



Office of the Superintendent of
Financial Institutions Canada

Bureau du surintendant des
institutions financières Canada

Office of the Chief Actuary

Bureau de l'actuaire en chef

ACTUARIAL REPORT

on the

GOVERNMENT ANNUITIES

as at 31 March 2011

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I. Executive Summary

A. Purpose of Report

In accordance with section 15 of the *Government Annuities Improvement Act* (“the Improvement Act”) an actuarial valuation was conducted as at 31 March 2011 for purpose of determining the actuarial liabilities and financial position of the Government Annuities Account (“the Account”). Section 15 of the Improvement Act also states that any surplus or deficit emerging as a result of the actuarial valuation shall be reported and, in the case of a surplus, credited to the Federal Government’s Consolidated Revenue Fund and charged to the Account or, in the case of a deficit, charged to the Federal Government’s Consolidated Revenue Fund and credited to the Account.

B. Data, Method and Assumptions

Data on current retirees, beneficiaries, deferred members, contributions and benefit payments were provided by Human Resources and Skills Development Canada (HRSDC) and gathered through the electronic reports from the Government Annuities Secured Website. The Government Annuities Branch located in Bathurst administers the Annuities as well as the corresponding Website. The data are from a reliable source. We have performed summary tests on the data, and have found that they are accurate, reliable and sufficient for purposes of valuation. A description of contract types and a summary of the data are shown in Appendix 1 and 2 of this report. The actuarial liabilities are the present value of future benefits, determined in accordance with accepted actuarial practice. Section 3(4) of the *Government Annuities Regulations* (“the Regulations”) states that the actuarial liability should be determined using the interest rate of 7% per annum and the mortality rates of the Annuity Table for 1983, as modified by Projection Scale G.

C. Results

The following table summarizes results of the actuarial valuation as at 31 March 2011.

Table 1 Results Overview

	As at 31 March 2011	
Assets		\$ 223,548,877
Liabilities		\$ 221,340,103
Surplus (Deficit)		\$ 2,208,774
	Count	Average Pension
Vested Members	51,542	\$660
Deferred Members	928	\$1,311
Total	52,470	\$671

D. Conclusion

The surplus of \$ 2,208,774 will be credited to the Federal Government's Consolidated Revenue Fund (CRF) and charged to the Account. The next valuation will be performed as at 31 March 2012.

II. Introduction

The Canadian *Government Annuities Act* of 1908 was one of the earliest significant pieces of social legislation in Canada. Its purpose was to encourage Canadians to prepare financially for their retirement. Government Annuities were purchased either by individuals or by employers as pension plans for their employees.

By the 1960's, other social benefit plans, such as Old Age Security and the Canada Pension Plan were introduced and began gaining importance in providing Canadians with basic retirement income. The government's recognition that retired Canadians could now be served by other social security programs as well as the private sector brought about the decision to disband the Annuities sales force. In 1975, an Act of Parliament formally ended the sale of Government Annuities. Employers, however, could register new employees under group contracts until 1979. The Government Annuities are not sponsored by the Government – meaning the Government has no fiduciary liability. Its responsibilities are limited to provide and secure benefits in accordance with the contracts provisions.

The Annuities Branch continues to administer contracts under payment and those due to become payable, on behalf of clients from across Canada and around the world. The Account is not subject to any federal or provincial pension legislation, it is only subject to the *Government Annuities Act* and Regulations and the *Government Annuities Improvement Act*. The assets and liabilities are shown in the Federal Government's General Ledger. The assets are notional and are not subject to any investment policy or performance goals and objectives.

The Office of the Chief Actuary, Office of the Superintendent of Financial Institutions Canada, has the mandate of performing the annual actuarial valuation of the Account as of 31 March 2011. The prior valuations were performed by the Actuarial and Geomatic Directorate, HRSDC. The purpose of the valuation is to establish the Account's liabilities, notional assets, and financial position of the Account, based on the statutory valuation assumptions.

III. Data

A. Data Required

As the actuarial valuation determines both the assets and the liabilities, full details on the members as well as on the cash flows observed within the year are needed.

B. Member Data

Basic data on pensioners, beneficiaries and deferred members are provided by HRSDC and are retrieved from the Government Annuities Secure Website maintained by the Annuities Branch in Bathurst. The site enables to produce reports which show the member data required to establish the liabilities: certificate number, member, spouse and beneficiaries' gender and dates of birth, annual pension amounts, and form of pension.

The required data reports are VY4741 for vested members (pensioners) and GY5642 for deferred members (members with deferred rights).

Notes on VY4741 Vested Data

Additional pension amounts data are required from Service Canada concerning the continuing pensions for joint and survivor contracts with percentages other than 50% or 100%, as well as for reducing annuities. VY4741 data does not show the accurate continuing pension amounts for annuities of type 29, 37, and 70-79.

Moreover, manual additions must be done, as the report does not include some members due to data validation issues. This limited number of members is extracted from the VY5141 report. There were 36 such members as at 31 March 2011.

Notes on GY5642 Deferred Data

Pursuant to the *Government Annuities Improvement Act* which granted annual accrual of contributions accounts at 7% from 1 April 1975, the following table shows the multipliers that must be applied to the annual original pension amounts:

Table 2 Multipliers for Deferred Pension Amounts

Premium Series	Original Interest Rate	Multiplier
4	4.0%	1.22
5	3.0%	1.32
6	3.5%	1.29
7	4.0%	1.22
8	5.0%	1.14

These multipliers reflect the increase between the original interest rate applicable on the contracts and 7%. As the deferred members data only show the pension amounts prior to the enhancements, these multipliers are used to update the annual pensions.

It can be seen that the methodology used to derive these multipliers granted higher increases to contracts with lower interest rates, and vice-versa. The objective sought at the time was to distribute the increases as equitably as possible.

A reconciliation of pension amounts and membership status with last year's membership has been performed. An extensive summary of membership data is shown in the Appendix 2 of this report.

C. Asset Data

Income consists of premiums received, funds reclaimed from the Consolidated Revenue Fund (CRF) for previously untraceable annuitants, notional earned interest and any transfer needed to cover the actuarial deficit. Payments and other charges represent matured annuities, the commuted value of death benefits, premium refunds and withdrawals, and transfers of actuarial surpluses and unclaimed annuities, related to untraceable annuitants, to the CRF.

All reports used to determine the value of assets are provided by the HRDSC.

A list showing the names and short descriptions of the required reports is given in the Appendix 3 of this report.

The data used are considered to be sufficient and reliable for the purposes of actuarial valuation.

IV. Methods and Assumptions

A. Liability Valuation Method

The actuarial liabilities are associated with two groups of members: vested and deferred. The vested group consists of the participants for whom the pensions are in payment as at 31 March 2011. The deferred group consists of members for whom payment of pensions will start in the future. The liabilities are the actuarial present value of future pension payments, the result of discounting the future expected benefits with interest and post-retirement mortality.

B. Assumptions

The interest and post-retirement mortality assumptions are statutory, as stated in Sections 15 of the Improvement Act and 3(4) of the Regulations. Namely, the liabilities must be based on a rate of interest of 7% per annum and on the mortality rates of the Annuity Table for 1983, as modified by Projection Scale G published in Transactions of the Society of Actuaries, Vol. XXXV (1983), at pages 882 and 883. SOR/97-495, s. 2.

Accordingly, the 1983 individual annuity mortality table (IAM83) is used for individual contracts and the 1983 group annuity mortality table (GAM83) is used for group contracts. Both tables are sex-distinct, and are projected for 15 years with Projection Scale G.

Extracts from these mortality tables can be found in the Appendix 4 of this report.

C. Asset Valuation Method

Since Section 14 of the *Government Annuities Act* states that the moneys received or paid under this act form part of the CRF, the assets are notional. Each year, any difference with the liabilities calculated is either credited (in the case of a surplus) or charged (in the case of a deficit) to the CRF. Therefore, the assets value as at 1 April 2010 is set to be equal to the 31 March 2010 liabilities. The assets value as at 31 March 2011 is obtained by adding interest at 7% on the 1 April 2010 value and adjusting for cash inflows and outflows also at 7% annual interest rate.

V. Results

A. Balance Sheet

The following table presents a summary of the financial position of the Account for the 2011 and 2010 fiscal years:

Table 3 Balance Sheet

<u>Fiscal Year</u>	<u>2010 – 2011</u>	<u>2009 – 2010</u>
Prescribed Assets as at 1 April	\$ 243,456,436	\$ 267,173,389
Income less Payments and Other Charges	<u>(19,907,559)</u>	<u>(21,206,158)</u>
Assets as at 31 March	223,548,877	245,967,231
Liabilities as at 31 March	221,340,103	243,456,436
Surplus (Deficit) Before adjustment	\$ 2,208,774	\$ 2,510,795

The surplus of \$ 2,208,774 will be credited to the Federal Government's Consolidated Revenue Fund (CRF) and charged to the Account. The next valuation will be performed as at 31 March 2012.

Table 4 Reconciliation of Assets

Fiscal Year	2010 – 2011	2009 – 2010
Assets as at 1 April	\$ 243,456,436	\$ 267,173,389
<u>INCOME</u>		
Interest to March 31	\$ 15,688,622	\$ 17,238,829
Premiums for Deferred Annuities	10,924	18,133
Unclaimed annuities recovered from CRF	28,637	87,862
Other Receipts *	<u>164,612</u>	<u>187,599</u>
TOTAL	15,892,794	17,532,423
<u>PAYMENTS AND OTHER CHARGES</u>		
Vested Regular Annuity Payments	35,473,774	38,419,221
Vested Commuted Values	212,529	148,342
Monies Refunded	54,510	66,078
Values Transferred to CRF (Vested & Deferred)	<u>59,540</u>	<u>104,940</u>
TOTAL	35,800,353	38,738,581
INCOME LESS PAYMENTS AND OTHER CHARGES	\$ (19,907,559)	\$ (21,206,158)
Assets as at 31 March	\$ 223,548,877	\$ 245,967,231

* Write-offs, Cash on Hand, Post-office payments and receivables

B. Calculation of Interest

The following table outlines the calculation of notional 7% annual interest credited to the account as at 31 March of 2011 and 2010:

Table 5 Calculation of Interest

Fiscal Year	2010 – 2011	2009 - 2010
<u>VESTED MEMBERS</u>		
Interest on :		
Prescribed Assets as at 1 April of prior year	\$ 16,223,181	\$ 17,789,482
Maturities	155,603	427,473
CRF Recoveries	460	1,545
Other Receipts	6,095	8,520
Less interest on :		
Annuity Payments	(1,299,881)	(1,455,506)
Commuted Values	(6,936)	(5,240)
Transfers to CRF	0	0
TOTAL VESTED	15,078,522	16,766,274
<u>DEFERRED MEMBERS</u>		
Interest on :		
Prescribed Assets as at 1 April of prior year	818,769	912,655
Premiums	442	787
CRF Recoveries	449	2,015
Less interest on :		
Maturities	(155,603)	(427,473)
Refunds	(49,722)	(7,844)
Transfers to CRF	(4,235)	(7,585)
TOTAL DEFERRED	610,100	472,555
TOTAL INTEREST	\$ 15,688,622	\$ 17,238,829

C. Development of Actuarial Liabilities

The following table outlines the Account's actuarial liabilities by members' category as at 31 March of 2011 and 2010:

Table 6 Development of Actuarial Liabilities

Fiscal Year	Contract Type	2010 – 2011	2009 – 2010
<u>VESTED MEMBERS</u>			
Males, Ordinary Life	10 – 16	\$ 109,782,772	\$ 119,863,999
Females, Ordinary Life	10 – 16	46,031,896	49,491,212
Males, Guaranteed	21 – 29	26,225,526	30,793,048
Females, Guaranteed	21 – 29	8,670,397	9,150,620
Last Survivor	30 – 45	16,504,728	18,367,335
Reducing at OAS	70, 74, 78, 79	2,222,001	2,579,711
Annuities Certain	50, 80	1,170,074	1,417,770
Temporary Annuities	60	37,763	52,296
Suspended Payments		41,785	43,743
VESTED TOTAL		210,686,942	231,759,735
<u>DEFERRED MEMBERS</u>			
Males, Ordinary Life	10	176,244	230,045
Females, Ordinary Life	10	212,010	205,977
Males, Guaranteed	21 - 24	6,444,235	6,998,484
Females, Guaranteed	21 - 24	2,863,534	3,390,537
Last Survivor	35	24,857	-
Refunds in Process		17,626	16,839
Suspense Accounts	Account 721	914,656	854,818
DEFERRED TOTAL		10,653,161	11,696,701
TOTAL ACTUARIAL LIABILITIES		\$ 221,340,103	\$ 243,456,436

VI. Experience

A. Analysis of Experience

As there are no new contracts purchased under the *Government Annuities Act*, therefore the main sources of experience gains or losses are mortality, inherent benefit payments, and retirements, of existing vested and deferred members.

For purpose of the valuation as of 31 March 2011 there was the transfer of actuarial services in respect of the Government Annuities Account from the Actuarial and Geomatic Directorate, HRSDC, to the Office of the Chief Actuary (the OCA), Office of the Superintendent of Financial Institutions Canada. As a result of this transfer the results of the previous valuation as of 31 March 2010 were reproduced by the OCA using OCA's valuation system. The difference in valuation systems has resulted in a gain of \$386,771 as of 31 March 2011.

The table below presents a reconciliation of the surplus between 31 March 2010 and 31 March 2011:

Table 7 Gains (Losses)

Surplus as at 31 March 2010	-
Premiums paid with interest	\$ 11,366
Other receipts with interest	199,804
Change in valuation system	386,771
Vested members mortality	647,312
Deferred members - retirements, mortality, refunds	(28,267)
Benefits	
Expected, with interest	38,148,258
Actual, with interest	<u>37,161,126</u>
Gain (Loss) on benefits	987,132
Miscellaneous	4,656
Surplus as at 31 March 2011	\$ 2,208,774

VII. Actuarial Opinion

In our opinion, considering that this report was prepared pursuant to the *Government Annuities Act* and the *Government Annuities Improvement Act*:

- the data on which this report is based are sufficient and reliable for the purpose of the valuation;
- the assumptions used comply with legislative requirements and are, in aggregate, reasonable and appropriate;
- the methodology employed is appropriate and consistent with sound actuarial principles; and
- as at 31 March 2011, there is a surplus of \$ 2,208,774 which shall be credited to the Federal Government's Consolidated Revenue Fund and charged to the Government Annuities Account.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice in Canada.



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Ottawa, Canada
15 June 2011

Appendix 1 - Contract Types

The following describes the annuities provisions as specified by the contracts:

Ordinary Life: At maturity, this annuity is payable for as long as the annuitant lives, but at death the annuity ceases immediately and there are no death benefits.

Guaranteed: The annuity under this contract is payable for life but it is guaranteed for a minimum period of 5, 10, 15 or 20 years.

Contingent Survivor: This annuity is based on two lives. The annuity is payable to the principal annuitant for as long as he or she lives. At death, the annuity is payable to the survivor until his or her death.

Joint and Last Survivor: This contract differs from the Contingent Survivor contract in that the annuity instalments are payable to both parties. After the death of one partner, the annuity is made payable to the survivor as long as he or she lives.

Reducing Option: The Reducing Option is an arrangement whereby the level of the annuity purchased is paid at an increased amount from age 50 (or later) to age 65. At age 65, the annuity decreases by the amount of Old Age Security in effect at the date of maturity. The annuity is payable for life, with death benefits available for the duration of the guaranteed period, if there is one.

The following describes the contract types:

Single Life - No Guarantee (10 – 16)

10. Ordinary
11. Guarantee expired: on valuation change of 21 – 27
12. From last or contingent survivor: 30, 33, 35, 37
13. From last survivor guarantee expired: on first death of 31
14. From reducing ordinary: on reduction of 70
15. From reducing guaranteed: on reduction of 78 and 79, on valuation change of 28 and 29 or from 71-76 where reduction and end of guarantee coincide
16. From Reducing Survivor: 32, 33, 36, 37

Single Life with Guarantee (20 – 29)

21. Guaranteed 5 years
22. Guaranteed 10 years
23. Guaranteed 15 years
24. Guaranteed 20 years
29. From 71-75 after reduction still within guarantee

Joint Lives No Guarantee (30 – 37)

- 30. Ordinary Last Survivor (100%)
- 31. Last Survivor guarantee expired (100%)
- 35. Contingent Survivor (100%)
- 36. Contingent Survivor reducing by one half at death of Principal Annuitant (50%)
- 37. Contingent Survivor reducing by any other amount at death of Principal Annuitant

Annuities Certain (50 & 80)

- 50. Certain level amount (Includes from 80 after reduction)
- 80. Certain, reducing

Temporary Annuities (60)

- 60. Temporary

Reducing Annuities (70- 79)

- 70. Ordinary, reducing
- 71. Guaranteed 5 years, reducing
- 72. Guaranteed 10 years, reducing
- 73. Guaranteed 15 years, reducing
- 74. Guaranteed 20 years, reducing
- 79. From 71-74, guarantee expired before reduction

Appendix 2 - Membership Data

A. Vested members

Table 8 Membership Data - Contract Types 10-16: Vested Ordinary Life

AGE		MALES	FEMALES	TOTAL
40-49	Average Pension	536	430	483
	Number	2	2	4
	Average Age	48.5	48.5	48.5
50-59	Average Pension	620	761	704
	Number	47	70	117
	Average Age	55.9	56.3	56.1
60-69	Average Pension	589	586	587
	Number	430	481	911
	Average Age	66.0	65.7	65.9
70-79	Average Pension	575	538	566
	Number	8,493	2,619	11,112
	Average Age	76.0	75.7	75.9
80-89	Average Pension	695	540	652
	Number	16,996	6,689	23,685
	Average Age	84.2	84.8	84.3
90-100	Average Pension	713	534	632
	Number	4,195	3,461	7,656
	Average Age	92.4	93.0	92.7
100 +	Average Pension	722	573	617
	Number	74	173	247
	Average Age	101.5	101.6	101.5
Total Average Pension		662	542	625
Total Number		30,237	13,495	43,732
Total Average Age		82.8	84.5	83.3

Table 9 Membership Data - Contract Types 20-29: Vested Guaranteed

AGE		MALES	FEMALES	TOTAL
40-49	Average Pension	-	2,359	2,359
	Number	-	1	1
	Average Age	-	48.0	48.0
	Average guarantee	-	1.3	1.3
50-59	Average Pension	2,127	1,683	1,946
	Number	42	29	71
	Average Age	55.5	55.2	55.4
	Average guarantee	10.4	12.6	11.3
60-69	Average Pension	1,042	1,049	1,045
	Number	888	391	1,279
	Average Age	66.9	65.9	66.6
	Average guarantee	7.7	8.1	7.8
70-79	Average Pension	889	948	898
	Number	2,024	341	2,365
	Average Age	74.1	73.9	74.1
	Average guarantee	3.8	4.2	3.8
80-89	Average Pension	876	768	853
	Number	228	63	291
	Average Age	82.0	82.4	82.1
	Average guarantee	2.1	2.7	2.2
Total Average Pension		947	1,010	960
Total Number		3,182	825	4,007
Average Age		72.4	70.1	71.9
Average guarantee		4.8	6.2	5.1

Table 10 Membership Data - Contract Types 30-37: Vested Joint & Survivor

AGE		MALES	FEMALES	TOTAL
60-69	Average Pension	484	265	465
	Number	32	3	35
	Average Age	66.8	68.0	66.9
70-79	Average Pension	531	274	525
	Number	1,536	40	1,576
	Average Age	75.4	74.4	75.3
80-89	Average Pension	744	583	742
	Number	1,419	24	1,443
	Average Age	83.5	82.9	83.5
90 +	Average Pension	893	-	893
	Number	139	-	139
	Average Age	91.8	-	91.8
Total Average Pension		643	384	638
Total Number		3,126	67	3,193
Average Total Age		79.7	77.1	79.6

Table 11 Membership Data - Contract Types 50 & 80: Vested Certain

Average Pension	892
Number	459
Average Certain Period	3.2

Table 12 Membership Data - Contract Type 60: Vested Temporary

	MALES	FEMALES	TOTAL
Average Pension	463	602	525
Average Age	61.3	61.8	61.5
Average Period	3.7	3.3	3.5
Number	15	12	27

Table 13 Membership Data - Contract Types 70-79: Vested Reducing

	MALES	FEMALES	TOTAL
Average Pension	3,113	2,914	3,007
Average Reduced Pension	1,139	1,219	1,182
Average Age	61.4	61.5	61.4
Number	58	66	124

B. Deferred Members

Table 14 Membership Data - Deferred Contract Types 10-16: Ordinary Life

	MALES	FEMALES	TOTAL
Average Pension	886	1,309	1,043
Average Age	62.9	62.1	62.6
Number	34	20	54

Table 15 Membership Data - Deferred Contract Types 21-24: Guaranteed

	MALES	FEMALES	TOTAL
Average Pension	1,396	1,183	1,326
Average Age	60.0	58.4	59.5
Number	587	286	873

Table 16 Membership Data - Deferred Contract Type 35: Joint & Survivor

	MALES	FEMALES	TOTAL
Average Pension	2,203	-	2,203
Average Age	64.0	-	64.0
Number	1	-	1

C. Membership Reconciliation

Table 17 Membership Reconciliation

VESTED							
Contract Types	10-16	20-29	30-37	50&80	60	70-79	Total
31.03.2010 Count	46,956	4,673	3,464	583	41	141	55,858
Maturities	8	116	2	0	0	8	134
Transfers from/to Other Contract Types	954	(731)	(262)	64	0	(25)	0
Deaths or Expired Annuities	(4,190)	(54)	(11)	(189)	(14)	0	(4,458)
CRF Transfers	4	3	0	1	0	0	8
31.03.2011 Count	43,732	4,007	3,193	459	27	124	51,542
DEFERRED							
31.03.2010 Count							1,103
Maturities							(134)
Deaths and Refunds							(26)
CRF Transfers							(15)
31.03.2011 Count							928

Appendix 3 - Sources of Data

Reports Required

The following are the reports used in order to perform the Government Annuities Account valuation. The main reports are provided by the HRSDC.

Membership Data

VY4741P1: Basic Vested Data
VY5141: Vested Members to be added manually
GY5642: Basic Deferred Data

Service Canada also provides us with accurate pension amounts for plans 16, 37, 70-79, and 29, and additional data for plans 50 and 80. This data consist of pension amounts, reduced pension amounts where applicable, date of reduction and date of final payment. Even though the total actuarial liability is taken directly from VY5141 for plans 50 and 80, it must be individually calculated for purposes of gains and losses analysis.

Asset Data

VM3942: Vested Benefit payments and maturities by period
GY5646, GM4741, and GM4742: Data related to refunds

Premiums paid are provided by Annuity Accounting Division of the HRSDC.

The monthly VM3942 reports are extracted to reconcile Annuity Accounting Division's benefits payments. Ultimately Annuity Accounting Division's figures are used for balance sheet purposes. The monthly GM4741 and GM4742 reports must be extracted both for group and individual contracts.

Other Data

HRSDC also provides balances for suspense accounts, refunds in progress and suspended payments.

Appendix 4 - Mortality Tables

Projection of Mortality

The mortality assumption is statutory, as stated in Sections 15 of the Improvement Act and 3(4) of the Regulations. Mortality rates are to follow the Annuity Table for 1983, as modified by Projection Scale G published in Transactions of the Society of Actuaries, Vol. XXXV (1983), at pages 882 and 883. SOR/97-495, s. 2.

Accordingly, the IAM83 table is used for individual contracts and the GAM83 table is used for group contracts. Both tables are used on sex-distinct basis and are projected for 15 years with Projection Scale G.

The following table shows the mortality rates as well as Projection scale G for selected ages:

Table 18 Mortality Rates

AGE	GAM83 ORIGINAL		IAM83 ORIGINAL		PROJECTION SCALE G		GAM83 PROJECTED		IAM83 PROJECTED	
	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES	MALES	FEMALES
10	0.000293	0.000096	0.000382	0.000141	0.007500	0.012000	0.000262	0.000080	0.000341	0.000118
15	0.000325	0.000140	0.000435	0.000188	0.002200	0.007000	0.000314	0.000126	0.000421	0.000169
20	0.000377	0.000189	0.000505	0.000260	0.001400	0.005000	0.000369	0.000175	0.000494	0.000241
25	0.000464	0.000253	0.000622	0.000349	0.001000	0.006500	0.000457	0.000229	0.000613	0.000316
30	0.000607	0.000342	0.000759	0.000441	0.004900	0.010500	0.000564	0.000292	0.000705	0.000376
35	0.000860	0.000476	0.000917	0.000545	0.015000	0.018500	0.000686	0.000360	0.000731	0.000412
40	0.001238	0.000665	0.001341	0.000742	0.020000	0.022500	0.000914	0.000473	0.000990	0.000527
45	0.002183	0.001010	0.002399	0.001122	0.018500	0.021000	0.001650	0.000735	0.001813	0.000816
50	0.003909	0.001647	0.004057	0.001830	0.017500	0.020000	0.003000	0.001216	0.003113	0.001352
55	0.006131	0.002541	0.005994	0.002891	0.016000	0.018500	0.004813	0.001920	0.004706	0.002185
60	0.009158	0.004241	0.008338	0.004467	0.015000	0.017500	0.007300	0.003254	0.006647	0.003428
65	0.015592	0.007064	0.012851	0.007336	0.015000	0.017500	0.012429	0.005420	0.010244	0.005629
70	0.027530	0.012385	0.021371	0.011697	0.013500	0.017500	0.022452	0.009504	0.017429	0.008976
75	0.044597	0.023992	0.035046	0.020127	0.012500	0.016000	0.036929	0.018836	0.029020	0.015802
80	0.074070	0.042945	0.057026	0.036395	0.012500	0.015000	0.061334	0.034234	0.047220	0.029013
85	0.114836	0.069918	0.090987	0.065518	0.012500	0.015000	0.095090	0.055736	0.075342	0.052228
90	0.166307	0.111750	0.134887	0.113605	0.011000	0.013500	0.140882	0.091139	0.114265	0.092652
95	0.234086	0.182419	0.191214	0.174228	0.010000	0.012500	0.201328	0.151052	0.164455	0.144269
100	0.319185	0.295187	0.270906	0.239215	0.004000	0.005000	0.300561	0.273806	0.255099	0.221888
105	0.469531	0.487816	0.405278	0.353414	0.000000	0.000000	0.469531	0.487816	0.405278	0.353414
110	1.000000	1.000000	0.634814	0.584462	0.000000	0.000000	1.000000	1.000000	0.634814	0.584462

Life Expectancies

The following table shows life expectancies under the above-stated mortality assumption for selected ages:

Table 19 Life Expectancies

AGE	GROUP		INDIVIDUAL	
	MALES	FEMALES	MALES	FEMALES
15	65.4	71.8	67.1	72.2
20	60.5	66.8	62.2	67.3
25	55.6	61.9	57.4	62.4
30	50.7	57.0	52.5	57.5
35	45.9	52.1	47.7	52.6
40	41.0	47.2	42.9	47.7
45	36.2	42.3	38.1	42.8
50	31.6	37.5	33.5	38.0
55	27.1	32.7	29.1	33.3
60	22.8	28.1	24.8	28.7
65	18.7	23.6	20.7	24.3
70	15.0	19.3	16.9	20.0
75	11.8	15.3	13.5	16.0
80	9.1	11.9	10.5	12.4
85	7.0	9.1	8.1	9.3
90	5.3	6.6	6.2	6.9
95	4.0	4.6	4.6	5.1
100	2.8	2.9	3.2	3.6
105	1.9	1.9	2.2	2.5
110	1.0	1.0	1.5	1.6