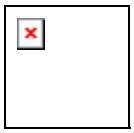
REPORT BY THE GOVERNMENT ACTUARY ON THE FINANCIAL CONDITION OF THE SOCIAL SECURITY FUND AS AT 31ST DECEMBER 1997

Presented to the States on 2nd May 2000
by the Employment and Social Security Committee



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SOCIAL SECURITY (JERSEY) LAW 1974

REPORT BY THE GOVERNMENT ACTUARY ON THE FINANCIAL CONDITION OF THE SOCIAL SECURITY FUND AS AT 31ST DECEMBER 1997

To the President and Members of the Social Security Committee of the States of Jersey -

Article 32 of the Social Security (Jersey) Law 1974 requires the actuary to review the operation of the Law at intervals not exceeding three years. My previous review was as at 30th September 1994 and, at the request of the Committee, I have carried out a review as at 31st December 1997, due to the change in the financial year for the Fund. I now submit the following report on the financial condition of the Social Security Fund and on the adequacy of the present contribution rates.

C.D. Daykin
Government Actuary
21st March 2000

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SUMMARY OF THE REVIEW

1. This report concerns the financial condition of the Jersey Social Security Fund as at 31st December 1997 and the expected adequacy in future years of the legislated contribution rates, assuming that the States contribution will continue on the same basis as at present. The main estimates in section 3 of this report are based on the laws in force at 31st December 1997

2. The Fund is financed on the pay-as-you-go principle. Expenditure on benefits and administration should be met roughly by the income from contributions and the States supplement in the same year. The rates of contribution required to meet the expenditure are therefore determined by the level of benefits and by the relative numbers of beneficiaries and contributors. As these latter numbers are very much affected by demographic changes, projections are made for a period of 60 years into the future to illustrate the impact of demographic changes and the continued maturing of the provisions of the scheme.

3. An eight per cent contribution rate was set in 1975 with the intention that it should provide a small margin over the strict pay-as-you-go rate and so could be maintained for the first 15 years as the scheme matured. In fact the true pay-as-you-go rate has exceeded eight per cent since 1990-91; but the fund that had been built up, and the income that the fund had generated, allowed the Fund to continue with the eight per cent contribution rate. The contribution rate was increased to 8.5 per cent in 1998, nine per cent in 1999, 9.5 per cent on 1st January 2000 and will increase each 1st January by 0.5 per cent until it reaches 10.5 per cent in the year 2002. Thereafter the rate will remain at 10.5 per cent.

4. Since the previous report as at 30th September 1994, the market value of the Social Security and Social Security (Reserve) Funds as a multiple of expenditure had increased from 2.60 in 1993-94 to 2.78 in 1996-97 (adjusting to a 12 month figure). This has increased their value as a reserve to meet unforeseen contingencies in the operation of the scheme. If the value of the funds at cost is used, then the ratio had increased from 2.12 in 1993-94 to 2.22 in 1996-97.

5. Old age pensions accounted for 67 per cent of the Fund's expenditure in 1996-97, and the estimates in this report indicate that this is expected to increase steadily in future to about 80 per cent in the 2030s, before falling back to about 75 per cent by the year 2050. The projections in this report indicate that the number in the population over pension age is expected to increase from about 12,000 in 1996-97 to about 23,000 by 2037, before dropping back to about 17,000 in the year 2057 with an assumption of no future migration, or 20,000 with immigration of 200 a year. The number of people in receipt of a pension will increase by more than this because of the increase in the number of overseas pensioners.

6. The projected numbers of contributors in future years have been obtained by applying assumed proportions of men and women contributing at each age in the different categories to the projected numbers in the working population. These proportions were derived from statistics of the numbers contributing over the last economic cycle, allowing for both the average positions over an economic cycle and the trends with time.

7. In 1996-97 there were approximately 5.0 persons of working age for each person aged 65 and over but this ratio is projected to fall. If there is zero net migration in the future, this ratio is projected to fall to 2.0 by the year 2037, before rising again to 2.4 by the year 2057. If there is net inward migration of 200 a year in the future, this ratio is projected to fall to 2.4 by the year 2037, before rising again to 2.8 by the year 2057. The change in the contribution rate will not be solely dependent on this ratio: not all people of working ages contribute, and retirement pensions are paid to people overseas, if they have a sufficient contribution record, as well as to residents. In addition, benefits other than retirement pension are paid, mainly to people of working age.

8. A summary of the required contribution rate payable in respect of all insured persons to break even on a pay-as-you-go basis (allowing for the States contribution to continue as described in Appendix A, Section A.10) is given in Table 1. These rates exclude the contribution to the Health Insurance Fund and also exclude income from investments.

TABLE 1: Estimated joint rates of contribution in respect of employed earners as a percentage of earnings, to break even on a pay-as-you-go basis

Year	*Zero net migration*	*200 a year net inward migration*
1997	9.0	9.0
2002	8.7	8.6
2007	9.4	9.1

2017	11.7	10.8
2027	14.5	12.7
2037	17.0	14.4
2047	15.6	13.2
2057	15.4	13.3

Note: Payable on earnings up to the upper earnings limit and assuming that the earnings limit is increased at the same rate as benefits with extra increases of £50 a year up to the year 2002.

9. It seems probable that the planned contribution rate of 10.5 per cent from 2002 can be maintained well into the next century without any diminution of the Fund as a contingency reserve. With no net inwards migration, the Fund would reach a maximum of 4.5 times annual expenditure in the year 2010, before starting to decline to a year's expenditure in 2032. The Fund would be extinguished in the year 2035. With 200 a year net inwards migration, the Fund is projected to reach a maximum of 4.9 times annual expenditure in the year 2013 before starting to decline to a year's expenditure in 2042. The Fund would be extinguished in the year 2047. This assumes that the rate of return on the Fund will be two per cent a year net of earnings increases. If the rate of return is one per cent a year lower the Fund will be extinguished three years earlier with nil migration and seven years earlier with 200 a year net inwards migration. If the rate of return is one per cent a year higher, the Fund will be extinguished four years later with nil migration and 18 years later with 200 a year net inwards migration.

10. It should be emphasised that these estimates are not forecasts of the contribution rates, but projections of what would happen on the basis of the stated assumptions. The demographic and economic assumptions underlying the estimates are inevitably subject to a considerable degree of uncertainty, particularly for the more distant future.

11. The planned increases in the contribution rate and in the upper earnings limits have significantly improved the financial outlook for the Fund despite the change to increasing benefits in line with earnings. In the longer term the projections suggest that more action may be needed to control costs but this is very sensitive to the actual experience. Quite small changes from the assumptions used could bring income more into line with expenditure in the long-term and hence stabilise the fund.

SECTION 1: Introduction and scope of the review

1.1 The Jersey Social Security Scheme is financed on the pay-as-you-go principle with rates of contribution set to produce the income needed to meet current expenditure on benefits and the costs of administration. With this system of finance, the rates of contribution required may alter significantly over the years as a result of the maturing of the benefit rights under the scheme or on account of demographic or other factors leading to changes in the relative numbers of pensioners and contributors. For this reason the Jersey legislation makes provision for three yearly reviews by an actuary of the operation of the scheme, including long-term projections of the expenditure and of the corresponding rates of contribution likely to be required over the years.

1.2 The report on the previous review covering the period 1st October 1991 to 30th September 1994 was submitted to the President and Members of the Social Security Committee of the States of Jersey in September 1996.

1.3 A summary of the contributions and benefits is shown in Appendix A. The main legislative changes which were enacted in the period under review (1st October 1994 to 31st December 1997), and which have affected the entitlement to benefits and the structure of contributions in the Jersey Social Security Fund, are summarized in Appendix B. The projections of benefit expenditure and contribution income in this report take into account these changes and the proposed increases in contribution rates and upper earnings limit. Appendix B also shows the income, expenditure and balances for the Social Security and the Social Security (Reserve) Funds for the three years ending 31st December 1997. The financial year end was changed to 31st December in 1997 so that the accounts for 1996/97 covered a fifteen-month period between 1st October 1996 and 31st December 1997.

1.4 The object of this review, as stated in Article 32 of the Social Security (Jersey) Law 1974, is to determine the financial condition of the Jersey Social Security Fund and the current and future adequacy of the contributions payable in accordance with the Law.

1.5 At present, the Social Security and Social Security (Reserve) Funds are regarded as a contingency reserve, and the aim is to maintain their total value in real terms by retaining investment income. Therefore, in ordinary circumstances, investment income is not to be regarded as available for the payment of benefits and is not allowed for in the calculation of the required contribution rates. Provided the required contribution rates are collected in future, the funds will continue to fulfil their function as a contingency reserve.

1.6 The required contribution rates are those needed to provide contribution income equal to expenditure on benefits and administration, assuming that the States contribution will continue to be calculated as at present (see Appendix A, Section A.10). One of the main factors likely to cause significant changes in these rates in the future is the change in the relative numbers of contributors and pensioners. These factors are mainly demographic but include also social and economic factors such as changes in the proportion of women working, in the rate of unemployment or in the level of immigration.

1.7 The projected demographic developments are discussed in Section 2. Very significant changes in the age structure of the population are expected from the second decade of the next century onwards. The numbers over state pension age will be increasing steeply, at a time when the numbers at working age will be stationary or declining, leading to a marked fall in the ratio of the number of contributors to the number of pensioners.

1.8 Section 3 of the review shows the effects if benefits are uprated by increases in earnings (as specified under Article 13(2) of the current legislation). The estimates for income and expenditure are expressed in 1997 earnings terms. Since both income and expenditure will be increased, the actual level of increases in earnings will not be relevant to the contribution rates needed to balance income and outgo.

SECTION 2: The demographic assumptions

2.1 In order to project the future income and expenditure of the Jersey Social Security Fund, it is necessary first to project the future numbers in the population of Jersey subdivided by age and sex. It should be emphasised that these are not forecasts of the future population but illustrations of how the population would develop under a set of stylised assumptions, which are nevertheless regarded as reasonable assumptions to make for planning purposes.

2.2 Projections of the population many years ahead are inevitably subject to a considerable margin of uncertainty. Migration to and from Jersey is particularly difficult to predict, and it is for this reason that we have based our projections on two different migration assumptions. These are -

(i) zero net migration;

(ii) net inward migration of 200 a year for all future years.

These have been chosen to demonstrate the effect migration has on the results, and should not be regarded as forecasts of the expected future levels of migration.

2.3 An established feature of the economy of the island is the substantial number of seasonal workers, including workers from outside the island who remain resident in Jersey for only a few months of the year. The resident population revealed by the census includes such seasonal workers as were present in the Island at the time that the census was taken. In addition to these seasonal workers, a persistent feature of the population has been an excess of people, mainly in their 20s, who work in Jersey for a few years before returning to their country of origin ("transients"). The numbers of seasonal and transient workers assumed at this review are shown in Appendix C, Table C3. The number of transients assumed is the same as that assumed at the last review, since there has been no further information on the subject. In making these projections we have assumed that the number and ages of these short-term workers remain the same in the future. An allowance has been made for their movement (and that of the children born to them) into and out of Jersey by an adjustment to the migration assumptions.

2.4 Those persons who will be over the pension age of 65 and receiving pension (which applies to most men and to increasing numbers of women) up to the middle of the next century are already living. Apart from the effects of the different assumptions for migration, the projected numbers of pensioners will be very largely determined by the assumption about future mortality. The mortality rates used have been based on the experience in recent years, with an allowance made for the continuing improvement in mortality in the future. Assumed improvements in mortality over the next 60 years will result in increases in life expectancy of approximately five per cent.

2.5 Mortality is of much less significance in determining the future numbers at working ages, but after about 20 years the numbers at these ages will depend to an increasing extent on the future numbers of births. The fertility rates for women at each age in recent years have totalled about 1.45 children per woman. In the past ten years changes in the age distribution of fertility in Jersey have been similar to those in England and Wales, with fertility in Jersey being lower at the younger ages and higher at the older ages. We have assumed therefore that this will continue in the future, but that the overall fertility in Jersey will remain at about 1.45. This is about 30 per cent below the rate of 2.1 required for each generation exactly to replace itself.

2.6 The projected future numbers in the population, by age and sex, are shown in Appendix C. A summary of the future numbers in the age bands most relevant for this review is given in Table 2, assuming zero net migration in the future, and in Table 3 assuming net inward migration of 200 a year. It can be seen that the total population assuming zero net migration is expected to decline slowly until the year 2027 before declining more rapidly to the year 2057 when the population will only be approximately 80 per cent of current levels. Assuming net inward migration of 200 a year, the population is expected to increase by about seven per cent in the year 2027, before returning to current levels in the year 2057.

TABLE 2: Projected future resident population of Jersey assuming no net immigration after March 1996

Age group	***1997***	***2002***	***2007***	***2017***	***2027***	***2037***	***2047***	***2057***
0-15	15,124	15,356	14,419	11,895	11,474	10,907	9,555	8,957
Ages 16-39								
Male	15,871	14,699	13,595	13,793	13,503	12,215	11,511	11,035
Female	16,718	15,434	14,062	13,469	12,890	11,504	10,805	10,366
Total	32,589	30,133	27,657	27,263	26,393	23,719	22,316	21,401
Ages 40-64								
Male	13,390	14,278	15,247	14,019	11,880	10,570	11,170	10,219
Female	13,395	14,525	15,861	15,122	12,836	10,891	10,799	9,613
Total	26,785	28,803	31,108	29,141	24,716	21,461	21,969	19,832
Ages 16-64 (W)	59,373	58,936	58,765	56,404	51,109	45,180	44,285	41,233
Ages 65 and over								
Male	4,955	5,500	6,103	7,834	9,339	10,172	8,258	7,572
Female	7,060	7,222	7,523	9,282	11,301	12,818	11,136	9,814
Total (P)	12,015	12,722	13,626	17,116	20,640	22,990	19,394	17,386

TABLE 2 *(cont'd.)*

Age group	***1997***	***2002***	***2007***	***2017***	***2027***	***2037***	***2047***	***2057***
All ages								
Male	41,988	42,427	42,465	41,868	40,720	38,656	35,938	33,515
Female	44,524	44,587	44,346	43,547	42,503	40,422	37,296	34,060
Total	86,512	87,014	86,811	85,415	83,223	79,078	73,234	67,575
W/P	4.9	4.6	4.3	3.3	2.5	2.0	2.3	2.4

TABLE 3: Projected future resident population of Jersey assuming net immigration of 200 a year after March 1996

Age group	***1997***	***2002***	***2007***	***2017***	***2027***	***2037***	***2047***	***2057***
0-15	15,132	15,439	14,738	13,237	13,581	13,371	12,594	12,515
Ages 16-39								
Male	15,968	15,284	14,672	15,736	15,823	15,167	15,020	14,899
Female	16,815	16,031	15,159	15,438	15,209	14,427	14,269	14,171
Total	32,784	31,315	29,831	31,175	31,032	29,594	29,289	29,070
Ages 40-64								

Male	13,390	14,278	15,247	14,158	12,928	12,586	13,698	13,205
Female	13,395	14,525	15,861	15,271	13,919	12,911	13,376	12,696
Total	26,785	28,803	31,108	29,429	26,847	25,496	27,074	25,901
Ages 16-64 (W)	59,568	60,118	60,939	60,604	57,879	55,090	56,363	54,971
Ages 65 & over								
Male	4,955	5,500	6,103	7,834	9,339	10,174	8,749	8,773
Female	7,060	7,222	7,523	9,282	11,301	12,820	11,652	11,135
Total (P)	12,015	12,722	13,626	17,116	20,640	22,994	20,401	19,908

TABLE 3 ***(cont'd.)***

Age group	***1997***	***2002***	***2007***	***2017***	***2027***	***2037***	***2047***	***2057***
All ages								
Male	42,090	43,054	43,706	44,646	45,188	44,909	44,041	43,411
Female	44,625	45,225	45,598	46,311	46,912	46,547	45,317	43,983
Total	86,715	88,279	89,304	90,957	92,100	91,456	89,358	87,394
W/P	5.0	4.7	4.5	3.5	2.8	2.4	2.8	2.8

2.7 On the basis of the projections, the numbers resident in Jersey over the current pension age of 65 will rise slowly from just over 12,000 in 1997 to just over 13,500 in 2007, and then more quickly to reach about 23,000 by 2037, a total rise of about 90 per cent. The numbers are very similar on both projections, since future migrants would not have reached age 65 in any number by 2037. After 2037 the numbers will start to fall, reaching just under 17,500 assuming zero net migration, and just under 20,000 assuming net inward migration of 200 a year.

2.8 By contrast, the expected numbers at working ages, assuming zero net migration in the future, will fall from about 59,400 in 1997 to about 56,400 by 2017 and to about 41,200 by 2057, a fall of about 30 per cent. Assuming net inward migration of 200 a year, the expected numbers at working age will rise from about 59,600 in 1997 to about 60,900 in 2007 and then fall again to about 55,000 in the longer term, a fall over the whole period of some eight per cent. The fall in the numbers at working ages when there is no migration to boost them is due mainly to the fall in fertility rates to below that required to replace the population.

2.9 The number of persons of working age per person over pension age, the main demographic determinant of the contribution rate required, falls from 4.9 in 1997 to 2.0 in 2037, before rising to 2.4 by 2057 assuming zero net migration. Assuming migration of 200 a year, this ratio is expected to fall from 5.0 in 1997 to 2.4 in 2037, before rising to 2.8 by 2057.

SECTION 3: The estimated outgo and the rates of contribution required in future years

3.1 Estimates have been made of income and expenditure on benefits and administration in future years, in the manner and on the assumptions described in the preceding sections of the report and in more detail in Appendix D.

3.2 Estimates of the expenditure on the various types of benefit are given in Appendix E.

3.3 Table 4 sets out estimates of future expenditure from the Social Security Fund and of the contribution rates required in order to break-even on a pay-as-you-go basis for both migration assumptions. It assumes that upratings of benefit limits and earnings limits are in line with earnings as in the current legislation, except that allowance was made for the extra increases to the upper earnings limit in the next few years. The contribution rates are a percentage of earnings up to the upper earnings limits.

3.4 The results set out in Table 4 -

(i) exclude the contributions paid to the Health Insurance Scheme;

(ii) assume the States contribution will continue to be calculated as at present (see Appendix A, Section A.10);

(iii) exclude investment income.

TABLE 4: Estimates of future expenditure from the Social Security Fund in 1997 earnings terms and the contribution rates required in order to break even, assuming that benefit rates and earnings limits increase according to Article 13 (2) of the legislation

Calendar year	*Expenditure (£m)*		*Contribution rates (per cent)*	
	Zero net migration	*Net immigration of 200 p.a.*	*Zero net migration*	*Net immigration of 200 p.a.*
1996-97 (15 months)	104.7	104.7	9.0	9.0
2002	87.9	89.0	8.7	8.6
2007	93.7	94.8	9.4	9.1
2017	113.0	115.8	11.7	10.8
2027	129.4	133.2	14.5	12.7
2037	138.2	145.0	17.0	14.4
2047	123.2	135.0	15.6	13.2
2057	113.4	134.4	15.4	13.3

3.5 The break-even contribution rate is close to the current rate of 9.5 per cent. Table 4 shows that it will remain below the planned rate (which will be increased by 0.5 per cent a year until it reaches 10.5 per cent in 2002) for at least the next ten years. The contribution rate is expected to rise rapidly after that to reach about 17.0 per cent by 2037, assuming no further migration and about 14.4 per cent assuming future immigration of 200 a year.

3.6 The contribution rate will have reached its highest point by 2037. It is projected that it will decrease slowly after that, stabilising at about 15.5 per cent assuming zero net migration, and about 13.5 per cent assuming 200 a year net immigration.

3.7 If the contribution rates in Table 4 were to be applied in practice, and if the assumptions underlying the estimates exactly fitted the experience in future years, then the entire investment income would be available for reinvestment and the balance in the funds would grow in relation to benefit expenditure. This is mainly because we expect the rate of return on investments to be greater than the rate of increase in earnings. On this basis, and assuming a rate of return net of earnings of two per cent a year, the Funds would rise steadily to reach about 6.0 times annual expenditure by 2057. A rate of return on average one per cent a year higher would add about 4.0 to the multiple and a rate of return one per cent a year lower would reduce it by about 2.5.

3.8 The position of the funds if the planned contribution rates were maintained would be somewhat different. Assuming a real rate of return on investments of two per cent a year net of earnings, the Funds would increase at first on both migration assumptions. Assuming zero net migration it is projected that the fund will reach a level of 4.5 times expenditure by 2010, where it will remain for several years before decreasing to reach 1.0 times expenditure by 2032 and be extinguished by 2035. Assuming immigration of 200 a year it is projected that the fund will reach a level of 4.9 times expenditure by 2013, where it will remain for several years before decreasing to reach 1.0 times expenditure by 2042 and be extinguished by 2047. If the rate of return is one per cent a year lower, the Fund will be extinguished three years earlier with nil migration and seven years earlier with 200 a year net immigration. If the rate of return is one per cent a year higher, the Fund will be extinguished four years later with nil migration and 18 years later with 200 a year net immigration.

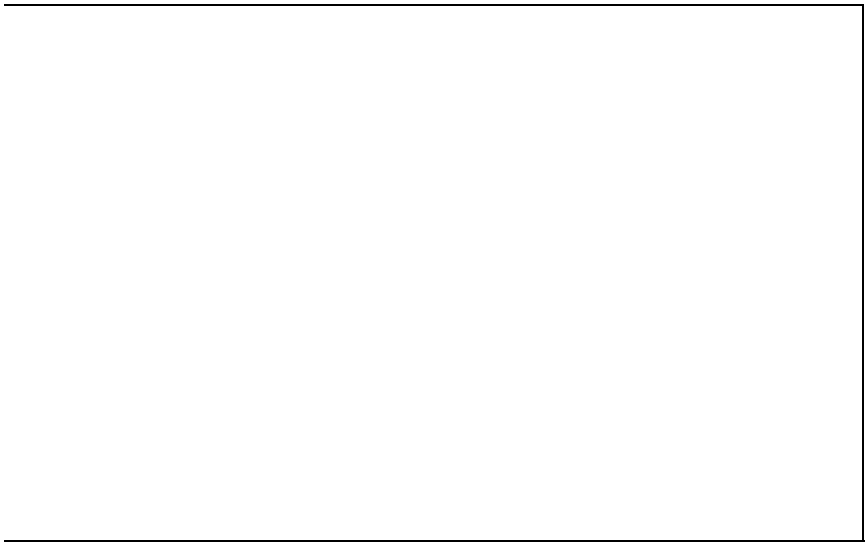
3.9 It is not possible to predict the future of the Jersey economy, but the two migration bases illustrate how the finances of the Social Security Fund could be affected by a range of scenarios. It should be noted that these scenarios are illustrative and should not be taken as setting bounds to the range of possibilities. The higher the level of future immigration, the more the contribution increases would be deferred: conversely, net outward migration would make the contribution rates increase more rapidly.

3.10 The number of old age pensioners is already largely determined for some years to come, reflecting the numbers who have contributed in past years. For this reason, the cost of old age pensions is very similar under both migration bases until 2037, only diverging significantly after that. The level of migration will, however, have an immediate effect on the number of contributors; higher immigration will lead to more contributors and hence lower contribution rates. Eventually, these extra contributors will reach pension age and give rise to greatly increased expenditure and contribution rates which will rise towards those which would be needed assuming zero net migration. If immigration is then reduced, there would be high expenditure and decreased contribution income, and

so the contribution rates would have to rise even higher. To the extent that the number working in Jersey can be controlled, there is therefore some scope for controlling the future social security contribution rate, although it is important to take account of the long-term as well as short-term effects.

3.11 Changes in the expected fertility rates since the last review (and the way that births to transient workers have been allowed for) have resulted in smaller projected numbers in the population. This starts at the youngest ages and affects all ages up to the 60-64 year age group by 2057. The result has been lower projected contribution income. There have been few changes in the technical assumptions made for the financial estimates, the main one being an increase in the level of invalidity benefit, which has increased the benefit expenditure. Changes in legislation have resulted in greatly increased contribution income, due to the increases in the contribution rate and the upper earnings limit, and benefit expenditure, due to the change to uprating in line with earnings. The increase in contribution limits will reduce the required contribution rate, although the rate will be payable on a larger band of earnings. The increase in the uprating of benefits will lead to an increase in contribution rates.

3.12 The financial outlook for the scheme has improved considerably since the last review. The current projections show that further corrective action might be necessary before the middle of the next century but it is dependent on the actual experience of the scheme.



APPENDIX A

SUMMARY OF CONTRIBUTIONS AND BENEFITS

A.1 This Appendix summarises the principal provisions regarding the contributions and benefits in the Social Security (Jersey) Law 1974, on which the estimates for future years in this review are based. It concentrates on those aspects of contribution liability and benefit entitlement that are significant in financial terms.

A.2 In order to receive an old age pension at the full rate, the pensioner must have a life average contribution factor (LACF) of a required level. For those already insured before the 1974 Law came into effect, this level is 0.94: for those entering the scheme after this, the level is 0.96. For those with lower LACF, the benefit is reduced pro rata. The LACF is calculated as the ratio of the number of contributions paid or credited to the number which could have been made between school leaving age and pension age. Pension age for all men is 65: for women it is 65 for those entering the scheme after the 1974 law came into force but those entering before that date retain the right to claim pension from age 60. Married women can claim a pension of 66 per cent of that payable to their husbands if this is more than the pension they have earned on their own contributions, and widows over pension age can claim a pension of the same amount as that payable to their late husbands.

A.3 There are three benefits paid to persons who are widowed. Widow's allowance of 1.2 times the standard rate is paid for the first 12 months after a woman has been widowed. After that, a widow's pension is paid, the amount being dependent on the contribution record of the deceased husband. The standard rate is adjusted according to the LACF in the same way as for old age pension, with LACF calculated using the date of death instead of the pension age. Widowed father's allowance is paid to widowers with children under the age of 16. The amount of this benefit is dependent on the contribution record of the deceased wife.

A.4 There are two groups of pensions which are paid from the Fund but which are not included in section A.2. Social assurance pensions are the remaining pensions paid under a previous scheme. Non-contributory pensions are pensions paid to those born before 10th September 1896 and to their wives and widows. These people would have been too old to contribute under the Social Security Scheme.

A.5 If the contribution conditions are met, an incapacity benefit is paid when an insured person is sick. Sickness benefit is paid for up to one year. If the person is still unfit for work, they can then claim invalidity benefit. The contribution conditions are that the person must have paid at least 13 weeks' contributions for sickness benefit and 26 weeks' contributions for invalidity benefit and that they must have paid contributions throughout the calendar quarter six months before the date of claim.

A.6 Accident benefit is paid to an insured person on incapacity following an accident. There are two types of accident benefit -

(i) injury benefit, which is similar to sickness benefit;

(ii) disablement benefit, which is payable after injury benefit ceases in cases of continuing disablement. The benefit is payable even if the insured person can return to work and the amount depends on the degree of disablement.

The contribution conditions are similar to those for incapacity benefit, but in addition, a person can qualify if a contribution was due in the month of the accident.

A.7 A maternity grant is paid for each birth in Jersey where either the mother or her husband has paid contributions for the equivalent of one year. The mother is also entitled to a maternity allowance, for a maximum of 18 weeks, if she satisfies the contribution conditions. These contribution conditions are similar to those for sickness benefit, but the relevant calendar quarter is the last full quarter before conception.

A.8 A death grant is paid for all deaths in Jersey where the deceased, the surviving spouse or (in the case of a child) a parent has met the contribution conditions. The conditions are that either a contribution was due in the month of death or that the equivalent of one year's contributions has been paid in the past.

A.9 Table A1 shows the weekly rates of benefit in force between 1994-95 and 1997-98.

TABLE A1: Weekly standard benefit rates

Year	*Weekly benefit rates from 1st October*				
	Sickness benefit	*Invalidity benefit*	*Old age pension*	*Married woman's old age pension*	*Widow's pension*
	£	£	£	£	£
1994-95	88.69	88.69	88.69	58.54	88.69
1995-96	91.28	91.28	91.28	60.27	91.28
1996-97	94.99	94.99	94.99	62.72	94.99
1997-98	98.91	98.91	98.91	65.31	98.91

A.10 Table A2 shows the earnings limits between 1994 and 1997. The contribution rate payable to the Social Security Fund during this time was eight per cent (4.5 per cent from the employer and 3.5 per cent from the employee) of earnings up to the upper earnings limit. If earnings are above the threshold and below the upper earnings limit, the States contributes eight per cent of the difference between actual earnings and the upper earnings limit. The contribution rate payable is rising by 0.5 per cent a year from 1st January 1998 to reach 10.5 per cent from January 2002, after which it will remain constant. The upper earnings limit is due to rise by £50 a year over the same period in addition to the normal upratings.

TABLE A2: Earnings limits

Calendar year	*Monthly earnings limits (£ p.m.)*	
	Threshold	*Upper limit*
1994	371	1594
1995	384	1652
1996	395	1700
1997	411	1770

A.11 Contributions are required from everyone in the Island between the ages of 16 and 65 who works more than eight hours a week. Some married women can “opt out” of paying full contributions, but this is a closed group and the number is decreasing.

APPENDIX B

FUND LEGISLATION AND ACCOUNTS FROM 1ST OCTOBER 1994

B.1 Changes that have been made to the legislation that have a significant effect on the cost of the benefits are -

(i) The Social Security (No. 3) (Jersey) Regulations 1997 increased the contribution rate by 0.5 per cent each 1st January from 1998 until 2002, to reach a rate of 10.5 per cent.

(ii) The Social Security (Amendment No.13) (Jersey) Law 1997 changed the uprating formula from "halfway between the percentage rise in the Jersey Cost of Living Index and the percentage rise in the Jersey Index of Earnings" to "the percentage rise in the Jersey Index of Earnings". This came into force on 1st April 1998.

(iii) The upper limit of earnings is being increased by £50 each 1st January from 1998 to 2002 in addition to the normal upratings.

B.2 The transactions of the Social Security Fund in the period 1st October 1994 to 31st December 1997 are summarised in Table B1, whilst a breakdown of expenditure by benefit is shown in Table B2.

TABLE B1: Summary of income and outgo and balances of the Jersey Social Security and Social Security (Reserve) Funds in the period 1st October 1994 to 31st December 1997

	1994-95	*1995-96*	*1996-97* [1]

	£000	£000	£000
Funds at beginning of year:			
Social Security Fund	23,957	24,002	25,090
Reserve Fund	130,956	138,519	152,838
Income other than investment income:			
Contributions	46,789	50,379	67,114
States' supplements	19,200	19,970	26,320
Total income other than investment income:	65,989	70,349	93,434
Outgo:			
Old age and widows' pensions	53,242	55,682	74,012
Sickness and invalidity benefits	13,479	14,803	20,908
Injury and disablement benefits	2,920	3,057	4,181
Maternity grants	1,318	1,326	1,884
Death grant	267	275	320
Administration	2,371	2,353	3,435
Total outgo:	73,598	77,497	104,740
Excess of income from contributions and States supplements over outgo:	-7,609	-7,148	-11,306
Investment income:[2]	7,653	8,236	10,399
Net gains on sales of investments:	7,563	14,319	17,798
Funds at end of year:			
Social Security Fund	24,002	25,090	22,176
Reserve Fund	138,519	152,838	172,644
Mean of funds at beginning and end of year:	158,717	170,224	185,874
Mean funds as multiple of annual ougo:	2.16	2.20	2.22[3]
Market value:			
At start of year	182,882	202,111	222,676
At end of year	202,111	222,676	242,719
Mean as a multiple of outgo when investments are taken at market value:	2.62	2.74	2.78[3]

B.3 Expenditure has exceeded contribution income (including States' supplement) in all years since the last review. However, investment income and profits on sales of investments have been sufficient to cancel this loss and to maintain the book value of the fund relative to benefit expenditure. The Fund as a multiple of expenditure increased from 2.12 at 30th September 1994 to 2.22 at 31st December 1997. The market value of the Fund was not only considerably higher than the book value at the start of the period, it has also risen faster. Thus, the market value of the fund as a multiple of expenditure has risen from 2.60 at 30th September 1994 to 2.78 at the review date of 31st December 1997.

TABLE B2: Expenditure on social insurance benefits in the period 1st October 1994 to 31st December 1997

	1994-95	*1995-96*	*1996-97**
	£000's	£000's	£000's
Old age pensions	38,605	40,485	54,114
Widows' old age pensions	11,461	12,051	15,950
Widow's benefit	3,096	3,075	3,855
Sickness benefit	6,566	6,939	9,388
Invalidity benefit	6,913	7,864	11,520
Accident and injury benefit	2,920	3,057	4,181
Social assurance pensions	24	27	33
Non-contributory pensions	57	43	60
Maternity allowance	1,017	1,029	1,488
Maternity grants	302	297	397
Death grants	267	275	320
Total	71,227	75,144	101,305

*15 month period

B.4 Income and long-term benefits have increased by roughly the same amount. However, incapacity benefits have increased much faster and are the main source of the worsening deficit during the period between reviews.

APPENDIX C

POPULATION PROJECTIONS

TABLE C1: The projected future population of Jersey from 1997 to 2057 assuming net future migration is zero and the fertility and mortality assumptions described in Section 2

	1997	***2002***	***2007***	***2017***	***2027***	***2037***	***2047***	***2057***
Males								
0-9	5,053	4,951	4,451	3,682	3,757	3,409	2,983	2,889
10-19	4,558	5,051	5,341	4,739	3,970	4,045	3,697	3,271
20-29	6,472	5,532	5,979	6,749	6,170	5,418	5,493	5,150
30-39	7,560	7,115	5,344	4,844	5,604	5,041	4,336	4,414
40-49	6,296	6,443	6,918	4,748	4,242	4,991	4,454	3,766
50-59	4,967	5,615	5,907	6,544	4,445	3,977	4,712	4,181
60-69	3,742	4,161	4,463	5,380	6,015	4,079	3,674	4,364
70-79	2,297	2,515	2,839	3,515	4,301	4,886	3,267	3,012
80 & over	1,043	1,044	1,222	1,666	2,215	2,809	3,321	2,467
Total	**41,988**	**42,427**	**42,465**	**41,868**	**40,720**	**38,656**	**35,938**	**33,515**
Females								
0-9	4,765	4,494	4,064	3,353	3,432	3,111	2,713	2,625
10-19	4,563	4,919	5,118	4,418	3,707	3,786	3,465	3,067
20-29	6,958	5,922	5,990	6,546	5,845	5,134	5,213	4,892
30-39	7,784	7,505	5,789	4,826	5,381	4,681	3,970	4,049
40-49	6,319	6,625	7,234	5,273	4,322	4,872	4,182	3,490
50-59	4,996	5,709	6,029	6,927	5,005	4,100	4,629	3,955
60-69	3,894	4,150	4,674	5,674	6,570	4,754	3,902	4,399

70-79	3,013	3,036	3,248	4,025	4,925	5,765	4,136	3,432
80 & over	2,232	2,227	2,200	2,505	3,315	4,218	5,085	4,152
Total	**44,524**	**44,587**	**44,346**	**43,547**	**42,503**	**40,422**	**37,296**	**34,060**
Persons								
0-15	15,124	15,356	14,419	11,895	11,474	10,907	9,555	8,957
16-64 (W)	59,373	58,936	58,765	56,404	51,109	45,180	44,285	41,233
65 & over (P)	12,015	12,722	13,626	17,116	20,640	22,990	19,394	17,386
Total	**86,512**	**87,014**	**86,811**	**85,415**	**83,223**	**79,078**	**73,234**	**67,576**
W/P	4.9	4.6	4.3	3.3	2.5	2.0	2.3	2.4

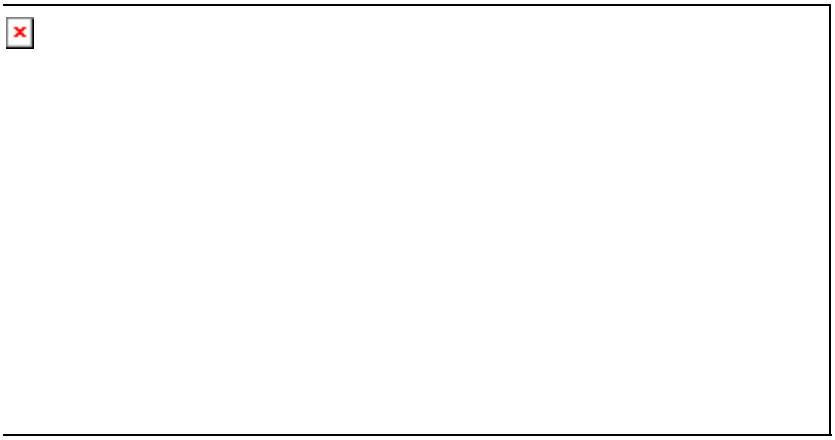
TABLE C2: The projected future population of Jersey from 1997 to 2057 assuming migration of 200 a year after March 1996 and the fertility and mortality assumptions described in Section 2

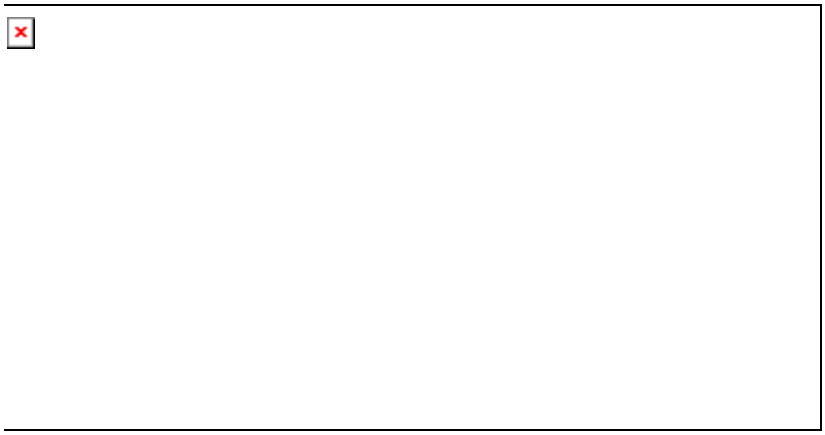
	1997	*2002*	*2007*	*2017*	*2027*	*2037*	*2047*	*2057*
Males								
0-9	5,055	4,991	4,611	4,240	4,481	4,247	4,032	4,078
10-19	4,601	5,146	5,438	4,994	4,623	4,864	4,630	4,415
20-29	6,529	6,021	6,819	7,653	7,216	6,869	7,107	6,879
30-39	7,560	7,118	5,488	5,767	6,601	6,169	5,824	6,061
40-49	6,296	6,443	6,918	4,887	5,152	5,986	5,554	5,210
50-59	4,967	5,615	5,907	6,544	4,584	4,871	5,684	5,260
60-69	3,742	4,161	4,463	5,380	6,015	4,208	4,508	5,265
70-79	2,297	2,515	2,839	3,515	4,301	4,886	3,380	3,699
80 & over	1,043	1,044	1,222	1,666	2,215	2,809	3,321	2,542
Total	**42,090**	**43,054**	**43,706**	**44,646**	**45,188**	**44,909**	**44,041**	**43,411**
Females								
0-9	4,766	4,532	4,215	3,868	4,091	3,889	3,689	3,730
10-19	4,605	5,014	5,214	4,664	4,317	4,540	4,338	4,138
20-29	7,016	6,424	6,843	7,452	6,901	6,554	6,777	6,575
30-39	7,784	7,508	5,941	5,773	6,382	5,832	5,485	5,708
40-49	6,319	6,625	7,234	5,423	5,257	5,862	5,319	4,977
50-59	4,996	5,709	6,029	6,927	5,153	5,006	5,607	5,071
60-69	3,894	4,150	4,674	5,674	6,570	4,880	4,764	5,351
70-79	3,013	3,036	3,248	4,025	4,925	5,765	4,252	4,195
80 & over	2,232	2,227	2,200	2,505	3,315	4,218	5,085	4,237
Total	**44,625**	**45,225**	**45,598**	**46,311**	**46,912**	**46,547**	**45,317**	**43,983**
Persons								
0-15	15,132	15,439	14,738	13,237	13,581	13,371	12,594	12,515
16-64 (W)	59,568	60,118	60,939	60,604	57,879	55,090	56,363	54,971
65 & over (P)	12,015	12,722	13,626	17,116	20,640	22,994	20,401	19,908
Total	**86,715**	**88,279**	**89,304**	**90,957**	**92,100**	**91,456**	**89,358**	**87,394**
W/P	5.0	4.7	4.5	3.5	2.8	2.4	2.8	2.8

TABLE C3: Short-term migrants included in the Jersey population

Age	*Number of short-term migrants included in the 1996 census*		*Average yearly number of short-term migrants in the population*	
	Male	*Female*	*Male*	*Female*
Under 15	130	70	250	325
15-19	370	305	500	575
20-24	815	775	900	850
25-29	640	615	700	650

30-34	325	310	350	325
35-39	155	130	150	150
40-44	105	105	125	100
45-49	10	5	25	25
50-54	5	5	25	25
55-59	0	0	25	25
Total	**2,554**	**2,320**	**3,050**	**3,050**





APPENDIX D

THE TECHNICAL ASSUMPTIONS MADE FOR THE PURPOSES OF THE FINANCIAL ESTIMATES

D.1 Future expenditure has been calculated on the basis of two different population projections with differing migration assumptions (using the 1996 census as the starting point).

(i) Net migration of zero for all future years.

(ii) Net immigration of 200 a year for all future years.

D.2 The numbers of contributors in future years have been obtained by applying assumed proportions of men and women contributing at each age in the different categories to the projected numbers in the working population. These proportions were derived from the statistics of the numbers contributing in the recent past adjusted for unemployment. The analysis was made on the basis of the average position throughout the year, and thus allows for the average number of seasonal workers.

D.3 The analysis showed that since 1993 there has been a significant rise in the proportion of employed males contributing. There is some evidence that there has been a structural change in the labour market, with fewer short-term workers, and so we have assumed that the proportions contributing in future will remain at this higher level. There is not a consistent increase across all ages; proportions fell at ages 60-64, were fairly stable for ages 15-24 and 50-59, and rose for ages 25-49. There is no evidence of any underlying trend over time in proportions contributing, other than the jump in 1993, so we have used the average proportions contributing when calculating the number of employed male contributors. Where possible, the age-specific proportions were averaged over a complete economic cycle but, for the age range affected by the rise, proportions were averaged over the years since the change in 1993. There was no evidence of any change in the numbers of self-employed males contributing. Thus future numbers of self-employed males contributing were calculated using the average proportions contributing over the last ten years.

D.4 The analysis of data for all employed females showed evidence of a slight variation of the proportion insured resulting from unemployment and evidence of an underlying upward trend of about one per cent a year. There was no evidence of a change in proportions in line with that observed for employed males in 1993. The overall upward trend was made up of differing trends for different age ranges; proportions increased by up to two per cent a year over ages 20-54, ages 55-59 showed no trend and proportions at ages 15-19 and 60-64 fell by up to three per cent a year. We assumed that these trends for each age range would continue for the next three years and thereafter proportions would remain stable. In order to allow for the effect of unemployment, our 1998 estimate, on which the future estimates were based, used an average of the proportions contributing over the past ten years corrected for the upward trend.

D.5 The number of married women optants has been falling, and legislation to abolish the option has been passed by the States. Therefore there will be no new optants in future. For existing optants we have assumed that the proportion will remain the same as each cohort ages up to age 45-49 (this is consistent with recent experience). After that we have assumed that the proportion for each cohort will decline at the same rate as in recent years. The number of optants has been subtracted from the total number of female contributors to obtain the number of full contributors.

D.6 For self-employed females there is insufficient data to observe any trends. Thus we have assumed that the age-specific proportions of self-employed females contributing would remain constant at their average levels over the past ten years.

Old age pension

D.7 The data on new awards of pension and on pensions in force were consistent with the assumptions made at the last review. We have therefore assumed the same build-up of pension entitlement as for the last review, i.e. the total pension cost for men will rise to the equivalent of 105 per cent of the cost of paying pensions at the full rate to Jersey residents alone, and there will be corresponding rises for females. The abolition of the married women's option will begin to affect pension entitlement from 2027-28. The information that we have suggests that the abolition will produce extra pension of five per cent of standard rate for every woman reaching age 65. We added the cost of this additional pension for women who will no longer be entitled to the option to the total cost of pensions predicted on the basis used in the last review.

Widows' benefits

D.8 We analysed recent experience for widows' benefits taking proportions of widows in the population into account. The last actual figures for proportions of widows in the population were in the 1996 census. We have estimated proportions for subsequent years assuming that proportions change in line with changes in the proportions for England and Wales, making an allowance for the abnormally low proportions of widows aged 50-64. The analysis showed that recent experience for widows' benefits was consistent with the assumptions made at the last review. Thus we used the last review basis unchanged, i.e. we have assumed increases in non-resident beneficiaries consistent with corresponding estimates in the old age pensioners.

Sickness benefit and invalidity benefit

D.9 The numbers entitled to sickness benefit appears to be affected by unemployment levels. After excluding the effect of unemployment there is no discernible trend in sickness benefit. For invalidity benefit, however, the costs have been rising since 1991-92. We have assumed a continued increase in invalidity benefit costs of 3.3 per cent a year for males and 5.0 per cent a year for females for five years.

Injury benefits

D.10 The cost of injury benefit per insured person is consistent with the assumptions made at the last review. We have therefore made the same assumptions as before.

D.11 The cost of disablement benefit, after allowing for changing benefit rates, is consistent with the assumptions made at the last review. We have therefore made the same assumptions as before.

Maternity benefits

D.12 Changes in the cost of maternity allowance per birth, after allowing for changes in benefit rates, have been erratic and it has not been possible to determine a trend. Thus we have assumed that the cost per birth, after allowing for benefit rate increases, will remain constant at 1996-97 levels. For maternity grants, the average size of grant and the ratio of grants to births were consistent with our assumptions at the last review. We therefore used these assumptions unchanged.

Death grant

D.13 The data indicates that the numbers entitled to death grant were building up in line with our previous assumptions. Thus, as in the last review, we have assumed that the ultimate position has been reached in 1998 and that the cost per death will remain constant in future after allowing for changes in benefit rates.

Social assurance pensions and non-contributory pensions

D.14 Those receiving social assurance pensions are a closed group. We assumed the same pattern of cessations of benefit as assumed in the last review.

D.15 Non-contributory pensions to those persons born before 10th September 1896 or their wives or widows were paid from the fund for the first time in 1993-94. We calculated the number of persons eligible for this benefit from the population projections assuming that wives were on average five years younger than their husbands. The future costs were projected by adjusting the cost for 1998 by the number of persons eligible and for changes in benefit rates.

Administration and general expenses

D.16 Costs of administration were found to be strongly correlated to the level of benefit expenditure although they increased slightly faster. Since benefit expenditure will increase relatively faster in future because of the change to upratings in line with earnings, we have assumed that administration costs will increase in future in line with benefit expenditure.

APPENDIX E

ESTIMATED EXPENDITURE

TABLE E1: The estimated future expenditure on benefits and administration in 1997 earnings terms, assuming net future immigration of zero

	1997*	2002	2007	2017	2027	2037	2047	2057
	£000	£000	£000	£000	£000	£000	£000	£000
l age pension	70,063	58,346	63,792	81,787	98,296	112,394	96,616	88,186
dow's benefit	3,855	3,244	3,460	2,737	2,279	948	1,218	1,173
kness benefit	9,388	7,146	7,220	7,236	6,731	5,882	5,854	5,486
alidity benefit	11,520	11,765	12,061	13,773	14,114	10,727	11,499	11,130
ıry	1,638	1,130	1,035	1,024	970	855	840	792
ablement efit	2,543	2,200	2,200	2,200	2,200	2,200	2,200	2,200
ternity benefit	1,884	1,373	1,195	1,164	1,153	1,003	936	917
ıth grant	320	263	265	282	321	361	374	336
ı-contributory sion	60	9	1	0	0	0	0	0
·ial assurance sion	33	19	12	3	0	0	0	0
ninistration	3,435	2,386	2,419	2,820	3,332	3,848	3,630	3,215
al	104,740	87,881	93,660	113,027	129,396	138,216	123,167	113,435

* These cover a period of 15 months.

TABLE E2: The estimated future expenditure on benefits and administration in 1997 earnings terms, assuming net future immigration of 200 a year

	1997*	2002	2007	2017	2027	2037	2047	2057
	£000	£000	£000	£000	£000	£000	£000	£000
ıge pension	70,063	59,306	64,842	83,133	99,914	114,264	103,480	102,656
ɔw's benefit	3,855	3,244	3,460	2,899	1,710	1,284	1,533	1,405
ıess benefit	9,388	7,221	7,398	7,776	7,747	7,203	7,366	7,362
idity benefit	11,520	11,785	11,746	14,141	15,433	13,434	13,939	14,560
y benefit	1,638	1,145	1,086	1,102	1,118	1,045	1,059	1,061
ɔlement fit	2,543	2,200	2,200	2,200	2,200	2,200	2,200	2,200
rnity benefit	1,884	1,410	1,288	1,347	1,355	1,258	1,249	1,257
h grant	320	264	266	283	322	368	387	365
contributory on	60	9	1	0	0	0	0	0
ıl assurance on	33	19	12	3	0	0	0	0
inistration	3,435	2,417	2,451	2,876	3,376	3,919	3,752	3,583
	104,740	89,020	94,750	115,760	133,174	144,975	134,965	134,448

* These cover a period of 15 months.

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[1] The accounts for 1996-97 cover a fifteen-month period from 1st October 1996 to 31st December 1997.

[2] Net of associated expenses.

[3] After adjustment of outgo from 15 months to 12 months equivalent.