.
- For both males and females, the actual proportions preserving benefits are higher than expected in the 2012 valuation.
- The 2015 valuation assumptions are based on 2012 valuation assumptions adjusted to better align with experience.

C1.8. Rate of Pension Take-up

The table below shows the percentage of members eligible for pension benefits on retirement who elected pension in the period from 1 July 2011 to 30 June 2014 compared with the percentage assumed in the 2012 valuation and the 2015 valuation assumption.

SASS Rate of Pension Take-up for Eligible SASS Contributors			
	Actual	2012 Valuation Assumption	2015 Valuation Assumption
Retirement	45.4%	28%	50%

The assumed rate of pension take up was 20% for the 2009 valuation, since then this rate has been steadily increasing in line with actual experience observed.

Eligible SASS Contributors can also elect pension benefits on exits due to invalidity or death. The same rate of pension take up as retirement exits are assumed for these exits.

C2. SSS Contributors and Deferred Members

C2.1. Proportion of Optional Units Take-up

Actual experience shows that most SSS contributors fully take up optional units at retirement if not earlier, and very few units remain abandoned post retirement exit.

Given the maturity of the SSS membership, all available optional units are assumed to be taken up immediately by contributors in the 2015 valuation.

C2.2. Retirement

The tables below show the actual numbers (A) of contributor retirements in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) based on the 2012 valuation assumptions.

Note that the actual retirements include retrenchments over early retirement age as they are recorded by the administrator as retirement exits; they are not separately identified as retrenchments.

SSS Contributor Retirements									
Age Nearest Birthday	Male			Female R55			Female R60		
	A	E	A/E	A	E	A/E	A	E	A/E
55	120	140	0.9	991	1003	1.0	46	41	1.1
56	78	58	1.3	92	98	0.9	17	30	0.6
57	149	87	1.7	36	33	1.1	35	28	1.3
58	176	146	1.2	23	37	0.6	41	33	1.2
59	1047	902	1.2	23	27	0.9	185	170	1.1
60	1929	1786	1.1	23	24	1.0	358	348	1.0
61	179	178	1.0	9	10	0.9	38	39	1.0
62	82	68	1.2	5	10	0.5	19	14	1.3
63	71	52	1.4	8	2	4.6	10	10	1.0
64	81	56	1.5	10	6	1.7	17	15	1.1
65	65	99	0.7	9	15	0.6	21	33	0.6
66	12	-	-	2	-	-	7	-	-
67	15	-	-	3	-	-	0	-	-
68	2	-	-	0	-	-	0	-	-
69	4	-	-	2	-	-	1	-	-
70	6	-	-	0	-	-	2	-	-
Total	4016	3572	1.1	1236	1265	1.0	797	760	1.1

Actual retirements (including retrenchments recorded as retirement exits) over the three years to 30 June 2014 were higher than expected. This is consistent with higher retrenchment rates assumed in the 2012 valuation and the general expectation that members at older ages are more likely to accept redundancy packages.

To avoid allowing for expected redundancies over early retirement age twice, we have maintained the 2012 valuation retirement assumptions, with separate retrenchment assumptions for under and over early retirement age set after consultations with the NSW

Treasury.

C2.3. Resignation

In the 3 years to 30 June 2014, there were 36 SSS resignations compared to over 6,000 retirements. The small number of resignations is consistent with the maturity of SSS membership.

Nil resignation rate is assumed for SSS contributors in the 2015 valuation.

C2.4. Retrenchment

Retrenchments over early retirement age are recorded by the administrator as retirement exits; they are not separately identified as retrenchments, therefore they have been included in the rates of retirement analysis above.

The 2012 valuation adopted quite high retrenchment assumptions for SSS contributors, from 6.1% in the year to 30 June 2013 to 14.2% in the year to 30 June 2016 for males and females at all ages. These high retrenchment rates did not materialise in the years to 30 June 2014 for members under early retirement age.

The following table shows the percentage of contributor membership under early retirement age who were retrenched in each year.

SSS Contributor Retrenchments under Early Retirement Age			
Year to 30 June	2012	2013	2014
Males	0.1%	0.2%	0.1%
Females	0.3%	0.3%	0.4%

Given the maturity of the SSS membership and its pension benefit design, retrenchments have but minor financial impact.

For the 2015 valuation, retrenchment assumptions are distinguished for members over and under early retirement age, as members over early retirement age are more likely to accept redundancy packages. This is consistent with both general expectation and past experience of the Fund. Retrenchment assumptions are set following consultations with the NSW Treasury.

C2.5. Breakdown

The table below shows the actual numbers (A) of contributor breakdown retirements in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) based on the 2012 valuation assumptions.

SSS Contributor Breakdown						
Age	Males			Females		
	A	E	A/E	A	E	A/E
41-45	0	0.8	0.0	0	0.6	0.0
46-50	14	17.8	0.8	2	12.7	0.2
51-55	131	153.1	0.9	31	80.7	0.4
56-60	239	342.0	0.7	34	80.3	0.4
Total	384	513.7	0.8	67	174.3	0.4

Given the maturity of the SSS membership, the 2012 valuation assumptions are maintained for the 2015 valuation.

C2.6. Mortality

The table below shows the actual numbers (A) of contributor deaths in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) based on the 2012 valuation assumptions.

SSS Contributor Mortality						
Age	Males			Females		
	A	E	A/E	A	E	A/E
41-45	1	0.1	17.4	0	0.1	0.0
46-50	1	1.2	0.9	4	0.8	5.3
51-55	2	9.1	0.2	3	4.2	0.7
56-60	12	20.8	0.6	3	4.4	0.7
61-65	0	2.0	0.0	0	0.6	0.0
Total	16	33.1	0.5	11	9.9	1.1

Given the small number of deaths compared to other types of contributor exits, the 2012 valuation assumptions are maintained for the 2015 valuation.

C3. PSS Contributors and Deferred Members

C3.1. Retirement

The table below shows the actual numbers (A) of contributor retirements in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) based on the 2012 valuation assumptions.

PSS Contributor Age Retirements Male and Female			
Age Nearest Birthday	A	E	A/E
55	4	26.7	0.1
56	2	1.5	1.3
57	3	1.3	2.3
58	3	4.2	0.7
59	7	3.6	1.9
60	35	70.6	0.5
61+	26	-	-
Total	80	108.0	0.7

Some members retired after attaining age 60, however given the benefit design of the scheme and the number and maturity of contributors remaining, the financial impact of introducing post age 60 retirement assumptions will be small, and therefore the assumption of 100% retirement at age 60 is maintained. For ages under 60, as there are virtually no retirements, nil retirements are assumed.

C3.2. Resignation

There were no PSS resignations in the period from 1 July 2011 to 30 June 2014 (compared to about 7 expected based on 2012 valuation basis). The lower than expected number of resignations is also consistent with experience over the 6-year period to 30 June 2014.

Given the experience and the maturity of the PSS membership, nil resignation rate is assumed for the 2015 valuation.

C3.3. Invalidity

C3.3.1.Hurt on Duty

The table below shows the actual numbers (A) of contributor Hurt on Duty exits in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) based on the 2012 valuation assumptions.

PSS Contributor Hurt on Duty						
Age Nearest Birthday	Males			Females		
	A	E	A/E	A	E	A/E
41-45	40	39.2	1.0	20	10.1	2.0
46-50	111	131.7	0.8	21	21.9	1.0
51-55	97	152.2	0.6	10	14.2	0.7
56-60	64	59.2	1.1	2	3.3	0.6
61+	7	-	-	-	-	-
Total	319	382.4	0.8	53	49.5	1.1

The number of Hurt on Duty exits were significantly lower in the year to 30 June 2013 and to 30 June 2014 compared to the year to 30 June 2012. The table below shows the actual number (A) and the expected number (E) of Hurt on Duty exits by financial year.

PSS Contributor Hurt on Duty Male and Female			
Year to 30 June	A	E	A/E
2012	180	155.3	1.2
2013	91	141.8	0.6
2014	101	134.7	0.7
Total	372	431.9	0.9

The overall number of Hurt on Duty exits over the three years to 30 June 2014 were lower than expected based on 2012 valuation assumptions. The 2012 valuation assumptions are adjusted to better align with experience for the 2015 valuation.

C3.3.2.Not Hurt on Duty

The table below shows the actual numbers (A) of contributor Not Hurt on Duty exits in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) based on the 2012 valuation assumptions.

PSS Contributor Not Hurt on Duty						
Age	Males			Females		
	A	E	A/E	A	E	A/E
41-45	3	3.7	0.8	1	0.9	1.1
46-50	3	17	0.2	0	2.8	0.0
51-55	11	29	0.4	3	2.7	1.1
56-60	10	18	0.6	1	1	1.0
Total	27	67.7	0.4	5	7.3	0.7

The actual number of Not Hurt on Duty exits were lower than expected for both male and female PSS contributors. However given the small number of Not Hurt on Duty exits when compared

to Hurt on Duty exits and the maturity of the PSS membership, the 2012 valuation assumptions for PSS Not Hurt on Duty are maintained for the 2015 valuation.

C3.4. Mortality

There were 9 PSS contributor deaths in the period from 1 July 2011 to 30 June 2014 including 3 Killed on Duty. Given the low number of deaths, the 2012 valuation assumptions are maintained for the 2015 valuation.

C3.5. Level of Discretionary Hurt on Duty Pensions

The level of hurt on duty pension assumed is the maximum discretionary amount, i.e. 100% salary at exit. To the extent that the maximum is not paid, there is a conservative margin retained.

C4. Pensioners

C4.1. Pensioner Mortality

C4.1.1. Retirement and Spouse Pensioners

SSS Retirement and Spouse Pensioners

The tables below show the actual numbers (A) of SSS pensioners dying in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) of deaths based on the 2012 valuation assumptions for SSS retirement pensioners and SSS spouse pensioners respectively.

SSS Retirement Pensioner Mortality – 2012 Valuation Assumptions						
Age group	Males			Females		
	A	E	A/E	A	E	A/E
55-59	2	6.6	0.3	13	9.6	1.4
60-64	55	64	0.9	15	18.5	0.8
65-69	109	108.7	1.0	31	37.6	0.8
70-74	119	128.5	0.9	38	42.7	0.9
75-79	134	138.4	1.0	47	47.6	1.0
80-84	194	206.2	0.9	88	86.7	1.0
85-89	343	377.3	0.9	102	127.3	0.8
90-94	311	304.1	1.0	130	115	1.1
95-99	91	87.1	1.0	46	54.4	0.9
100+	14	15.2	0.9	9	8.3	1.1
Total	1,372	1436.2	1.0	519	547.7	1.0

SSS Spouse Pensioner Mortality – 2012 Valuation Assumptions						
Age group	Males/Widowers			Females/Widows		
	A	E	A/E	A	E	A/E
55-59	1	0.3	3.1	2	1.4	1.5
60-64	1	0.5	1.9	1	3	0.3
65-69	1	1.3	0.8	13	10.6	1.2
70-74	1	1.9	0.5	18	21.8	0.8
75-79	8	4.7	1.7	50	45.9	1.1
80-84	12	10.2	1.2	133	137.9	1.0
85-89	13	13.1	1.0	246	243.6	1.0
90-94	7	7.1	1.0	285	277.1	1.0
95-99	5	3.9	1.3	148	175.3	0.8
100+	0	0	0.0	30	39.4	0.8
Total	49	43.1	1.1	926	956.1	1.0

The 2012 valuation used the same pensioner mortality assumptions for retirement and spouse pensioners. The tables above show that the actual to expected experiences are very similar for female retirement and spouse pensioners. For male pensioners the tables show a variation in experience however there were only a small number of male spouse deaths. Therefore the 2015 valuation continues to apply the same pensioner mortality assumptions for retirement and spouse pensioners.

The 2015 valuation pensioner mortality assumptions are based on the 2012 assumptions with 3 years of improvements applied and then adjusted and smoothed at specific ages to better align with experience.

The table below shows the actual numbers (A) of SSS retirement and spouse pensioners dying in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) of deaths based on the 2015 valuation assumptions.

SSS Retirement and Spouse Pensioner Mortality – 2015 Valuation Assumptions						
Age group	Males			Females		
	A	E	A/E	A	E	A/E
55-59	3	6.2	0.5	15	14.8	1.0
60-64	56	56.4	1.0	16	26.4	0.6
65-69	110	106.0	1.0	44	42.4	1.0
70-74	120	137.8	0.9	56	56.4	1.0
75-79	142	148.7	1.0	97	99.2	1.0
80-84	206	200.3	1.0	221	220.5	1.0
85-89	356	360.5	1.0	348	365.5	1.0
90-94	318	300.4	1.1	415	405.0	1.0
95-99	96	92.8	1.0	194	191.2	1.0
100+	14	14.1	1.0	39	39.6	1.0
Total	1421	1423.1	1.0	1445	1461.0	1.0

SASS Retirement and Spouse Pensioners

For SASS, the same pensioner mortality assumptions are also used for retirement and spouse pensioners. The tables below show the actual numbers (A) of SASS pensioners dying in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) of deaths based on the 2012 valuation assumptions.

SASS Retirement and Spouse Pensioner Mortality 2012 Valuation Assumptions						
Age group	Males			Females		
	A	E	A/E	A	E	A/E
55-59	0	0.0	0.0	0	0.0	0.0
60-64	5	3.1	1.6	0	1.3	0.0
65-69	13	8.4	1.5	0	3.8	0.0
70-74	11	10.2	1.1	4	5.2	0.8
75-79	6	8.7	0.7	9	5.6	1.6
80-84	10	9.6	1.0	43	30.3	1.4
85-89	66	63.7	1.0	152	123.5	1.2
90-94	96	92.0	1.0	227	198.4	1.1
95-99	60	42.2	1.4	147	161.8	0.9
100+	7	8.6	0.8	57	47.5	1.2
Total	274	246.6	1.1	639	577.4	1.1

SASS pensioners exhibit very similar mortality rates to SSS pensioners up until around age 75, thereafter SASS pensioners suffer much higher mortality rates than SSS pensioners. This may be explained by the fact that SASS pensioners were predominately employed in blue-collar

positions which is leading to increased pensioner mortality rates in later years of retirement compared to SSS pensioners who were more white-collar workers.

Therefore for the 2015 valuation, SASS pensioner mortality assumptions are derived based on SSS rates. For up to age 75 SASS assumptions are the same as SSS, for ages 75 and above SASS assumptions are proportionately increased from the SSS rates.

The table below shows the actual numbers (A) of SASS retirement and spouse pensioners dying in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) of deaths based on the 2015 valuation assumptions.

SASS Retirement and Spouse Pensioner Mortality 2015 Valuation Assumptions						
Age group	Males			Females		
	A	E	A/E	A	E	A/E
55-59	0	0.0	0.0	0	0.0	0.0
60-64	5	3.1	1.6	0	1.2	0.0
65-69	13	8.8	1.5	0	3.6	0.0
70-74	11	9.9	1.1	4	5.5	0.7
75-79	6	7.9	0.8	9	8.0	1.1
80-84	10	10.8	0.9	43	42.0	1.0
85-89	66	63.9	1.0	152	147.8	1.0
90-94	96	95.5	1.0	227	228.1	1.0
95-99	60	54.2	1.1	147	180.2	0.8
100+	7	11.8	0.6	57	47.2	1.2
Total	274	265.8	1.0	639	663.7	1.0

PSS Retirement and Spouse Pensioners

There is insufficient data for PSS retirement and spouse pensioners to derive mortality rates independently. Continuing with the past approach, the 2015 valuation uses the SSS rates for PSS retirement and spouse pensioners.

C4.1.2.Invalidity Pensioners

For invalidity pensioners, heavier mortality in the first year after exit due to invalidity is assumed. There was insufficient experience in the period from 1 July 2011 to 30 June 2014 to carry out a meaningful analysis separately for this group. Given the maturity of the membership of the Pooled Fund, any change to this assumption will have minimal financial impact. Therefore the select mortality rates assumed for the first year invalidity pensioners are retained from the 2012 valuation.

SSS Breakdown Pensioners

The table below shows the actual numbers (A) of SSS breakdown pensioners dying in the period from 1 July 2011 to 30 June 2014 compared with the expected numbers (E) of deaths based on the 2012 valuation assumptions.

SSS Breakdown Pensioner Mortality – 2012 Valuation Basis						
Age group	Males			Females		
	A	E	A/E	A	E	A/E
45-49	2	0.2	8.1	0	0.2	0.0
50-54	3	3.7	0.8	6	1.5	3.9
55-59	17	27.2	0.6	13	5.8	2.2
60-64	31	38.1	0.8	9	7.6	1.2
65-69	37	61.1	0.6	4	9	0.4
70-74	44	61.6	0.7	9	10.3	0.9
75-79	39	46.5	0.8	9	13.3	0.7
80-84	41	34.3	1.2	14	15.3	0.9
85-89	36	38.6	0.9	8	15	0.5
90-94	18	18.6	1.0	9	5.3	1.7
95-99	6	2.6	2.4	1	2.9	0.4
100+	0	0.9	0.0	1	1	1.0
Total	274	333.3	0.8	83	87.4	1.0

The 2015 valuation pensioner mortality assumptions are based on the 2012 assumptions with 3-year of improvements applied and then adjusted and smoothed at specific ages to better align with experience.

SASS Invalidation Pensioners

There is insufficient data for SASS invalidity pensioners to derive mortality rates independently, therefore for these SASS pensioners the SSS breakdown pensioner mortality assumptions are used for the 2015 valuation.

PSS Invalidation Pensioners

There is a relatively small amount of data for male PSS Hurt on Duty and Not Hurt on Duty pensioners. Their mortality experience is observed to be not very different from the experience for SSS breakdown pensioners, therefore the same pensioner mortality rates are adopted for the 2015 valuation.

There are very few PSS female invalidity pensioners, therefore SSS breakdown pensioner mortality rates are also adopted.

C4.2. Commutation of Pension Benefits

C4.2.1.SSS Commutation of Pension Benefits

SSS Pensioner Commutation of Benefits

The table below shows the percentage of SSS retirement pension benefits which were commuted to lump sum benefits on retirement of SSS contributors in the three years to 30 June 2014:

SSS Retirement Pensioners	
Year to 30 June	Percentage Commutation of Benefits on Retirement
2012	4.4%
2013	3.1%
2014	4.0%
Total	3.9%

For the 2015 valuation 5% pension commutation at retirement is assumed for SSS retiree pensioners (the same as assumed for the 2012 valuation).

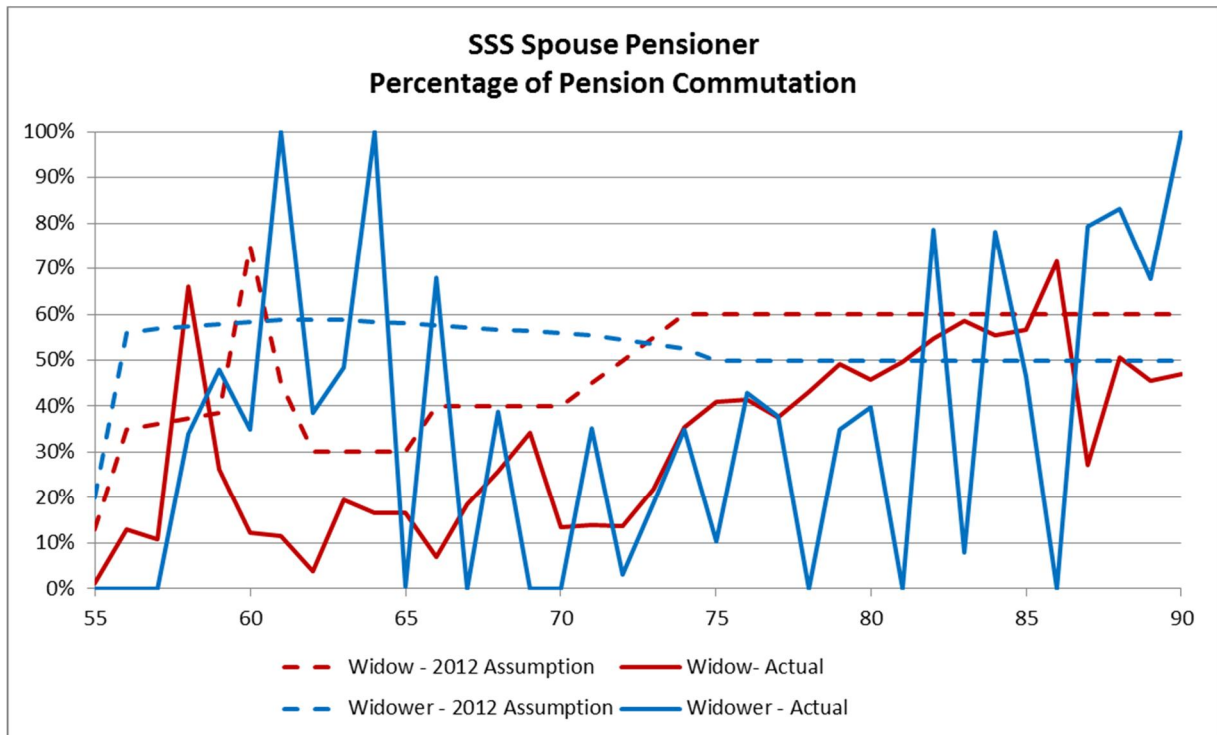
Nil pension commutation is assumed for SSS invalidity pensioners for the 2015 valuation.

SSS Spouse Pensioner Commutation of Benefits

SSS spouse pensioners have the option to commute part or all of their pensions to a lump sum benefits at the beginning of the spouse pension. The table below shows the percentage of SSS spouse pension benefits which were commuted to lump sum benefits in the three years to 30 June 2014:

SSS Spouse Pensioners	
Year to 30 June	Percentage Commutation of Benefits
2012	32.8%
2013	38.2%
2014	38.2%
Total	36.4%

The following chart shows the three-year experience by individual ages for widow and widower pensioners compared to 2012 valuation assumptions.



From the chart, it can be seen that

- The actual commutation percentages were on average lower than assumed for the 2012 valuation for both widow and widower pensioners.
- The actual percentage commutation percentages towards older ages were on average higher than at the younger ages, however the increases were not large.

For the 2015 valuation, a 40% pension commutation is assumed for all SSS spouse pensioners at the commencement of their spouse pension.

C4.2.2.PSS Commutation of Pension Benefits

PSS retirees are eligible to commute part of their pension to a lump sum payment at retirement. PSS disability pensioners are eligible to commute part of their pension to a lump sum payment on attaining age 60.

The table below shows the actual percentage of members who elected to commute pension benefits in the period from 1 July 2011 to 30 June 2014 compared to the assumed commutation percentage in the 2012 valuation.

PSS Commutation of Pension Benefits		
Type of Commutation	Actual Commutation	2012 Valuation Assumed Commutation
Commutation at retirement	8%	45%
Disability Pensioners on attainment of age 60	1%	5%

For PSS retirees, only 8% chose to commute their pension at retirement in the 3 years to 30 June 2014, this compared to 45% assumed in the 2012 valuation. However, the vast majority of PSS contributors retire on the grounds of invalidity and relatively few become

retirement pensioners. Therefore a large change in commutation assumption to align with experience has only a small financial impact.

Given the low percentage of pension commutation in the 3 years to 30 June 2014, nil pension commutation is assumed for the 2015 valuation.

C4.3. Child Pensioners

Given the maturity of contributor membership of the Pooled Fund, no allowance is made for new child pensioners.

For current child pensioners, they are assumed to be paid pensions until the age of 25.

C5. All Members

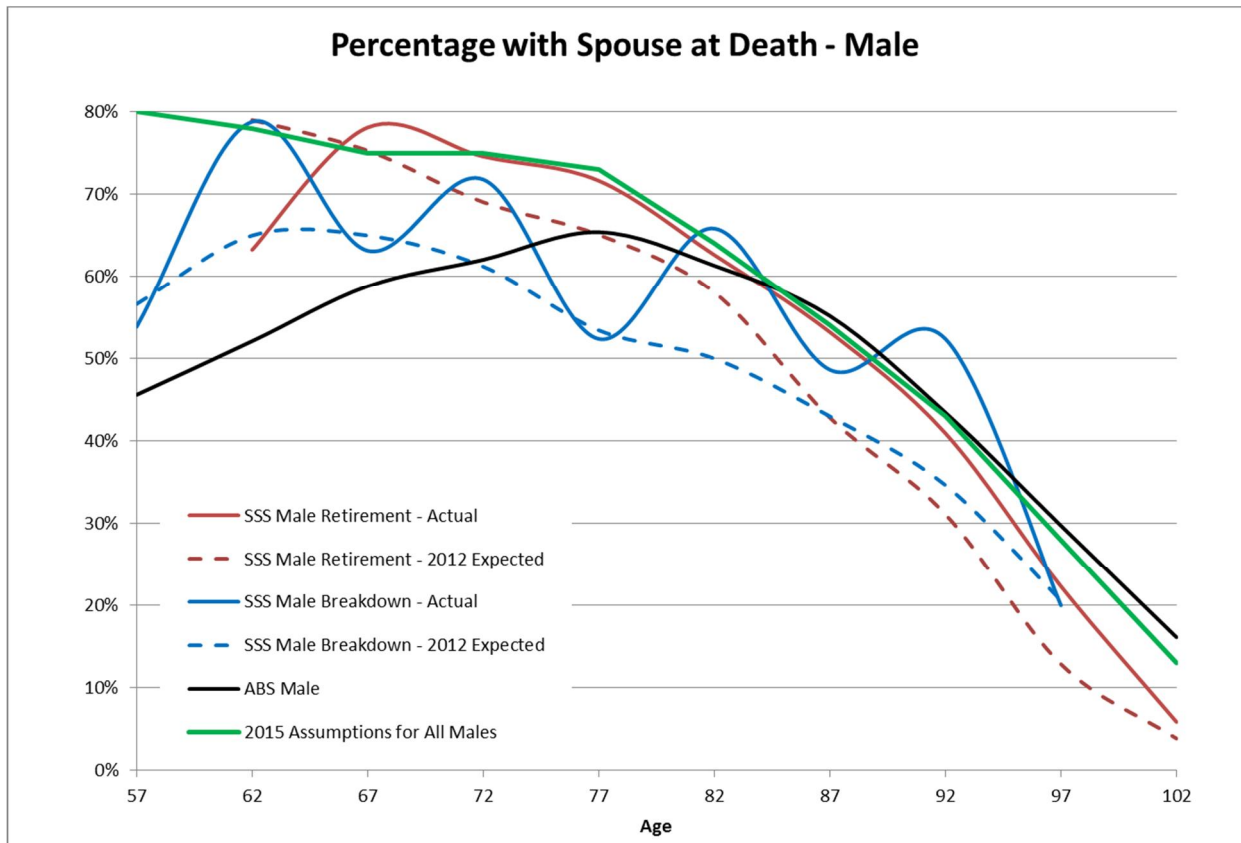
C5.1. Percentage with Spouse at Death

The table below shows the percentage with spouse at death calculated based on the actual experience over the 3 years to 30 June 2014 for SSS male retirement and breakdown pensioners compared to the expected based on the 2012 valuation assumptions, and the percentage married at death for the Australian male population based on data from the Australian Bureau of Statistics¹.

SSS Retirement and Breakdown Pensioners – Male Percentage with Spouse at Death					
Age group	SSS Retirement		SSS Breakdown		ABS Australian Population
	Actual	Expected	Actual	Expected	% Married at Death
55-59	-	-	54%	57%	47%
60-64	63%	79%	79%	65%	54%
65-69	78%	75%	63%	65%	60%
70-74	75%	69%	72%	61%	63%
75-79	72%	65%	52%	53%	65%
80-84	63%	58%	66%	50%	61%
85-89	53%	43%	49%	43%	55%
90-94	41%	31%	52%	35%	43%
95-99	22%	13%	20%	21%	30%
100+	6%	4%	-	-	18%
Total	54%	47%	61%	54%	56%

The following chart is a graphical representation of the experience shown in the table above, in addition the 2015 percentage with spouse at death assumptions for male members have also been included in the chart.

¹ Data based on the 3-year average marital status at death in the ABS publication "3302.0 - Deaths, Australia" for the years 2011, 2012 and 2013.



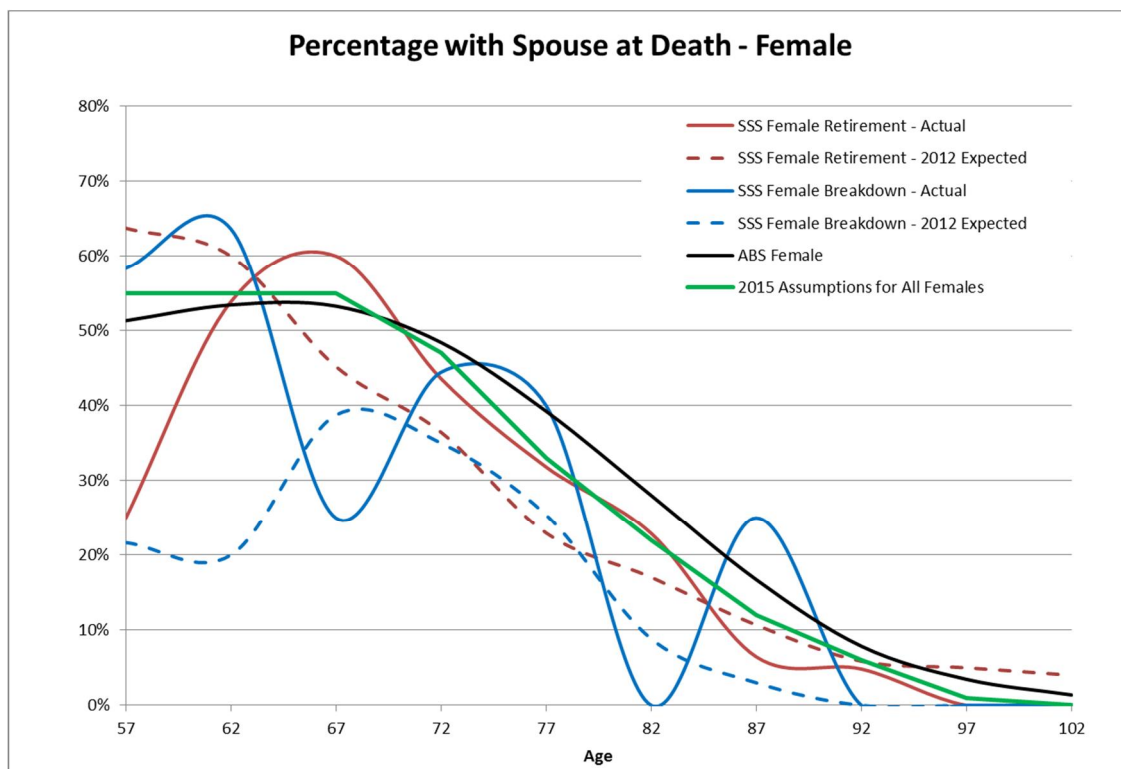
From the chart, it can be seen that

- The actual percentages with spouse at death were higher than the expected based on 2012 valuation assumptions for both male retirement and breakdown pensioners. Furthermore the experience is much higher than the Australian population experience for ages below 80. This could be explained by male pensioners who have had a stable long term career in the NSW public service being also more likely than the general population to be in a stable relationship.
- For male breakdown pensioners, the actual percentages with spouse at death are not significantly lower compared to male pensioners (as the 2012 valuation assumptions suggest). The experience is more volatile for breakdown pensioners due to fewer pensioners and hence fewer pensioner deaths (274 deaths compared to 1,372 male retirement pensioners deaths in the three years). Given the smaller number of breakdown pensioners and not too different actual experience, the 2015 valuation adopts the same percentage with spouse at death assumptions for male retirement and breakdown pensioners.
- The 2012 valuation assumptions are adjusted to better align with experience for the 2015 valuation, the green line in the chart represents the 2015 assumptions.

The table below shows the percentage with spouse at death calculated based on the actual experience over the 3 years to 30 June 2014 for SSS female retirement and breakdown pensioners compared to the expected based on the 2012 valuation assumptions, and the percentage married at death for the Australian female population based on data from the Australian Bureau of Statistics.

SSS Retirement and Breakdown Pensioners – Female Percentage with Spouse at Death					
Age group	SSS Retirement		SSS Breakdown		ABS Australian Population
	Actual	2012 Valuation Assumption	Actual	2012 Valuation Assumption	% Married at Death
55-59	25%	64%	58%	22%	51%
60-64	54%	60%	64%	20%	53%
65-69	60%	45%	25%	39%	53%
70-74	44%	36%	44%	35%	48%
75-79	32%	23%	40%	25%	39%
80-84	23%	17%	0%	9%	28%
85-89	6%	11%	25%	3%	17%
90-94	5%	6%	0%	0%	8%
95-99	0%	5%	0%	0%	3%
100+	0%	4%	0%	0%	1%
Total	18%	17%	31%	20%	25%

The following chart is a graphical representation of the experience shown in the table above, in addition the 2015 percentage with spouse at death assumptions for male members have also been included in the chart.



From the chart, it can be seen that

- The actual percentages with spouse at death were higher than the expected based on 2012 valuation assumptions for both female retirement and breakdown pensioners. However the experience for ages 70 onwards are slightly lower than the Australian population experience.
- Similar to male breakdown pensioners, female breakdown pensioners do not seem to have significantly lower percentages of spouse at death compared to female retirement pensioners. Therefore the 2015 valuation adopts the same percentage with spouse at death assumptions for female retirement and breakdown pensioners.
- The 2012 valuation assumptions are adjusted to better align with experience for the 2015 valuation, the green line in the chart represents the 2015 assumptions.

There is insufficient data to derive independent assumptions on percentage with spouse at death for contributors, SASS and PSS members. Therefore the 2015 valuation adopts the same assumptions for all schemes in the Pooled Fund, the percentage with spouse at death assumptions are only distinguished for male and female members.

C5.2. Spouse Age Difference

The table compares the actual spouse age differences to the expected based on 2012 valuation assumptions.

	Actual	Expected
Male	4.0 years older than spouse	4 years older than spouse
Female	0.9 years younger than spouse	2 years younger than spouse

The 2012 valuation assumptions are maintained for the 2015 valuation.

Appendix D:

PTE and Other Employers - 30 June 2015 Funding Position and Contribution Recommendations

REPORTING CODE	EMPLOYER RESERVE	PAST SERVICE LIABILITIES	PAST SERVICE DEFICIT (SURPLUS)	RECOMMENDED ANNUAL FUTURE SERVICE CONTRIBUTION	RECOMMENDED ANNUAL EXTRA CONTRIBUTION			
					3 YEARS	5 YEARS	10 YEARS	TO 2030
A51300	190,310,565	182,342,727	-7,967,839	0	0	0	0	0
A54003	68,548,495	34,420,122	-34,128,373	0	0	0	0	0
C09000	39,108,460	23,180,555	-15,927,905	0	0	0	0	0
C21000	247,911,369	240,815,671	-7,095,698	0	0	0	0	0
C23006	171,786	276,547	104,761	5,257	44,539	28,580	16,781	13,006
C24001	881,540	476,817	-404,723	0	0	0	0	0
C25000	122,145,722	138,026,993	15,881,271	1,544,806	6,751,899	4,332,530	2,543,946	1,971,673
C28004	1,749	124,598	122,849	0	52,229	33,514	19,679	15,252
C41001	88,922,064	104,190,790	15,268,726	759,398	6,491,477	4,165,423	2,445,826	1,895,625
C41003	11,296,243	9,980,243	-1,315,999	0	0	0	0	0
C43000	129,336	43,401	-85,935	0	0	0	0	0
C53000	1,616,458	1,291,207	-325,252	0	0	0	0	0
C55000	876,139	780,954	-95,184	0	0	0	0	0
C60001	7,784,254	7,200,499	-583,755	45,687	0	0	0	0
C61000	38,036,686	38,018,854	-17,832	133,641	0	0	0	0
C62000	2,007,411	1,197,193	-810,217	0	0	0	0	0
C63000	34,705,440	19,247,696	-15,457,744	0	0	0	0	0
C64001	1,082,400	372,158	-710,243	0	0	0	0	0
C65008	9,784,984	5,317,131	-4,467,853	0	0	0	0	0
C69000	655,512	218,343	-437,170	0	0	0	0	0
C71000	12,169,959	10,533,660	-1,636,300	0	0	0	0	0
C73000	25,457,496	22,223,658	-3,233,838	0	0	0	0	0
C74000	3,431,978	2,330,365	-1,101,613	0	0	0	0	0
C79000	6,110,109	4,953,130	-1,156,979	0	0	0	0	0
C85000	36,589,758	36,467,017	-122,741	79,509	0	0	0	0

APPENDIX D

REPORTING CODE	EMPLOYER RESERVE	PAST SERVICE LIABILITIES	PAST SERVICE DEFICIT (SURPLUS)	RECOMMENDED ANNUAL FUTURE SERVICE CONTRIBUTION	RECOMMENDED ANNUAL EXTRA CONTRIBUTION			
					3 YEARS	5 YEARS	10 YEARS	TO 2030
C89000	69,110,699	60,719,640	-8,391,059	0	0	0	0	0
C90000	948,849,685	1,028,586,820	79,737,135	7,314,241	33,900,127	21,752,891	12,772,718	9,899,429
D04000	2,465,145	2,088,253	-376,892	0	0	0	0	0
D33000	39,071,630	46,638,418	7,566,787	655,555	3,217,009	2,064,277	1,212,088	939,423
D43000	17,441,142	19,877,855	2,436,713	152,752	1,035,965	664,754	390,326	302,520
D49000	185,092	207,353	22,261	0	9,464	6,073	3,566	2,764
D50000	2,627,778	2,237,202	-390,577	0	0	0	0	0
D53000	141,215,555	194,001,705	52,786,150	21,081	22,441,955	14,400,459	8,455,566	6,553,443
D53102	529,384,662	564,784,918	35,400,256	9,176,256	15,050,368	9,657,457	5,670,601	4,394,970
D53103	166,887,090	175,023,895	8,136,805	2,511,753	3,459,351	2,219,782	1,303,397	1,010,191
D56000	56,482,440	54,634,118	-1,848,322	0	0	0	0	0
D60000	21,162,757	22,817,371	1,654,614	334,313	703,457	451,391	265,045	205,422
D61000	747,858	744,174	-3,684	0	0	0	0	0
D63000	3,172,651	2,995,456	-177,195	0	0	0	0	0
D64000	2,623,023	2,484,678	-138,345	25,210	0	0	0	0
D70000	803,590	511,262	-292,328	0	0	0	0	0
D71000	13,777,054	14,790,578	1,013,524	44,875	430,898	276,497	162,352	125,830
D73000	3,117,638	2,435,998	-681,640	0	0	0	0	0
D74000	71,680	560,386	488,706	21,855	207,773	133,323	78,284	60,673
D75000	2,480,455	1,616,537	-863,918	0	0	0	0	0
D77000	2,048,742	1,627,279	-421,463	0	0	0	0	0
D78000	23,413,844	18,188,546	-5,225,298	0	0	0	0	0
D79000	2,234,334	2,012,972	-221,363	0	0	0	0	0
D80000	2,114,011	1,959,598	-154,413	42,353	0	0	0	0
D81000	4,365,893	3,349,565	-1,016,328	0	0	0	0	0
D82000	93,040,786	89,249,485	-3,791,301	705,134	0	0	0	0
D84000	58,500,535	61,217,425	2,716,891	664,989	1,155,082	741,188	435,206	337,304
D85000	1,621,277	1,418,718	-202,559	0	0	0	0	0
D86000	7,281,921	6,765,833	-516,087	121,848	0	0	0	0
D87000	1,520,518	1,502,902	-17,615	28,642	0	0	0	0
D88000	6,032,573	6,325,847	293,274	115,879	124,685	80,007	46,978	36,410

APPENDIX D

REPORTING CODE	EMPLOYER RESERVE	PAST SERVICE LIABILITIES	PAST SERVICE DEFICIT (SURPLUS)	RECOMMENDED ANNUAL FUTURE SERVICE CONTRIBUTION	RECOMMENDED ANNUAL EXTRA CONTRIBUTION			
					3 YEARS	5 YEARS	10 YEARS	TO 2030
D89000	107,435,003	109,807,834	2,372,831	2,419,408	1,008,806	647,326	380,093	294,589
D90000	1,434,311	1,230,513	-203,798	0	0	0	0	0
D91000	541,498	478,357	-63,141	0	0	0	0	0
D92000	1,254,634	1,502,518	247,884	38,908	105,388	67,625	39,707	30,775
D93000	1,713,536	1,929,978	216,441	19,601	92,020	59,047	34,671	26,871
D94000	506,313	575,105	68,792	14,647	29,247	18,767	11,019	8,541
D95000	245,893	285,572	39,680	10,069	16,870	10,825	6,356	4,926
D96000	461,692	463,088	1,396	11,351	594	381	224	173
H59000	227,391	197,761	-29,630	0	0	0	0	0
H63002	288,524	273,392	-15,132	12,519	0	0	0	0
H64002	183,273	156,907	-26,366	0	0	0	0	0
H75000	218,958	184,129	-34,829	0	0	0	0	0
H80000	1,290,436	1,794,641	504,205	25,896	214,362	137,551	80,766	62,597
H98002	274,596	50,001	-224,595	0	0	0	0	0
J36002	581,599	770,474	188,875	0	80,300	51,527	30,255	23,449
J47002	746,863	831,574	84,710	36,090	36,014	23,110	13,569	10,517
J48000	218,983	175,803	-43,181	0	0	0	0	0
J52002	228,130	239,682	11,552	6,291	4,911	3,151	1,850	1,434
J61002	425,767	327,064	-98,702	0	0	0	0	0
J72002	749,386	705,138	-44,248	13,976	0	0	0	0
N01000	493,038	452,647	-40,392	0	0	0	0	0
N05000	5,214,893	3,598,269	-1,616,624	0	0	0	0	0
N07000	3,845,402	2,250,711	-1,594,690	0	0	0	0	0
N13000	569,879	519,896	-49,983	0	0	0	0	0
N20000	3,003,314	1,743,536	-1,259,778	0	0	0	0	0
N21000	1,528,724	1,475,381	-53,343	7,502	0	0	0	0
OTHERS	1,513,312	0	-1,513,312	0	0	0	0	0
TOTAL	3,308,783,318	3,407,425,086	98,641,768	27,121,292	96,664,789	62,027,454	36,420,868	28,227,806

APPENDIX D

Notes

1. The recommended future service contribution is based on a percentage of salaries for all Schemes.
2. The recommended future service contribution is based on expected salaries in the year ending 30 June 2016.
3. The recommended annual extra contributions are those expected (on the assumptions made) to be required to eliminate the current past service deficit over 3, 5, 10 or 15 years respectively.



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