

THE EFFECTS OF TAXES AND BENEFITS ON HOUSEHOLD INCOME, 1993

This article examines how the distribution of income amongst households in the UK is modified by government expenditure and taxation. The main findings are:

- The income share of the bottom fifth of households is increased from 2.3% of original income to 6.6% of post-tax income by taxes and benefits.
- The average original income of the top fifth of households is 21 times the average of the bottom fifth, the average final income of the top fifth of households is less than 4 times the average of the bottom fifth.
- Cash benefits make up 70% of the gross income of the bottom fifth of households.
- The top fifth of non-retired households pay 17.9% of their gross income in income tax, the middle fifth pay 11.2%.
- The state pension accounts for 74% of the cash benefits received by retired households.
- The distribution of original income is more equal among non-retired households than retired. But the distribution of post-tax income is more equal among the retired than the non-retired.

In part 2 of this article there is a special section analysing the impact of the tax-benefit system on households ranked according to the proportion of gross income received through cash benefits

Part 1

Introduction

During 1993, the government raised and spent £273 billion. Directly or indirectly most of this revenue was raised from households and the expenditure benefited households. This article examines the impact of government taxation and expenditure on the distribution of income by allocating the revenue to those households which paid the taxes and the expenditure to those households which benefited from it, wherever this is possible. Some outlays and revenue of government cannot readily be allocated to households. For example there is no clear conceptual basis for determining the benefit to each household of expenditure on defence. However, about 57 per cent of government revenue and 55 per cent of government spending in 1993 can be allocated to households (see Table 1 and Table 2, Appendix 1). One of the consequences of this redistribution is to reduce the differences in income amongst households.

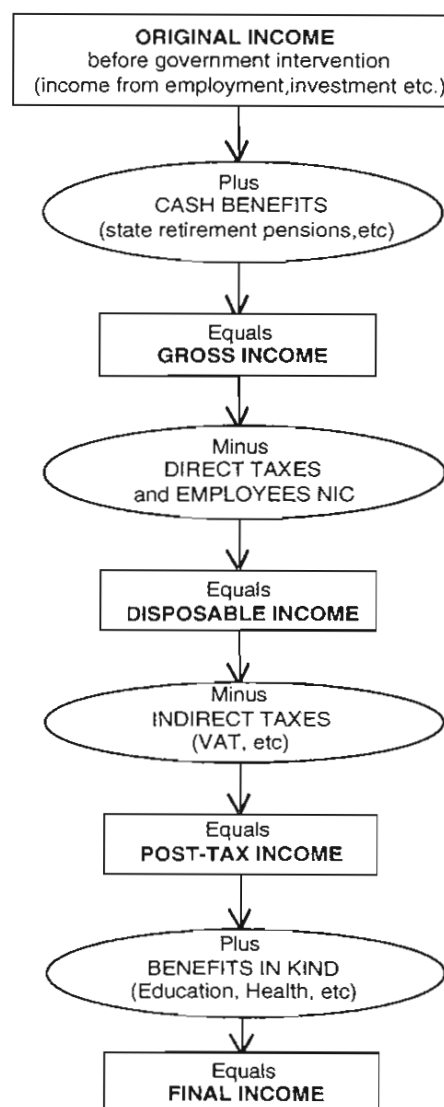
The stages of redistribution of incomes used in this analysis are shown in Chart 1. Household members receive income from their employment; from occupational pensions; from their investments and from other non-government sources. Total income from these sources constitutes original income. The flow chart shows the various ways in which government then raises revenue through taxation on households and distributes benefits to them both in cash and in kind.

The main data source for this analysis is the Family Expenditure Survey (FES) which covers about 7,000 households per year. People living in hotels, lodging houses and in institutions such as old peoples' homes are excluded. The unit of analysis is the household rather than the individual. Being a sample survey its results are subject to the usual sampling errors - these errors are larger for the household groups with smaller sample numbers (see Appendix 3).

The article aims to present the most meaningful figures for 1993. The figures cannot be easily compared with earlier articles in this series because the tax-benefit system and the FES change over time.

CHART 1

Stages of redistribution



Summary of the effects of taxes and benefits by quintile groups of unadjusted disposable income, 1993

TABLE A

	Quintile groups of households ranked by UNADJUSTED disposable income					All households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)¹						
Original income	1 190	4 340	11 650	20 530	42 310	16 000
plus cash benefits	3 790	4 640	3 070	2 000	1 370	2 970
Gross income	4 980	8 980	14 720	22 530	43 680	18 980
less direct taxes ² and employees' NIC	640	1 140	2 490	4 400	9 850	3 710
Disposable income	4 340	7 830	12 220	18 130	33 830	15 270
less indirect taxes	1 140	1 990	2 950	3 800	5 580	3 090
Post-tax income	3 200	5 840	9 280	14 330	28 250	12 180
plus benefits in kind	2 010	3 110	2 920	2 890	3 280	2 840
Final income	5 200	8 950	12 200	17 210	31 530	15 020
Average per household (number)						
Children ³	0.2	0.7	0.7	0.8	0.8	0.6
Adults	1.2	1.6	1.9	2.1	2.4	1.8
Persons	1.4	2.3	2.6	2.9	3.2	2.5
People in full-time education	0.2	0.5	0.6	0.6	0.7	0.5
Economically active people	0.3	0.6	1.2	1.7	2.1	1.2
Retired people	0.7	0.7	0.4	0.2	0.1	0.4
Composition (Percentages)						
Household type						
Retired	60	38	20	10	4	26
Non-retired						
1 adult	20	16	14	9	4	12
2 adults	6	12	26	28	28	20
1 adult with children ⁴	10	14	5	1	1	6
2 adults with children	4	16	24	35	35	23
3 or more adults ⁵	1	4	10	17	28	12
Total	100	100	100	100	100	100

1 The monetary values in the tables in the main body of the article are rounded to the nearest £10.

2 These are income tax (after tax relief at source on mortgage interest and life assurance premiums) and gross Council tax /Community charge /Domestic rates and Water charges but after deducting discounts and Council tax transitional relief.

3 Children are defined as persons aged under 16 or aged between 16 and 18, unmarried and receiving non-advanced further education.

4 This group is smaller than the category of "one parent families" because some of these families will be contained in the larger household types.

5 With or without children.

RESULTS FOR ALL HOUSEHOLDS

Results for households ranked by unadjusted disposable income

When households are ranked by disposable income as in Table A, there is a strong relationship between a household's position in the income distribution and its size: the average number of persons per household is 3.2 for the highest quintile group and 1.4 for the lowest quintile group (the lowest quintile group contains the 20 per cent of households with the lowest disposable income). The bottom quintile group has a high proportion of retired households - defined as households where at least half the total gross income comes from retired people. In contrast, households with 3 or more adults are over-represented in the top quintile group. Further details of the distribution ranked by unadjusted disposable income are shown in Table 9, Appendix 1.

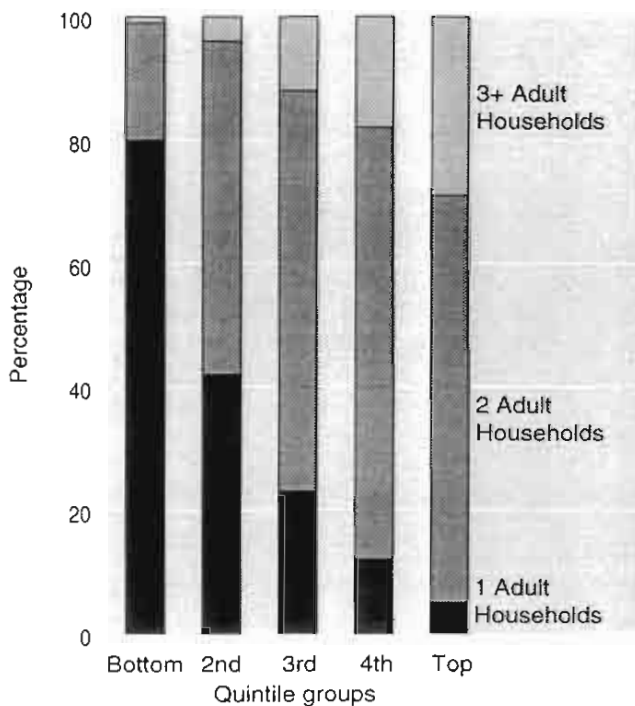
Adjustment for household composition

Using income per household to compare the welfare among households does not allow for differences in their composition and thus the differing demands on resources. One way to take such differences into account is to use income per capita but such a measure does not allow for the differing needs of children relative to adults or for economies of scale within households. This analysis therefore uses equivalence scales designed to take into account household size, family composition and age of children. The remainder of this article refers to households ranked by equivalised disposable income (disposable income divided by the equivalence value of the household). Chart 2 shows how the use of the equivalence scale results in larger households moving down the income distribution and smaller ones moving up. Fuller details of the derivation of the equivalence scale are given in Appendix 3.

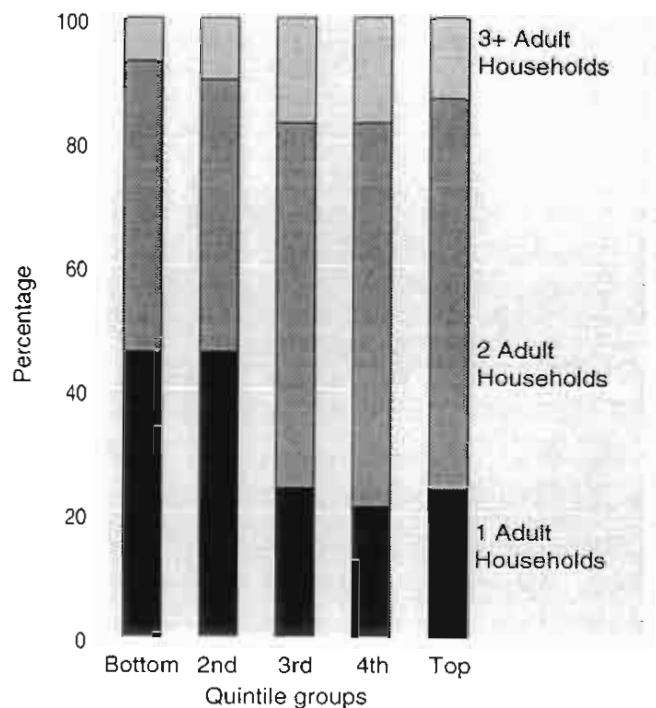
CHART 2

The effect of EQUIVALISATION

Composition of households by quintile groups of UNADJUSTED disposable income.



Composition of households by quintile groups of EQUIVALISED disposable income.



Equivalised income is used only to rank the households. Most monetary values shown in the article are unequivalised. Where equivalised amounts are given, they are shown in *italics*.

Results for households ranked by equivalised disposable income

The level of original income varies widely between households. Table B shows this and other income measures for quintile groups ranked by equivalised disposable income. In the lowest quintile group the average number of economically active people is 0.6 and the chief economic supporter is a full-time employee or self-employed in 13% of the households (Appendix 1, Table 3b). Hence the average original income is low (£1,920 per annum). In the highest quintile group, there are an average of 1.6 economically active people and the chief economic supporter is in full-time employment or self employed in 84% of the households. The average original income is £39,370 for this group. In the lowest quintile group, nearly 40 per cent of the households are retired and the majority of these have virtually no original income since the state retirement pension is a cash benefit.

Chart 3 illustrates the declining importance of cash benefits in gross income as income rises.

Chart 4 shows the average taxes paid and the average benefits received by household in each quintile group. This redistribution of income through the tax-benefit system reduces the dispersion of incomes, so that the average final income for each quintile group ranges from £7,480 to £28,270, a ratio of about 1:4 compared with the ratio for original incomes of about 1:21

An alternative way to illustrate the extent of income redistribution is to examine how income shares are modified by the tax-benefit system (Table C). For example, households in the highest quintile group (when ranked by equivalised disposable income) receive 52 per cent of all original income. After taking into account cash benefits, this same group's share falls to 44 per cent. At the other end of the scale, the share of the lowest quintile group rises from 2.3 per cent to 7.0 per cent. A further, but comparatively smaller, compression of the income distribution occurs at the stage of disposable income, but this is reversed after indirect taxes are taken into account.

The Gini coefficient is the most widely used summary measure of the inequality of the distribution of income (see Appendix 3, paragraph 42). It takes values between 0 and 100 per cent - the higher values indicating greater inequality. The fall from 53 per cent to 38 per cent shown in Table C shows that cash benefits contribute the most to the reduction in income inequality.

Attention has already been drawn to the preponderance of retired households in the lower ranges of the distribution of original income: about 43 per cent of the households in the bottom two quintile groups are retired (Table B). The income pattern of the retired is very different from that of households whose head is of working age, as is their expenditure pattern (which is reflected in their indirect tax payments). For this reason, in the detailed examination of each stage of the tax-benefit system which follows, retired and non-retired households are analysed separately.

Summary of the effects of taxes and benefits by quintile groups of equivalised disposable income, 1993

TABLE B

	Quintile groups of households ranked by EQUIVALISED disposable income					All households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)¹						
Original income	1 920	5 020	12 860	20 850	39 370	16 000
plus cash benefits	4 460	4 350	3 070	1 930	1 060	2 970
Gross income	6 380	9 370	15 930	22 780	40 420	18 980
less direct taxes ² and employees' NIC	790	1 200	2 690	4 530	9 320	3 710
Disposable income	5 590	8 170	13 240	18 250	31 100	15 270
less indirect taxes	1 710	1 950	3 100	3 790	4 900	3 090
Post-tax income	3 870	6 220	10 140	14 460	26 200	12 180
plus benefits in kind	3 610	3 000	3 050	2 490	2 070	2 840
Final income	7 480	9 220	13 190	16 940	28 270	15 020
<i>Equivalised disposable income</i>	<i>5 335</i>	<i>8 103</i>	<i>11 370</i>	<i>15 911</i>	<i>29 567</i>	<i>14 058</i>
Average per household (number)						
Children ³	0.9	0.6	0.7	0.6	0.4	0.6
Adults	1.6	1.7	2.0	2.0	1.9	1.8
Persons	2.5	2.2	2.7	2.6	2.3	2.5
People in full-time education	0.7	0.5	0.6	0.5	0.4	0.5
Economically active people	0.6	0.7	1.3	1.6	1.6	1.2
Retired people	0.6	0.7	0.5	0.3	0.2	0.4
Composition (Percentages)						
Household type						
Retired	39	47	24	15	7	26
Non-retired						
1 adult	10	9	10	13	21	12
2 adults	9	9	20	26	36	20
1 adult with children ⁴	15	9	4	2	1	6
2 adults with children	21	17	27	27	23	23
3 or more adults ⁵	6	9	16	16	12	12
Total	100	100	100	100	100	100

1 All the tables in Part 1 of this article show unequivalised income:equivalised income has only been used in the ranking process to produce the quintile groups (and to produce the percentage shares and Gini coefficients).

2 These are income tax (which is after tax relief at source on mortgage interest and life assurance premiums) and Gross Council tax /Community charge /domestic rates and Water charges but after deducting discounts and Council tax transitional relief.

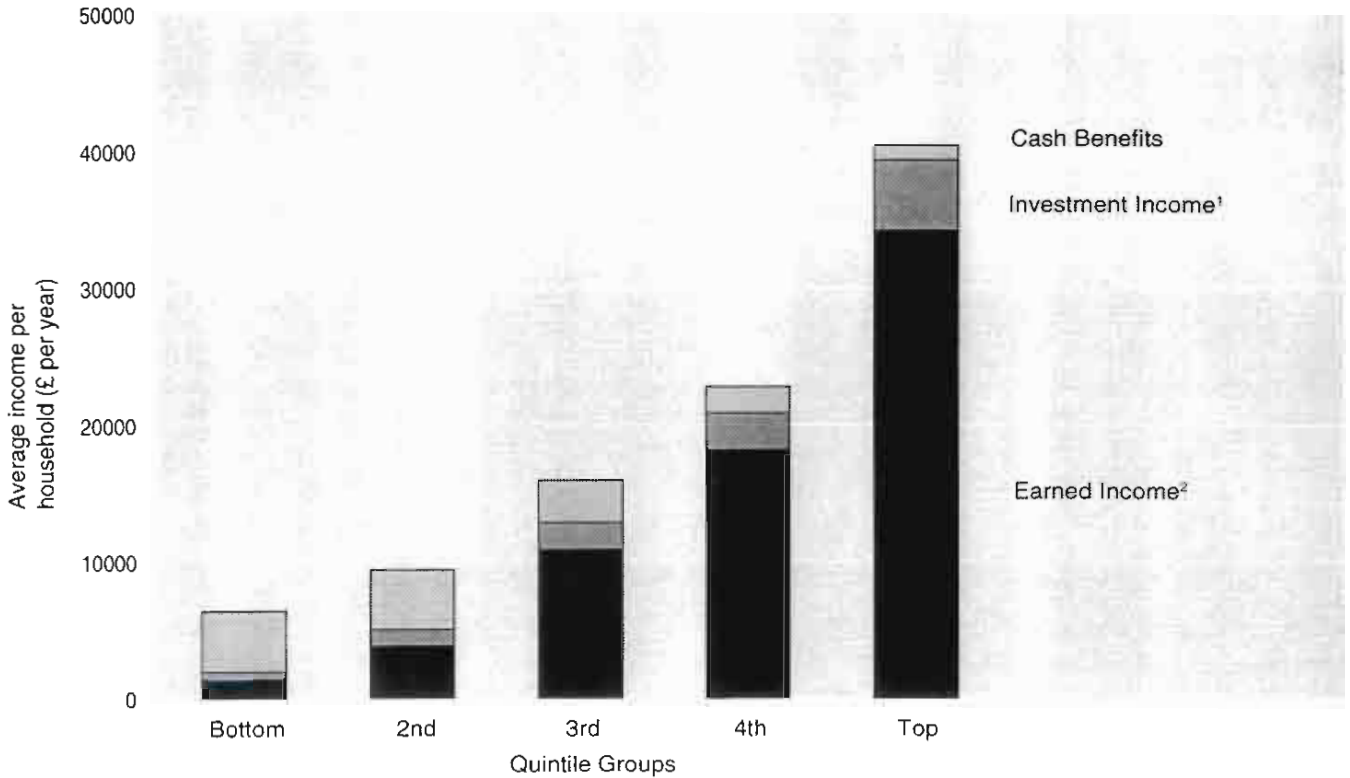
3 Children are defined as persons aged under 16 or aged between 16 and 18, unmarried and receiving non-advanced further education.

4 This group is smaller than the category of "one parent families" because some of these families will be contained in the larger household types.

5 With or without children.

CHART 3

Sources of gross income by quintile groups of equivalised disposable income, 1993

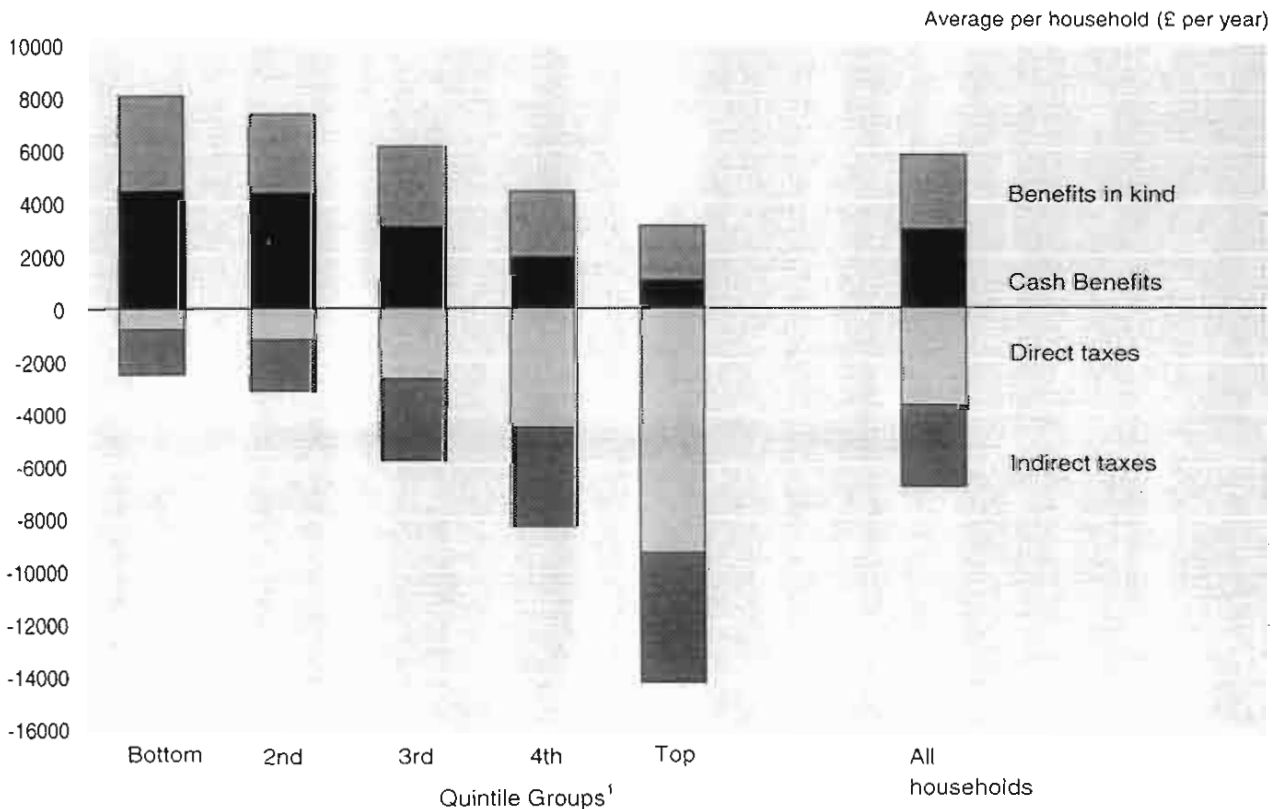


1. Investment income includes occupational pensions and annuities.

2. Earned income includes wages and salaries, income from self-employment and income from "fringe benefits".

CHART 4

Summary of the effects of taxes and benefits on all households, 1993



1. Households are ranked by their equivalised disposable income.

Percentage shares of total household income and Gini coefficients¹, 1993

TABLE C

	Percentage shares of total equivalised income for households ranked by equivalised disposable income			
	Original income	Gross income	Disposable income	Post-tax income
Quintile group				
Bottom	2.3	7.0	7.6	6.6
2nd	6	11	12	11
3rd	15	16	16	16
4th	25	23	23	22
Top	52	44	42	44
All households	100	100	100	100
Decile group				
Bottom	0.9	3.0	3.1	2.5
Top	33	28	27	28
Gini coefficient (percent)	53	38	35	38

¹ This is a measure of the dispersion of each definition of income. Unlike the percentage share analysis where household incomes are ranked only once, the Gini coefficient calculation needs a separate ranking for each definition. For example, the coefficient for original income is produced by first equivalising the original income of all the households, then this distribution is ranked and this ranked distribution is used to calculate the coefficient.

RESULTS FOR NON-RETIRED HOUSEHOLDS

Original income

The distribution of original income amongst non-retired households is more equal than among all households, ranging from an average of £3,040 per annum in the lowest quintile group to £43,420 in the highest (Table D), a ratio of 1:14 compared to the ratio of 1:21 for the distribution over all households. There is a relatively strong relationship between the original income of a household and the number of economically active people it contains. Households in the top three quintile groups have, on average, twice as many economically active members as those in the bottom quintile group.

Chart 5 summarises the effects of the tax-benefit system on non-retired households in different quintile groups.

Cash benefits

Cash benefits are of two types: contributory (paid from the National Insurance Fund to which individuals and their employers make contributions while working), and non-contributory (Table E). For non-retired households, non-contributory benefits form the most important source of cash benefit income. Child benefit payments are higher at the lower end of the income distribution, in proportion to the number of children per household (Table D). The other non-contributory benefits, in particular Income Support, are mainly income-related, and so payments are concentrated in the lowest quintile group, although the presence of some individuals with low incomes in high income households means that some payments are recorded further up the income distribution. Contributory benefits, for which the individual's contribution record rather than income is the criterion for payment, are highest for the second quintile group. On average, cash benefits formed 10 per cent of the gross income of non-retired households: their payment resulted in a significant reduction in income inequality.

Summary of the effects of taxes and benefits on NON-RETIRED households, 1993

TABLE D

	Quintile groups of NON-RETIRED households ranked by equivalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Original income	3 040	10 530	17 950	25 300	43 420	20 050
plus cash benefits	4 510	3 210	1 920	1 160	720	2 310
Gross income	7 550	13 740	19 870	26 460	44 140	22 350
less direct taxes ¹ & employees' NIC	950	2 170	3 800	5 580	10 340	4 570
Disposable income	6 600	11 570	16 070	20 880	33 800	17 780
less indirect taxes	2 060	2 940	3 700	4 150	5 160	3 600
Post-tax income	4 540	8 630	12 370	16 740	28 640	14 180
plus benefits in kind	4 280	3 480	2 960	2 530	1 930	3 040
Final income	8 820	12 110	15 330	19 270	30 570	17 220
<i>Equivalised disposable income</i>	<i>5 541</i>	<i>9 307</i>	<i>13 032</i>	<i>17 742</i>	<i>32 075</i>	<i>15 539</i>
Average per household (number)						
Children ²	1.4	1.0	0.8	0.6	0.4	0.9
Adults	1.7	2.0	2.1	2.1	1.9	2.0
Persons	3.1	3.0	2.9	2.7	2.3	2.8
People in full-time education	1.1	0.9	0.7	0.5	0.4	0.7
Economically active people	0.9	1.5	1.8	1.8	1.7	1.5
Retired people	0.0	0.1	0.1	0.1	0.0	0.1

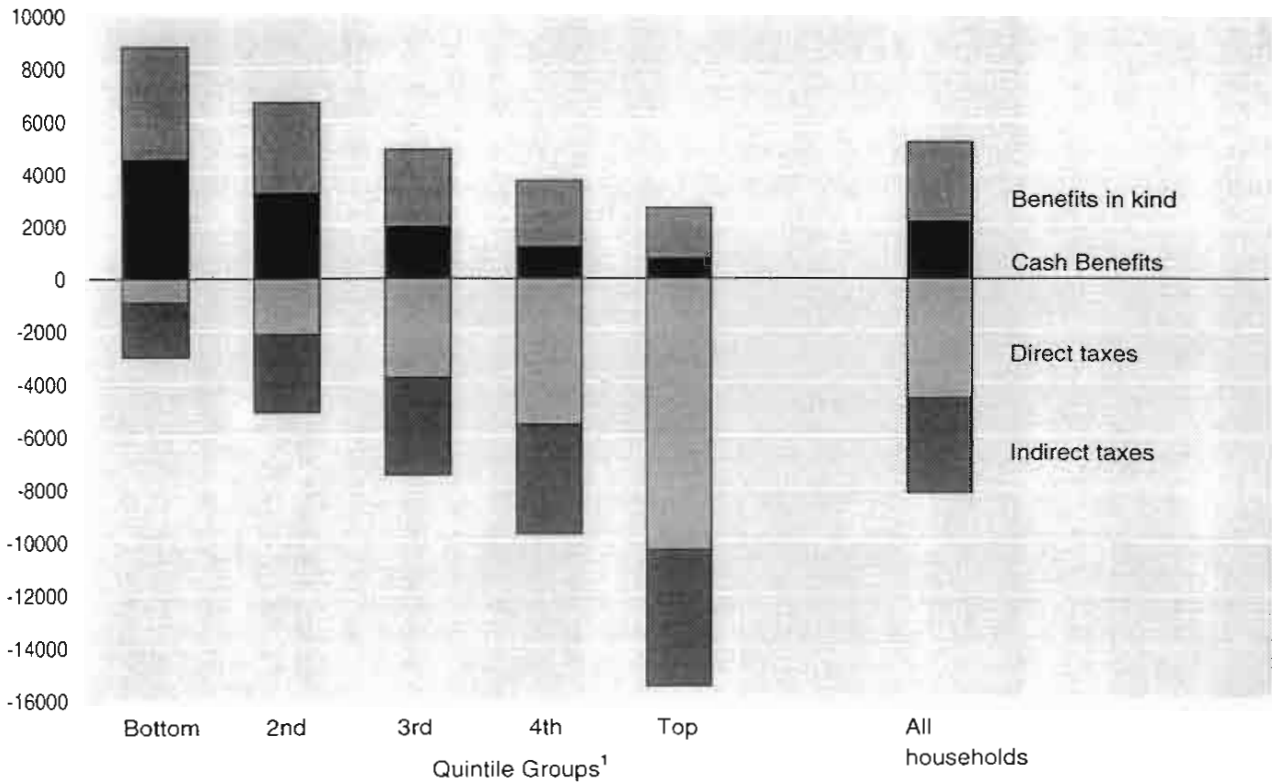
¹ These are income tax (which is after tax relief at source on mortgage interest and life assurance premiums) and Gross Council tax /Community charge /domestic rates and Water charges but after deducting discounts and Council tax transitional relief.

² Children are defined as persons aged under 16 or aged between 16 and 18, unmarried and receiving non-advanced further education.

CHART 5

Summary of the effects of taxes and benefits on non-retired households, 1993

Average per household (£ per year)



1. Households are ranked by their equivalised disposable income.

Average value of cash benefits for each quintile group of NON-RETIRED households, 1993

TABLE E

	Quintile groups of NON-RETIRED households ranked by equivalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Contributory						
Retirement pension	70	360	310	250	150	230
Sickness/injury related	370	440	260	180	90	270
Unemployment benefit	90	90	80	40	30	60
Other	80	90	70	50	90	80
Total contributory	600	980	710	510	360	640
Non-contributory						
Income support	1 800	700	240	110	20	570
Child benefit	670	500	390	300	210	420
Housing benefit	960	490	150	50	20	330
Sickness/disablement related	120	290	290	110	50	170
Other	350	250	140	80	60	170
Total non-contributory	3 910	2 230	1 210	650	360	1 670
Total cash benefits	4 510	3 210	1 920	1 160	720	2 310
Cash benefits as a percentage of gross income						
	60	23	10	4	2	10

Income tax, employees' NIC and local taxes² as percentages of gross income for each quintile group of NON-RETIRED households, 1993

TABLE F

	Quintile groups of NON-RETIRED households ranked by equivalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	Top	
Percentages						
Income tax ¹	3.2	7.6	11.2	13.6	17.9	13.4
Employees' NIC	1.9	3.9	4.7	4.9	3.9	4.1
Local taxes ²	7.4	4.4	3.2	2.6	1.7	2.9
Total	12.6	15.8	19.1	21.1	23.4	20.4

1 After tax relief at source on mortgage interest and life assurance premiums.
2 Gross Council tax, Community charge, Domestic rates and Water charges but after deducting discounts and Council tax transitional relief.

Income tax, NI contributions and local taxes

Both income tax payments and employees' National Insurance contributions are closely related to the size of original income. The payments by households of employees' National Insurance contributions in particular vary with the number of persons in employment and with their earnings. However, since National Insurance contributions are only levied on the first £420 of weekly earnings (the ceiling in operation during most of 1993), households in the top quintile group pay rather less in contributions as a percentage of gross income than the 3rd and 4th quintile groups of households (Table F).

Indirect taxes as a percentage of (a) disposable income and (b) expenditure on goods and services for each quintile group of NON-RETIRED households, 1993

TABLE G

	Quintile groups of NON-RETIRED households ranked by equivalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	Top	
(a) Percentages of disposable income						
VAT	11.2	9.9	9.5	8.6	7.1	8.6
Duty on beer and cider	1.0	0.9	0.9	0.8	0.5	0.7
Duty on wines and spirits	0.8	0.7	0.7	0.6	0.7	0.7
Duty on tobacco	5.5	3.3	2.2	1.3	0.5	1.7
Duty on hydrocarbon oils	2.4	2.2	2.1	1.9	1.2	1.8
Vehicle excise duty	0.8	0.7	0.7	0.6	0.4	0.6
Other taxes on final goods and services	2.3	1.8	1.7	1.2	0.9	1.4
Intermediate taxes	7.1	5.8	5.3	4.8	3.9	4.9
Total indirect taxes	31.2	25.4	23.0	19.9	15.3	20.2
(b) Percentages of expenditure on goods and services¹						
VAT	8.1	8.7	9.0	9.0	8.8	8.8
Duty on beer and cider	0.7	0.8	0.9	0.8	0.6	0.7
Duty on wines and spirits	0.6	0.6	0.6	0.6	0.8	0.7
Duty on tobacco	4.0	2.9	2.0	1.4	0.6	1.8
Duty on hydrocarbon oils	1.8	1.9	2.0	2.0	1.5	1.8
Vehicle excise duty	0.6	0.6	0.7	0.6	0.5	0.6
Other taxes on final goods and services	1.7	1.6	1.6	1.3	1.2	1.4
Intermediate taxes	5.1	5.1	5.0	5.1	4.9	5.0
Total indirect taxes	22.5	22.3	21.8	20.8	18.8	20.8

¹ See paragraph 30 of Appendix 3 for the definition of expenditure.

Income tax was, on average, 3.2 per cent of gross income in the lowest quintile, rising steadily to 17.9 per cent in the top quintile. As the quintile groups are based on equivalised disposable income, ie after direct tax, even the lowest quintile contains individuals who are liable for income tax.

Council tax (in Great Britain from April 1993), community charge and domestic rates (in Northern Ireland) are included here with income tax and NICs in line with the treatment of council tax and community charge in the National Accounts. Rebates on these local taxes are included as part of housing benefit in Table E. Table F overstates the regressive impact of local taxation at the lower end of the income distribution, since low income households are likely to be receiving these rebates.

Indirect taxes

Households' payments of indirect taxes are estimated from their expenditure recorded in the FES. Because the data on expenditure and incomes in the FES are compiled in different ways, they are not fully compatible (see Appendix 3, paragraph). Indeed, measured expenditure substantially exceeds measured income in the bottom decile group of households.

In total, indirect taxes expressed as a proportion of disposable income fall as disposable income rises (upper part of Table G), though the highest quintile pay most in indirect taxes in cash terms. The impact of indirect taxes declines for the top quintile groups partly because higher income households channel an increased proportion of their disposable income into savings, investments and mortgage payments.

Because of the imbalance between measured income and expenditure already mentioned, Table G also shows estimates of indirect tax payments expressed as a percentage of *expenditure* on goods and services (in the lower part of the table). When assessed in this way, indirect taxes, with the exception of tobacco duty, rise broadly in line with expenditure.

Benefits in kind

The Government provides certain goods and services to households either free at the time of use or at subsidised prices. These benefits in kind are allocated to individual households in order to arrive at final income. The imputed value of these benefits is based on estimated costs of providing them. The largest two items for which such imputations are made are the health and education services, which together accounted for 24.2 per cent of total general government expenditure in 1993. Other items for which imputations are made are school meals and welfare milk, the housing subsidy and travel subsidies, together accounting for a further 1.2 per cent of general government expenditure.

Education benefit is attributed to households according to the members' usage of state education (see Appendix 3, paragraph 32). The bottom quintile group contains the highest number of children and consequently the highest number of those in full-time education (Table D). This is the main reason for this quintile group being allocated the highest average imputed benefit (Table H). In addition, the majority of student-only households, for whom the costs of education are greatest, are in this quintile group. Similarly the impact of expenditure on school meals and welfare milk is greatest in the lower income groups where children are more likely to have school meals provided free of charge.

Average value of benefits in kind for each quintile group of NON-RETIRED households, 1993

TABLE H

	Quintile groups of NON-RETIRED households ranked by equivalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Education	2 540	1 900	1 530	1 180	750	1 580
National health service	1 440	1 430	1 330	1 250	1 08	1 310
Housing subsidy ¹	110	70	30	20	0	50
Travel subsidies	30	50	50	70	90	60
School meals and welfare milk	150	30	10	10	10	40
Total	4 280	3 480	2 960	2 530	1 930	3 040
Benefits in kind as a percentage of post-tax income						
	94	40	24	15	7	21

¹ Does not include tax relief at source on mortgage payments. These are taken into account in the income tax payments shown in Table F.

The benefit from the health service is estimated according to the age and sex of the household members (see Appendix 3, paragraph 34). Table H indicates that the distribution of these benefits is fairly equal across the lower two quintile groups and then the benefits decline as income goes up.

The housing subsidy (see Appendix 3, paragraph 35) has been spread between public sector tenants, and since such households tend to be concentrated in the lower half of the income distribution this is where the imputed benefit is highest.

Travel subsidies cover the passenger element of the grants made to various public operations covering both buses and railways. The use of public transport by non-retired households is partly related to the need to travel to work and thus to the number of economically active people in a household and so the combined effect of these travel subsidies increases over the income distribution.

Table H shows that taken together the absolute values of these benefits in kind clearly decline as household income increases. The ratio of benefits in kind to post-tax income decrease from 94 per cent in the lowest quintile group to 7 per cent in the highest quintile group, indicating that this expenditure contributes to the reduction in income inequality.

Summary

The overall effect of the various stages of the tax-benefits system on non-retired households is summarised in Table J. Households in the highest quintile group receive 47 per cent of all (equivalised) original income, compared with 2.7 per cent received by the lowest quintile group. However, after direct taxes and benefits are taken into account, the share of the lowest quintile group rises to 7.1 per cent and that of the highest falls to 4.1 per cent. Cash benefits are the

Percentage shares of total household income and Gini coefficients¹ for NON-RETIRED households, 1993

TABLE J

Quintile group	Percentage shares of total equivalised income for NON-RETIRED households ranked by equivalised disposable income			
	Original income	Gross income	Disposable income	Post-tax income
Bottom	2.7	6.5	7.1	6.1
2nd	9	11	12	11
3rd	16	16	17	16
4th	25	23	23	23
Top	47	43	41	44
All non-retired households	100	100	100	100
Decile group				
Bottom	0.9	2.7	2.9	2.2
Top	30	27	26	28
Gini coefficient (percent)				
	46	37	34	38

¹ This is a measure of the dispersion of each definition of income. Unlike the percentage shares analysis where the household incomes are ranked only once, the Gini coefficient calculation needs a separate ranking for each income definition. For example, the coefficient for original income is produced by first equivalising the original income of all the households, then this distribution is ranked and this ranked distribution is used to calculate the coefficient.

major factor underlying these changes, causing the Gini coefficient to fall from 46 per cent based on original income to 37 per cent based on gross income. Income tax, employees' National Insurance contributions and rates produced a further reduction in inequality, but payment of indirect taxes increases inequality.

RESULTS FOR RETIRED HOUSEHOLDS

Retired households (see Appendix 3, paragraph 8 for definition) have quite distinct income and expenditure patterns and so the tax-benefit system affects them in a different way from non-retired households (Table K). Few retired households have substantial original income; those who do are concentrated in the top two quintile groups and are receiving occupational pensions. The majority of retired households are dependent on cash benefits, in the form of state retirement pensions and income-related benefits such as Housing Benefits and Income Support to pensioners.

Cash benefits form a very high proportion of gross income for all but the better-off retired households. However, unlike non-retired households, the bulk of these cash benefits (80 per cent) are paid from the National Insurance Fund into which the recipients will have made contributions throughout their working lives. Non-contributory benefits are lowest for the bottom quintile group as nearly 80% of these households are owner-occupiers (Table 5b, Appendix 1) and, therefore, not eligible for housing benefit.

All households except those in the highest quintile group of retired households pay very little income tax, because their income is unlikely to exceed their tax allowances unless they have significant income from investments or occupational pensions in addition to their state retirement pension. The top quintile group pays nearly twice as much indirect tax as the average for all retired households.

Summary of the effects of taxes and benefits on RETIRED households, 1993

TABLE K

	Quintile groups of RETIRED households ranked by equivalised disposable income					All retired house- holds
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Original income						
Earnings	30	50	120	310	650	230
Occupational pensions	360	730	1 200	3 340	9 290	2 980
Investment income	290	270	610	1 170	5 220	1 510
Other income	10	70	60	60	40	50
Total original income	680	1 120	1 990	4 870	15 210	4 770
plus Contributory benefits	3 440	3 810	3 750	4 070	4 000	3 820
Non-contributory benefits	580	1 070	1 310	1 260	850	1 010
Gross income	4 700	6 000	7 050	10 200	20 050	9 600
less Income tax ¹	70	80	160	530	2 800	730
Employees'NIC	0	0	0	10	30	10
Local taxes ²	550	510	520	590	700	570
Disposable income	4 080	5 410	6 360	9 070	16 520	8 290
less Indirect taxes	1 190	1 170	1 270	1 940	2 840	1 680
Post-tax income	2 890	4 250	5 100	7 130	13 680	6 610
plus National health service	2 250	2 060	2 150	2 160	2 020	2 130
Housing subsidy ³	30	80	100	50	20	60
Other benefits in kind	140	90	90	180	110	120
Final income	5 310	6 470	7 440	9 520	15 820	8 910
<i>Equivalised disposable income</i>	<i>5 061</i>	<i>6 885</i>	<i>8 153</i>	<i>10 502</i>	<i>19 119</i>	<i>9 943</i>

1 After tax relief at source on mortgage interest and life assurance premiums.

2 Gross Council tax, Community charge, Local rates and Water charges but after deducting discounts and Council tax transitional relief.

3 Does not include tax relief at source on mortgage payments, which is included in the income tax payments shown above.

Retired households derive significant benefits from health services and, to a lesser extent, the housing subsidy and travel subsidies, though of course virtually none from the education service. Health benefit is spread fairly evenly within the group of retired households, but housing subsidy is substantially higher for the second and third quintile groups since they have the highest concentration of public sector tenants. The benefits received by retired households from travel subsidies are mainly for bus travel, particularly in the form of concessionary fares, passes, etc. for senior citizens, and since these are not usually means-tested but depend instead on what sort of scheme is being operated by their local authority, there is no particular relationship with income.

Table L shows the extent to which income inequality amongst retired households is reduced by the tax-benefit system. Cash benefits play by far the largest part in bringing about this reduction and income tax payments make a further, though much smaller, contribution. Payments of indirect taxes result in an increase in inequality.

A comparison of Table L with Table J shows that although the distribution of original income amongst retired households is much more unequal than that within the non-retired household group, the distribution of post-tax income is more equal amongst the retired than amongst the non-retired.

Chart 6 illustrates the impact which the tax-benefit system has on retired households in different quintile groups.

Percentage shares of total household income and Gini coefficients¹ for RETIRED households, 1993

TABLE L

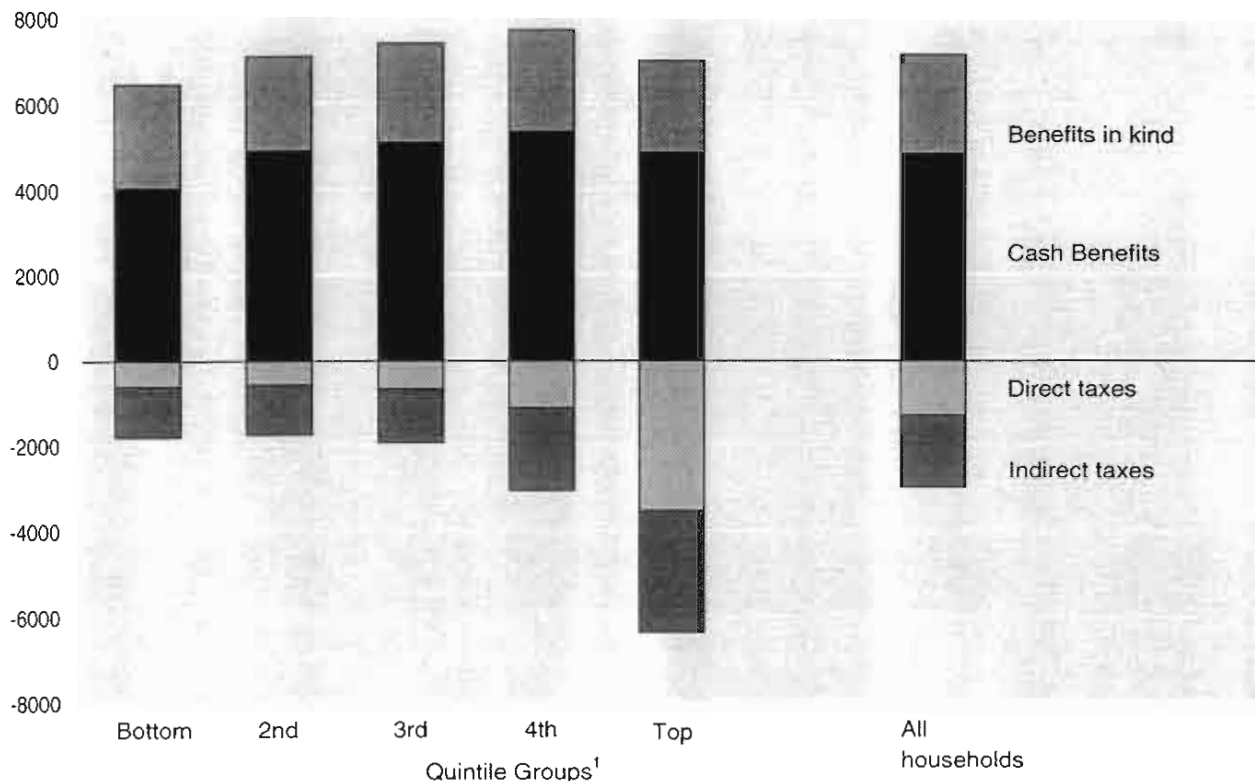
	Percentage shares of total equivalised income for RETIRED households ranked by equivalised disposable income			
	Original income	Gross income	Disposable income	Post-tax income
Quintile group				
Bottom	3.0	10.1	10.2	9.1
2nd	5	13	14	14
3rd	8	16	16	17
4th	20	21	21	21
Top	64	40	38	40
All retired households	100	100	100	100
Decile group				
Bottom	1.1	4.5	4.4	3.5
Top	45	26	24	26
Gini coefficient (percent)	67	30	28	32

1 This is a measure of the dispersion of each definition of income. Unlike the percentage shares analysis where the household incomes are ranked only once, the Gini coefficient calculation needs a separate ranking for each income definition. For example, the coefficient for original income is produced by first equivalising the original income of all the households, then this distribution is ranked and this ranked distribution is used to calculate the coefficient.

CHART 6

Summary of the effects of taxes and benefits on retired households, 1993

Average per household (£ per year)



1. Households are ranked by their equivalised disposable income.

PART 2 - HOUSEHOLDS RANKED BY CASH BENEFITS AS A PROPORTION OF GROSS INCOME

This section considers the impact of the tax-benefit system on households ranked according to the proportion of gross income received through cash benefits. This ranking is not intended to provide a measure of the financial well-being of households. Contributory benefits and some non-contributory benefits, such as child benefit and disability benefits, are not means-tested and are thus independent of other household income. In addition, means-tested benefits are paid to some individuals with low incomes in high income households.

Non-retired households

For the purpose of this analysis, the households are divided into 5 groups according to their "dependency" on cash benefits, i.e. the ratio of cash benefits to gross income. By far the largest group is that of households receiving less than 10% of their gross income from cash benefits. This group accounts for 63% of all non-retired households. The other four groups each contain between 8% and 11% of the households.

Characteristics of households

Households most dependent on benefits have, on average, the fewest adults and the most children (Table N). The average number of people in households is highest for those households receiving between 10% and 50% of their income from benefits.

One adult households and one adult with children households are over represented among those more than 50% dependent on benefits. Two adult households both with and without children are over

represented among those with a low ratio of benefits.

In 89% of the households in the group least dependent on benefits, the chief economic supporter is either self-employed or in full-time employment. This percentage drops as the level of dependency rises.

Cash benefits

Non-contributory benefits, in particular income support and housing benefit, are the main income source for those households most dependent on benefits (Table M). Contributory benefits are highest for households receiving between 10% and 50% of income from benefits. These households have more members in receipt of retirement pension. For those households with the lowest benefit ratio, child benefit accounts for over two-thirds of all cash benefits.

Direct taxes

Amongst the group of households most dependent on benefits, very few pay income tax or NI contributions. The average income tax is negative for this group because of tax rebates and tax relief obtained through the MIRAS scheme. Income tax and NI contributions increase in cash terms and as a percentage of gross income in moving from the group of households most dependent on benefits to the group least dependent on benefits.

Indirect taxes

The payment of most indirect taxes increases in cash terms as the ratio of benefits to income falls. The exception is duty on tobacco which is lowest for the households least dependent on benefits.

Average incomes, taxes and benefits of NON-RETIRED households ranked by cash benefits as a proportion of gross income, 1993

TABLE M

Cash benefits as a proportion of gross income	Households ranked by cash benefits as a proportion of gross income					All non-retired households
	95-100%	50-95%	25-50%	10-25%	0-10%	
Number of households in the sample	568	395	412	515	3 242	5 132
Average per household (£ per year)						
Original income						
Earnings	7	1 552	7 561	14 417	25 863	18 513
Investment income and occupational pensions	7	484	1 149	1 639	1 415	1 189
Other income	12	399	376	378	389	346
Total	26	2 435	9 085	16 434	27 668	20 047
Direct benefits in cash						
Contributory						
Retirement pension	43	443	1 098	827	27	227
Unemployment benefit	62	125	140	168	31	64
Sickness / disablement related	656	797	820	479	32	268
Other contributory benefits	81	167	186	155	37	76
Non-contributory						
Income support	3 019	1 719	705	329	28	574
Child benefit	628	556	403	463	355	415
Housing benefit	1 725	1 128	428	121	16	334
Sickness / disablement related	507	475	642	200	12	172
Family credit	17	253	244	107	2	53
Student grants	87	319	284	143	16	81
Other non-contributory benefits	72	83	57	111	16	40
Total cash benefits	6 896	6 065	5 007	3 101	573	2 305
Gross income	6 921	8 501	14 093	19 536	28 240	22 352
Direct taxes and Employees' NIC						
Income tax (net of tax relief at source)	-42	43	845	1 971	4 330	3 000
Employees' NI contributions	4	54	369	758	1 292	926
Local taxes ¹	517	525	618	670	677	642
Total	479	622	1 832	3 400	6 299	4 569
Disposable income	6 443	7 879	12 261	16 136	21 941	17 784
<i>Equivalised disposable income</i>	<i>6 298</i>	<i>7 325</i>	<i>10 076</i>	<i>12 587</i>	<i>19 321</i>	<i>15 539</i>
Indirect taxes						
Taxes on final goods and services						
VAT	546	786	1 208	1 515	1 824	1 522
Duty on tobacco	357	343	458	386	265	309
Duty on alcohol	76	120	247	255	290	246
Duties on private motoring and transport	120	198	343	450	494	413
Other taxes on final goods and services	132	197	205	254	272	243
Intermediate taxes	353	474	687	880	1 023	865
Total indirect taxes	1 584	2 118	3 148	3 740	4 168	3 600
Post-tax income	4 858	5 761	9 112	12 396	17 773	14 184
Benefits in kind						
Education	2 079	2 310	1 965	1 750	1 329	1 581
National health service	1 359	1 303	1 540	1 804	1 190	1 307
Housing subsidy	148	105	71	47	18	47
Travel subsidies	26	42	65	61	65	59
School meals and welfare milk	200	111	44	18	9	42
Total	3 813	3 871	3 685	3 679	2 613	3 035
Final income	8 671	9 632	12 798	16 075	20 386	17 220

¹ Gross Council tax, Community charge, Rates and Water charges but after deducting discounts and transitional relief.

Characteristics of NON-RETIRED households ranked by cash benefits as a proportion of gross income, 1993

TABLE N

Cash benefits as a proportion of gross income	Households ranked by cash benefits as a proportion of gross income					All non-retired households
	95-100%	50-95%	25-50%	10-25%	0-10%	
Number of households in the sample	568	395	412	515	3 242	5 132
Average per household (number)						
Children	1.3	1.0	0.8	1.0	0.8	0.9
Adults	1.5	1.7	2.2	2.3	2.0	2.0
People	2.7	2.7	3.0	3.2	2.8	2.8
People in full-time education	0.9	0.9	0.8	0.8	0.6	0.7
Retired people	0.0	0.1	0.3	0.3	0.0	0.1
Composition (percentages)						
Household type						
1 adult	27	19	11	8	17	17
2 adults	12	20	31	26	31	27
1 adult with children	32	32	9	5	2	8
2 adults with children	23	18	23	33	35	31
3 or more adults	6	12	27	28	15	16
Age of chief economic supporter						
Under 25	15	15	14	7	7	9
Over 24 and under 35	32	27	21	27	29	28
Over 34 and under 45	20	22	24	30	28	26
Over 44 and under 55	16	12	19	20	24	22
Over 54 and under 65	17	17	15	14	12	13
Over 64	-	7	8	3	0	2
Employment status of chief economic supporter						
Self-employed	0	4	10	14	11	10
Full-time employee at work	-	4	42	64	78	60
Part-time employee at work	1	24	21	10	5	8
Unemployed	31	21	15	10	4	10
Unoccupied and under minimum NI age	65	45	12	2	1	13
Retired or Unoccupied and over minimum NI age	-	1	-	0	-	0
Other	4	1	0	-	0	1

Benefits in kind

Benefits in kind are fairly flat across the first four groups in cash terms but fall for the households least dependent on benefits. The cost of education is higher for a pupil in secondary school than for a pupil in primary school and higher still for a student in further education. Education benefit is highest for households receiving between 50% and 95% of income from cash benefits as this group have, on average, older children than the group most dependent on benefits. The imputed cost of health care rises for older people and so the benefit from the health service is highest for those households receiving between 10% and 50% of income from benefits as these households contain more retired people. The impact of government expenditure on school meals and welfare milk falls as dependency on cash benefits decreases. The pattern for housing subsidy is similar as households most dependent on benefits are more likely to be public sector tenants.

Retired households

As the majority of retired households receive substantial amounts of cash benefit through the state retirement pension, the distribution of households across the five groups is distinctly different from that of the non-retired households (Table P). Over two-thirds of retired households receive more than 50% of their gross income through benefits. Fewer than one in twenty households receive less than 10% of their income through benefits. However, for most of this group, the head of household is below state retirement age and thus not eligible for the state pension.

Average incomes, taxes and benefits of RETIRED households ranked by cash benefits as a proportion of gross income, 1993

TABLE P

Cash benefits as a proportion of gross income	Households ranked by cash benefits as a proportion of gross income					All retired households
	95-100%	50-95%	25-50%	10-25%	0-10%	
Number of households in the sample	483	767	373	136	88	1 847
Average per household (£ per year)						
Original income						
Earnings	1	64	409	754	1 398	232
Occupational pensions	12	1 253	5 301	11 210	11 834	2 983
Investment income	30	529	2 229	6 287	7 751	1 510
Other income	3	80	62	12	14	48
Total original income	46	1 926	8 001	18 263	20 998	4 773
plus Contributory benefits	3 434	4 173	4 326	3 838	594	3 815
Non-contributory benefits	2 190	891	275	177	36	1 013
Gross income	5 669	6 989	12 601	22 278	21 628	9 601
less Income tax ¹	0	123	1 130	3 512	4 002	728
Employees' NIC	0	1	18	34	63	10
Local taxes ²	469	549	661	735	769	575
Disposable income	5 200	6 317	10 792	17 997	16 794	8 288
<i>Equivalised disposable income</i>	<i>7 201</i>	<i>7 599</i>	<i>12 315</i>	<i>20 826</i>	<i>18 538</i>	<i>9 943</i>
less indirect taxes	912	1 420	2 213	3 053	3 783	1 680
Post-tax income	4 288	4 896	8 579	14 944	13 011	6 607
plus National health service	2 138	2 250	2 110	2 039	1 213	2 127
Housing subsidy ³	105	63	14	2	8	57
Other benefits in kind	86	109	142	119	334	121
Final income	6 618	7 318	10 844	17 104	14 566	8 913
<i>Number of people per household</i>	<i>1.3</i>	<i>1.6</i>	<i>1.7</i>	<i>1.7</i>	<i>1.8</i>	<i>1.5</i>
Percentages						
Number of 1 adult households	72	49	41	36	27	51
Number of 2 adult households	27	48	54	60	65	45
Number of 3 or more adult households	2	3	5	4	8	3
Households with male heads	40	59	70	79	94	60
Households with female heads	60	41	30	21	6	40
Age ranges of heads of household						
Under 60	0	1	3	5	31	3
Over 59 and under 65	7	5	9	13	56	10
Over 64 and under 70	19	23	32	32	6	23
Over 69 and under 75	23	29	26	21	3	25
Over 74 and under 85	37	34	26	26	3	31
85 and over	12	7	5	3	1	7

1 After tax relief at source on mortgage interest and life assurance premiums.

2 Gross Council tax, Community charge, Local rates and Water charges but after deducting discounts and Council tax transitional relief.

3 Does not include tax relief at source on mortgage payments, which is included in the income tax payments shown above.

Detailed tables for 1993

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A table showing the average incomes, taxes and benefits for 1993 by quintile groups within household type is available from the CSO on request.

General government expenditure in 1993

TABLE 1 (Appendix 1)

	£ million	Percentage of total expenditure
Allocated expenditure¹		
Allocated cash benefits		
Contributory (National Insurance, etc)		
Retirement	28 390	10.4
Widows and guardians	1 030	0.4
Unemployment	1 690	0.6
Sickness / Statutory sick pay	1 000	0.4
Invalidity	6 800	2.5
Maternity / Statutory maternity pay	460	0.2
Other	410	0.2
Non-contributory		
Family benefits	7 610	2.8
Income support	16 730	6.1
War pensions	1 090	0.4
Other	6 700	2.5
Student maintenance grants ²	1 100	0.4
Rent rebates and allowances	8 540	3.1
Allocated benefits in kind		
Health services	35 680	13.1
Education	30 360	11.1
School meals and welfare milk	740	0.3
Housing subsidy	1 220	0.4
Travel subsidies ³	1 430	0.5
	<u>150 980</u>	<u>55.3</u>
Unallocated expenditure		
Other current expenditure	84 660	31.0
Capital expenditure	15 460	5.7
Debt interest	18 450	6.8
Non-trading capital consumption	3 310	1.2
Total expenditure	<u>272 850</u>	<u>100.0</u>

1 Including benefits to people not living in private households. It is not possible (for the reasons given in Appendix 3, paragraph 1) to allocate all of Government expenditure to households.

2 Estimated.

3 Including concessionary fares expenditure.

Source: United Kingdom National Accounts, 1994 edition, Table 9.4

Financing of general government expenditure in 1993

TABLE 2 (Appendix 1)

	£ million	Percentage of total financing
Allocated financing¹		
Income tax ²	57 680	21.1
Employees' and self-employed NI contributions	15 800	5.8
Council tax / Community charge	8 000	2.9
Taxes on final goods and services		
VAT	29 670	10.9
Duty on beer and cider	2 460	0.9
Duty on wines and spirits	2 680	1.0
Duty on tobacco	6 120	2.2
Duty on hydrocarbon oils	5 790	2.1
Vehicle excise duty	2 350	0.9
Other	4 230	1.6
Taxes and NI contributions on intermediate goods and services		
Employers' NI contributions	7 450	2.7
Commercial and industrial rates	5 780	2.1
Duty on hydrocarbon oils	3 350	1.2
VAT	2 390	0.9
Vehicle excise duty	630	0.2
Other	950	0.3
	<u>155 310</u>	<u>56.9</u>
Unallocated financing		
Employers' NI contributions not allocated	15 250	5.6
Taxes on expenditure not allocated	24 980	9.2
Other taxes		
Corporation tax	15 010	5.5
Petroleum revenue tax	380	0.1
Taxes on capital	2 390	0.9
Other receipts ³	11 870	4.4
Non-trading capital consumption	3 310	1.2
General government borrowing requirement	<u>44 330</u>	<u>16.2</u>
Total financing	<u>272 850</u>	<u>100.0</u>

1 Including taxes paid by people not living in private households.

2 Net of tax relief at source on mortgage interest and life assurance premiums.

3 Receipts of rent, royalties and licence fees on oil and gas production, interest, dividends, trading income and miscellaneous transactions (net).

Source: United Kingdom National Accounts, 1994 edition, Table 9.1

Average incomes, taxes and benefits by decile groups of ALL households, 1993

TABLE 3A (Appendix 1)

	Decile groups of households ranked by equivalised disposable income										All households
	Bottom	2nd	3rd	4th	5th	6th	7th	8th	9th	Top	
Average per household (£ per year)											
Decile points (equivalised £)	5 557	6 880	8 052	9 542	11 298	13 350	15 786	19 087	24 982		
Number of households in the sample	698	698	698	698	698	697	698	698	698	698	6 979
Original income											
Wages and salaries	605	1 296	2 369	4 044	8 265	11 012	14 551	17 864	24 351	33 924	11 828
Imputed income from benefits in kind	4	23	16	9	64	106	233	367	576	1 254	265
Self-employment income	409	385	405	756	991	1 293	1 556	1 698	1 573	6 745	1 581
Occupational pensions, annuities	147	327	503	866	1 039	1 398	1 358	1 782	1 469	2 494	1 138
Investment income	194	179	239	487	472	668	695	1 075	1 485	3 758	925
Other income	113	166	152	198	220	192	233	287	529	579	267
Total	1 471	2 376	3 684	6 360	11 050	14 669	18 626	23 072	29 983	48 754	16 005
Direct benefits in cash											
Contributory											
Retirement pension	1 098	1 663	1 786	1 814	1 198	1 011	772	685	466	417	1 091
Unemployment benefit	65	64	69	47	59	59	56	40	33	20	51
Invalidity pension and allowance	160	301	385	257	367	291	209	209	138	41	236
Statutory sick pay	2	4	6	9	17	14	20	26	19	8	13
Sickness, industrial injury benefit	37	17	26	23	10	16	13	4	2	13	16
Widows' benefits	44	65	35	74	69	67	28	12	21	23	44
Statutory Maternity Pay/ Allowance	4	5	7	5	11	16	17	34	50	65	22
Christmas bonus for pensioners	5	7	7	7	5	4	4	3	2	2	5
Non-contributory											
Income support	1 392	1 088	680	526	433	242	213	112	53	18	476
Child benefit	470	383	273	294	360	315	299	266	227	189	308
Housing benefit	563	841	845	635	336	166	136	65	26	14	363
Invalid care allowance	11	10	19	32	40	18	17	4	3	3	16
Attendance allowance	2	31	35	98	81	68	49	19	16	2	40
Disability living allowance	37	33	81	134	157	137	121	76	20	25	82
War pensions	1	6	6	22	18	59	30	8	14	30	19
Severe disablement allowance	5	17	26	24	53	55	56	16	6	3	26
Industrial injury disablement benefit	16	10	23	21	36	33	41	22	13	-	21
Student maintenance awards	125	58	73	59	67	76	45	35	40	27	61
Government training schemes	46	24	18	30	33	29	26	10	21	6	24
Family credit	71	95	63	84	52	17	5	1	4	1	39
Other non-contributory benefits	14	20	18	23	13	36	28	32	24	5	21
Total cash benefits	4 167	4 743	4 480	4 219	3 415	2 729	2 184	1 679	1 200	911	2 973
Gross income	5 639	7 119	8 164	10 579	14 464	17 398	20 810	24 751	31 184	49 665	18 978
Direct taxes and Employees' NIC											
Income tax	233	186	345	690	1 319	1 986	2 673	3 632	5 206	9 665	2 594
less Tax relief at source ¹	57	47	54	94	152	201	271	300	368	403	195
Employees' NI contributions	61	89	150	253	513	688	921	1 083	1 433	1 643	684
Local taxes ²	577	539	530	574	604	632	651	672	711	756	625
Total	814	766	972	1 423	2 284	3 105	3 974	5 088	6 982	11 661	3 707
Disposable income	4 825	6 353	7 192	9 156	12 181	14 293	16 835	19 663	24 202	38 003	15 271
Equivalised disposable income	4 393	6 277	7 456	8 751	10 401	12 341	14 499	17 324	21 759	37 375	14 058
(Standard error)	83	70	78	110	135	158	185	211	311	1 168	180
Indirect taxes											
Taxes on final goods and services											
VAT	649	587	656	858	1 154	1 341	1 556	1 687	1 946	2 587	1 302
Duty on tobacco	274	252	227	276	354	280	315	244	237	145	260
Duty on beer and cider	47	55	50	68	106	124	136	146	153	144	103
Duty on wines	14	9	11	16	18	26	34	35	58	109	33
Duty on spirits	41	31	35	60	77	82	80	98	114	142	76
Duty on hydrocarbon oils	135	123	114	169	259	300	341	359	391	391	258
Vehicle excise duty	54	44	46	62	88	103	118	122	136	132	91
Television licences	67	65	65	70	74	75	77	78	77	77	73
Stamp duty on house purchase	10	7	8	11	14	21	25	30	44	62	23
Customs duties	28	25	26	34	43	47	52	57	65	81	46
Betting taxes	19	25	22	33	43	89	54	45	56	70	46
Fossil fuel levy	22	21	19	22	22	22	23	22	23	25	22
Other	10	5	9	10	11	11	17	16	16	14	12
Intermediate taxes											
Commercial and industrial rates	118	111	115	147	189	214	248	268	312	402	212
Employers' NI contributions	147	138	144	185	236	269	311	340	395	511	268
Duty on hydrocarbon oils	71	68	68	88	108	120	137	154	173	222	121
Vehicle excise duty	12	12	12	15	19	21	24	28	31	41	22
Other	71	65	68	86	112	127	146	158	182	234	125
Total indirect taxes	1 789	1 641	1 695	2 211	2 929	3 272	3 694	3 888	4 409	5 389	3 092
Post-tax income	3 036	4 712	5 498	6 946	9 252	11 021	13 141	15 775	19 794	32 614	12 179
Benefits in kind											
Education	2 025	1 226	991	1 161	1 391	1 347	1 074	989	943	620	1 177
National health service	1 756	1 750	1 714	1 784	1 606	1 537	1 379	1 344	1 263	1 109	1 524
Housing subsidy	71	96	100	81	53	33	27	20	5	6	49
Rail travel subsidy	15	18	12	17	25	26	29	49	58	97	34
Bus travel subsidy	28	38	36	41	30	24	21	22	18	14	27
School meals and welfare milk	125	74	33	22	17	10	9	8	6	5	31
Total	4 019	3 202	2 887	3 107	3 123	2 977	2 539	2 433	2 294	1 842	2 842
Final income	7 055	7 914	8 384	10 053	12 375	13 998	15 680	18 208	22 088	34 456	15 021

¹ On mortgage interest and life assurance premiums.

² Gross Council tax, Community charge, Rates and Water charges but after deducting discounts and transitional relief.

Household characteristics of decile groups of ALL households, 1993

TABLE 3B (Appendix 1)

	Decile groups of ALL households ranked by equivalised disposable income										All households
	Bottom	2nd	3rd	4th	5th	6th	7th	8th	9th	Top	
Average per household (number)											
People	2.7	2.4	2.1	2.3	2.7	2.7	2.6	2.6	2.5	2.2	2.5
<i>Adults</i>	1.7	1.6	1.6	1.7	2.0	2.0	2.0	2.0	2.0	1.8	1.8
<i>Children</i>	1.0	0.8	0.6	0.6	0.7	0.7	0.6	0.6	0.5	0.4	0.6
Economically active people	0.6	0.5	0.6	0.8	1.2	1.4	1.6	1.6	1.7	1.6	1.2
Retired people	0.5	0.7	0.7	0.7	0.5	0.4	0.3	0.3	0.2	0.1	0.4
People in full-time education	0.88	0.58	0.43	0.52	0.62	0.58	0.49	0.45	0.41	0.31	0.53
<i>In state primary schools</i>	0.48	0.32	0.25	0.26	0.31	0.27	0.23	0.20	0.18	0.09	0.26
<i>In state secondary schools</i>	0.26	0.20	0.13	0.18	0.22	0.20	0.18	0.16	0.11	0.11	0.17
<i>In further and higher education</i>	0.09	0.04	0.05	0.05	0.07	0.08	0.06	0.06	0.07	0.03	0.06
<i>In other educational establishments</i>	0.05	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.04	0.07	0.03
Composition (percentages)											
Household type											
Retired											
1 adult	20	23	34	23	10	10	6	6	2	3	14
2 or more adults	16	21	17	21	15	12	10	8	6	4	13
Non-retired											
1 adult	11	9	10	9	9	11	12	14	19	23	13
2 adults	10	7	7	12	20	20	24	28	32	40	20
3 or more adults	4	3	5	5	8	10	13	11	13	7	8
1 adult with children	13	17	10	8	6	2	3	2	1	1	6
2 adults with 1 child	5	5	4	4	7	9	11	11	11	9	7
2 adults with 2 children	8	7	7	10	12	16	14	12	12	9	11
2 adults with 3 or more children	11	6	5	4	6	5	4	4	3	2	5
3 or more adults with children	4	2	3	5	8	6	5	5	2	2	4
Household tenure											
Rented											
Local authority rented	30	44	48	33	21	15	11	6	2	1	21
Housing association	4	8	6	6	4	2	3	1	1	0	3
Other rented unfurnished	4	4	5	5	4	3	3	3	2	2	3
Rented furnished	4	3	4	3	4	4	2	4	4	4	4
Rent free	1	2	3	2	2	1	1	1	1	1	2
Owner occupied											
With mortgage	18	14	15	25	36	46	57	64	72	74	42
Rental purchase	-	-	-	-	0	1	1	0	0	-	0
Owned outright	39	25	21	27	28	29	22	22	19	18	25
Age of chief economic supporter											
Under 25	10	9	7	6	8	6	7	7	5	2	7
Over 24 and under 35	20	17	15	14	19	20	23	25	31	25	21
Over 34 and under 45	17	15	11	15	18	23	23	23	22	28	19
Over 44 and under 55	10	10	9	11	16	17	20	19	22	25	16
Over 54 and under 65	12	9	12	13	16	16	15	15	13	12	13
Over 64 and under 75	14	22	26	23	15	11	9	9	5	6	14
Over 74	17	18	19	19	8	8	4	3	3	2	10
Employment status of chief economic supporter											
Self-employed	8	5	4	6	7	8	8	6	5	13	7
Full-time employee at work	3	9	16	25	48	55	65	70	76	73	44
Part-time employee at work	5	8	6	10	7	6	4	3	5	4	6
Unemployed	21	12	8	5	5	5	4	5	5	3	7
Unoccupied and under minimum NI age	28	23	18	13	11	8	6	5	3	2	12
Retired/unoccupied over minimum NI age	32	42	48	41	22	19	13	12	7	6	24
Other	2	1	0	0	-	0	0	-	-	-	0

Average incomes, taxes and benefits by decile groups of NON-RETIRED households, 1993

TABLE 4A (Appendix 1)

	Decile groups of NON-RETIRED households ranked by equivalised disposable income										All non-retired households
	Bottom	2nd	3rd	4th	5th	6th	7th	8th	9th	Top	
Average per household (£ per year)											
Decile points (equivalised £)	5 789	7 449	9 359	11 113	13 043	15 085	17 540	21 110	26 909		
Number of households in the sample	513	513	514	513	513	513	513	514	513	513	5 132
Original income											
Wages and salaries	966	2 982	6 593	10 354	13 579	16 369	19 609	23 036	28 054	38 583	16 012
Imputed income from benefits in kind	6	37	26	80	135	216	431	436	757	1 481	361
Self-employment income	652	619	1 163	1 373	1 645	1 768	2 001	1 765	2 020	8 396	2 140
Occupational pensions, annuities	63	114	222	243	470	399	513	708	539	1 470	474
Investment income	153	70	229	230	415	358	521	737	1 143	3 292	715
Other income	199	226	293	258	280	258	312	524	524	584	346
Total	2 037	4 049	8 526	12 538	16 524	19 367	23 386	27 207	33 039	53 807	20 047
Direct benefits in cash											
Contributory											
Retirement pension	40	96	360	362	342	278	249	246	134	164	227
Unemployment benefit	82	100	99	74	65	86	41	39	36	24	64
Invalidity pension and allowance	196	432	417	394	248	197	150	141	108	31	232
Statutory sick pay	5	8	14	21	16	25	30	24	18	8	17
Sickness, industrial injury benefit	59	35	33	11	20	10	4	3	5	15	19
Widows' benefits	42	89	80	74	64	31	17	12	18	19	45
Statutory maternity pay / Allowance	5	12	9	17	16	27	34	37	63	73	29
Christmas bonus for pensioners	2	2	3	3	2	2	1	1	1	1	2
Non-contributory											
Income support	2 017	1 589	807	599	248	226	117	95	36	4	574
Child benefit	729	619	525	466	423	361	323	280	230	193	415
Housing benefit	815	1 101	614	362	170	133	62	46	26	11	334
Invalid care allowance	15	20	42	37	32	17	3	9	-	3	18
Attendance allowance	3	7	11	37	15	9	9	7	-	3	10
Disability living allowance	53	67	137	167	131	159	66	52	24	16	87
War pensions	-	2	-	15	9	38	8	10	23	12	12
Severe disablement allowance	11	29	37	62	60	58	11	12	-	4	28
Industrial injury disablement benefit	16	16	15	26	12	40	14	17	14	-	17
Student maintenance awards	196	113	112	66	109	54	43	47	41	32	81
Government training schemes	67	27	51	45	40	22	30	9	24	4	32
Family credit	112	171	126	79	28	3	4	7	-	2	53
Other non-contributory benefits	6	11	10	6	19	3	4	9	18	-	9
Total cash benefits	4 471	4 546	3 501	2 921	2 068	1 781	1 221	1 104	818	620	2 305
Gross income	6 508	8 596	12 027	15 459	18 591	21 149	24 607	28 311	33 857	54 427	22 352
Direct taxes and Employees' NIC											
Income tax	293	355	912	1 493	2 223	2 780	3 530	4 374	5 783	10 844	3 258
less Tax relief at source ¹	79	80	134	195	251	299	338	362	412	434	258
Employees' NI contributions	96	192	420	643	855	1 026	1 222	1 377	1 623	1 809	926
Local taxes ²	583	539	595	607	633	641	663	691	713	761	642
Total	893	1 005	1 792	2 548	3 460	4 147	5 077	6 079	7 707	12 979	4 569
Disposable income	5 615	7 590	10 235	12 910	15 131	17 002	19 530	22 232	26 150	41 448	17 784
Equivalised disposable income	4 430	6 651	8 384	10 233	12 073	13 992	16 293	19 189	23 746	40 404	15 539
(Standard error)	108	103	148	151	174	183	211	275	356	1 463	225
Indirect taxes											
Taxes on final goods and services											
VAT	733	750	1 047	1 243	1 430	1 609	1 662	1 917	2 055	2 776	1 522
Duty on tobacco	383	341	358	408	328	366	300	259	207	139	309
Duty on beer and cider	63	71	90	124	139	151	170	155	167	147	128
Duty on wines	16	10	20	19	28	31	32	43	64	122	38
Duty on spirits	46	30	53	77	75	79	79	101	115	148	80
Duty on hydrocarbon oils	160	163	212	300	328	356	392	397	407	397	311
Vehicle excise duty	55	52	73	93	108	117	125	126	140	130	102
Television licences	62	61	70	75	74	77	77	77	77	78	73
Stamp duty on house purchase	10	9	15	16	23	26	29	37	49	68	28
Customs duties	32	31	40	47	50	55	55	65	67	85	53
Betting taxes	19	20	37	43	102	63	53	50	49	88	52
Fossil fuel levy	24	22	23	24	23	24	23	22	24	25	23
Other	11	6	14	13	11	22	12	21	14	13	14
Intermediate taxes											
Commercial and industrial rates	133	130	175	204	231	254	265	305	333	428	246
Employers' NI contributions	165	163	221	254	289	318	334	388	420	544	310
Duty on hydrocarbon oils	81	81	105	117	129	143	149	176	185	234	140
Vehicle excise duty	14	14	19	21	23	25	27	32	34	43	25
Other	80	77	103	120	137	151	156	180	193	251	145
Total indirect taxes	2 087	2 033	2 677	3 198	3 529	3 866	3 939	4 351	4 600	5 716	3 600
Post-tax income	3 528	5 558	7 558	9 712	11 602	13 136	15 591	17 881	21 550	35 732	14 184
Benefits in kind											
Education	3 043	2 037	2 029	1 769	1 826	1 243	1 243	1 121	895	606	1 581
National health service	1 501	1 381	1 426	1 441	1 377	1 277	1 275	1 233	1 111	1 050	1 307
Housing subsidy	103	121	85	49	34	33	13	19	1	7	47
Rail travel subsidy	18	20	22	28	33	31	54	55	69	93	42
Bus travel subsidy	16	14	20	20	17	18	15	18	12	12	16
School meals and welfare milk	190	110	41	24	12	12	9	9	6	5	42
Total	4 872	3 683	3 623	3 331	3 299	2 615	2 610	2 455	2 095	1 772	3 035
Final income	8 401	9 241	11 181	13 044	14 901	15 750	18 201	20 336	23 645	37 504	17 220

¹ On mortgage interest and life assurance premiums.

² Gross Council tax, Community charge, Rates and Water charges but after deducting discounts and transitional relief.

Household characteristics of decile groups of NON-RETIRED households, 1993

TABLE 4B (Appendix 1)

	Decile groups of NON-RETIRED households ranked by equivalised disposable income										All non-retired households
	Bottom	2nd	3rd	4th	5th	6th	7th	8th	9th	Top	
Average per household (number)											
People	3.3	2.9	3.0	3.0	3.0	2.8	2.8	2.6	2.4	2.2	2.8
<i>Adults</i>	1.8	1.7	1.9	2.1	2.1	2.1	2.1	2.1	2.0	1.9	2.0
<i>Children</i>	1.6	1.2	1.1	0.9	0.9	0.7	0.7	0.6	0.5	0.4	0.9
Economically active people	0.9	0.9	1.3	1.6	1.7	1.8	1.9	1.8	1.8	1.7	1.5
Retired people	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1
People in full-time education	1.34	0.92	0.91	0.80	0.76	0.59	0.55	0.49	0.42	0.29	0.71
<i>In state primary schools</i>	0.75	0.49	0.49	0.42	0.36	0.29	0.22	0.25	0.17	0.08	0.35
<i>In state secondary schools</i>	0.38	0.33	0.30	0.28	0.27	0.22	0.21	0.13	0.12	0.10	0.23
<i>In further and higher education</i>	0.14	0.08	0.09	0.08	0.11	0.05	0.08	0.07	0.07	0.03	0.08
<i>In other educational establishments</i>	0.06	0.03	0.03	0.02	0.03	0.04	0.03	0.04	0.05	0.08	0.04
Composition (percentages)											
Household type											
Non-retired											
1 adult	16	21	15	12	13	14	15	18	22	24	17
2 adults	14	14	18	26	27	29	31	34	37	44	27
3 or more adults	6	5	10	12	12	14	14	14	12	7	11
1 adult with children	22	26	15	9	3	3	3	1	1	1	8
2 adults with 1 child	8	8	8	9	10	13	13	12	10	10	10
2 adults with 2 children	14	12	17	15	21	17	14	14	13	9	15
2 adults with 3 or more children	15	10	9	8	7	4	5	4	2	2	7
3 or more adults with children	5	5	8	9	8	6	7	4	2	2	6
Household tenure											
Rented	61	69	51	37	26	23	16	13	10	8	31
<i>Local authority rented</i>	43	49	34	20	15	12	6	5	1	1	19
<i>Housing association</i>	6	8	5	3	2	3	1	1	1	0	3
<i>Other rented unfurnished</i>	5	5	5	5	3	4	3	2	3	1	4
<i>Rented furnished</i>	6	6	5	7	5	3	4	5	5	3	5
<i>Rent free</i>	1	2	2	2	1	1	2	1	1	1	1
Owner occupied	39	31	50	64	75	77	84	87	90	93	69
<i>With mortgage</i>	25	22	35	44	56	62	72	74	77	79	55
<i>Rental purchase</i>	-	-	-	0	1	1	0	0	0	-	0
<i>Owned outright</i>	15	9	15	19	18	14	11	13	12	14	14
Age of chief economic supporter											
Under 25	14	14	12	10	7	8	10	6	5	1	9
Over 24 and under 35	32	28	27	26	25	27	29	31	32	27	28
Over 34 and under 45	26	27	23	24	29	27	26	25	26	29	26
Over 44 and under 55	15	18	19	20	23	22	23	23	25	28	22
Over 54 and under 65	12	12	15	17	14	14	11	14	11	12	13
Over 64 and under 75	0	1	3	2	2	2	1	1	1	2	2
Over 74	0	0	0	0	-	-	-	0	0	0	0
Employment status of chief economic supporter											
Self-employed	12	7	10	10	11	9	9	6	7	15	10
Full-time employee at work	6	20	43	60	69	75	81	82	82	78	60
Part-time employee at work	8	15	15	11	7	5	5	3	5	4	8
Unemployed	31	20	12	7	6	6	5	6	5	3	10
Unoccupied and under minimum NI age	40	37	20	12	6	5	1	3	1	1	13
Retired/unoccupied over minimum NI age	0	0	-	0	0	0	-	-	-	-	0
Other	3	1	0	0	0	0	-	-	-	-	1

Average incomes, taxes and benefits by decile groups of RETIRED households, 1993

TABLE 5A (Appendix 1)

	Decile groups of RETIRED households ranked by equivalised disposable income										All retired households
	Bottom	2nd	3rd	4th	5th	6th	7th	8th	9th	Top	
Average per household (£ per year)											
Decile points (<i>equivalised</i> £)	5 249	6 205	6 891	7 486	8 140	8 970	10 373	12 550	16 298		
Number of households in the sample	185	184	185	185	185	184	185	185	184	185	1 847
Original income											
Wages and salaries	15	36	40	49	75	52	191	370	482	722	203
Imputed income from benefits in kind	-	-	-	-	3	-	-	2	-	0	1
Self-employment income	-	9	14	5	-	101	-	49	48	54	28
Occupational pensions, annuities	237	477	720	736	1 041	1 366	2 688	3 994	6 193	12 374	2 983
Investment income	264	309	313	235	414	801	946	1 386	2 353	8 072	1 510
Other income	10	13	71	60	45	80	52	67	36	46	48
Total	526	843	1 158	1 085	1 578	2 401	3 876	5 869	9 113	21 269	4 773
Direct benefits in cash											
Contributory											
Retirement pension	2 880	3 654	3 664	3 263	3 531	3 434	3 895	3 532	3 466	3 595	3 492
Unemployment benefit	19	11	29	24	16	11	13	12	-	4	14
Incapacity pension and allowance	94	87	253	305	208	179	142	425	418	367	248
Statutory sick pay	-	-	-	1	-	1	-	-	1	-	0
Sickness, industrial injury benefit	19	-	12	1	1	4	-	6	31	-	7
Widows' benefits	64	38	41	-	18	78	42	49	34	52	41
Statutory maternity pay/ Allowance	-	-	-	-	-	-	-	-	-	-	-
Christmas bonus for pensioners	12	14	14	12	12	13	14	12	13	13	13
Non-contributory											
Income support	268	196	139	347	119	229	202	188	259	83	203
Child benefit	15	15	8	-	-	10	13	10	7	8	9
Housing benefit	141	319	557	768	829	838	467	245	218	39	442
Invalid care allowance	-	10	9	3	-	19	24	12	16	-	9
Attendance allowance	-	57	41	63	114	141	259	229	245	86	124
Disability living allowance	10	16	21	25	25	104	189	117	102	75	68
War pensions	4	5	11	-	36	43	35	175	49	48	41
Severe disablement allowance	-	-	9	28	-	5	27	20	89	19	20
Industrial injury disablement benefit	15	9	15	26	-	43	25	120	87	-	34
Student maintenance awards	-	-	-	-	-	-	29	2	-	-	3
Government training schemes	2	-	14	-	-	-	9	7	-	-	3
Family credit	-	-	7	-	-	-	-	-	-	-	1
Other non-contributory benefits	28	39	19	32	36	35	43	67	123	142	56
Total cash benefits	3 571	4 471	4 861	4 899	4 945	5 187	5 427	5 230	5 158	4 532	4 828
Gross income	4 097	5 314	6 019	5 984	6 523	7 588	9 303	11 098	14 271	25 801	9 601
Direct taxes and Employees' NIC											
Income tax	113	51	114	61	111	243	387	714	1 305	4 360	746
less Tax relief at source ¹	13	11	12	8	13	13	16	25	32	36	18
Employees' NI contributions	2	-	3	3	2	6	6	18	25	34	10
Local taxes ²	559	549	537	482	504	542	555	615	651	753	575
Total	661	589	641	538	604	778	932	1 322	1 950	5 112	1 313
Disposable income	3 437	4 725	5 379	5 446	5 919	6 809	8 371	9 776	12 321	20 689	8 288
Equivalised disposable income	4 380	5 746	6 569	7 200	7 803	8 505	9 583	11 422	14 148	24 063	9 943
(Standard error)	133	100	88	85	98	124	200	280	380	1 531	217
Indirect taxes											
Taxes on final goods and services											
VAT	505	403	475	408	406	522	740	889	1 123	1 427	690
Duty on tobacco	93	87	160	99	120	149	168	131	117	131	125
Duty on beer and cider	23	27	34	18	24	31	41	57	35	52	34
Duty on wines	11	7	6	6	10	13	12	16	36	63	18
Duty on spirits	41	24	29	18	36	69	87	94	93	147	64
Duty on hydrocarbon oils	81	72	80	52	74	89	118	134	181	229	111
Vehicle excise duty	47	43	37	27	34	42	56	73	105	122	59
Television licences	75	72	70	65	64	69	69	74	78	78	71
Stamp duty on house purchase	10	5	5	4	4	6	8	11	16	28	10
Customs duties	20	18	19	19	16	22	31	31	39	49	26
Betting taxes	15	24	36	19	23	25	25	35	39	23	26
Fossil fuel levy	19	17	19	16	17	18	20	20	19	25	19
Other	5	5	5	5	6	9	6	7	7	12	7
Intermediate taxes											
Commercial and industrial rates	92	84	93	78	82	99	125	142	176	226	120
Employers' NI contributions	115	106	115	99	102	125	157	178	225	287	151
Duty on hydrocarbon oils	52	50	54	48	46	58	72	78	100	122	68
Vehicle excise duty	9	8	9	8	8	10	12	13	17	22	12
Other	54	50	53	48	47	58	74	83	102	128	70
Total indirect taxes	1 268	1 102	1 297	1 035	1 120	1 411	1 822	2 067	2 509	3 170	1 680
Post-tax income	2 168	3 623	4 081	4 411	4 799	5 398	6 549	7 709	9 812	17 519	6 607
Benefits in kind											
Education	73	62	35	-	-	46	114	104	50	46	53
National health service	2 230	2 272	2 199	1 918	2 057	2 245	2 210	2 104	2 068	1 972	2 127
Housing subsidy	25	33	70	90	105	93	69	39	29	15	57
Rail travel subsidy	5	23	11	4	1	10	9	11	11	11	10
Bus travel subsidy	45	67	64	56	63	66	65	53	46	51	58
School meals and welfare milk	0	4	-	-	-	2	0	0	-	-	1
Total	2 379	2 461	2 380	2 069	2 226	2 462	2 467	2 312	2 203	2 095	2 305
Final income	4 547	6 084	6 461	6 480	7 024	7 860	9 016	10 021	12 015	19 614	8 913

¹ On mortgage interest and life assurance premiums.

² Gross Council tax, Community charge, Rates and Water charges but after deducting discounts and transitional relief.

Household characteristics of decile groups of RETIRED households, 1993

TABLE 5B (Appendix 1)

	Decile groups of RETIRED households ranked by equivalised disposable income										All retired households
	Bottom	2nd	3rd	4th	5th	6th	7th	8th	9th	Top	
Average per household (number)											
People	1.5	1.5	1.5	1.4	1.4	1.5	1.7	1.6	1.7	1.7	1.5
<i>Adults</i>	1.44	1.51	1.52	1.36	1.37	1.47	1.63	1.62	1.65	1.64	1.52
<i>Children</i>	0.03	0.03	0.02	-	-	0.02	0.03	0.02	0.01	0.02	0.02
Economically active people	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Retired people	1.4	1.4	1.4	1.3	1.3	1.4	1.5	1.5	1.5	1.5	1.4
People in full-time education	0.03	0.03	0.02	-	-	0.02	0.03	0.03	0.02	0.03	0.02
Composition (percentages)											
Household type											
Retired											
1 adult	57	53	52	67	64	58	42	43	41	39	52
2 or more adults	43	47	48	33	36	42	58	57	59	61	49
Household tenure											
Rented											
<i>Local authority rented</i>	11	21	40	54	50	40	28	18	14	3	28
<i>Housing association</i>	2	3	7	6	6	8	9	4	1	1	5
<i>Other rented unfurnished</i>	2	4	4	4	4	5	1	4	3	2	3
<i>Rented furnished</i>	-	-	1	1	1	1	1	1	1	-	1
<i>Rent free</i>	1	-	5	4	2	4	2	2	2	1	2
Owner occupied											
<i>With mortgage</i>	5	5	7	3	5	4	8	11	9	10	7
<i>Owned outright</i>	80	66	38	28	33	38	52	61	71	83	55
Age of chief economic supporter											
Under 25	-	-	-	-	-	-	-	1	-	-	0
Over 24 and under 35	-	-	-	-	-	-	-	-	1	-	0
Over 34 and under 45	-	-	-	-	-	1	-	-	1	-	0
Over 44 and under 55	1	-	1	1	1	-	1	-	1	1	0
Over 54 and under 65	13	5	9	11	9	9	10	17	23	18	12
Over 64 and under 75	39	49	48	54	49	46	54	50	45	54	49
Over 74	47	45	43	35	42	45	35	32	30	27	38
Employment status of chief economic supporter											
Self-employed	-	1	-	1	-	1	-	1	-	-	0
Full-time employee at work	-	-	-	1	-	-	-	1	2	-	0
Part-time employee at work	1	-	-	-	1	-	-	-	-	-	0
Unoccupied and under minimum NI age	10	2	5	4	4	5	7	12	17	15	8
Retired/unoccupied over minimum NI age	89	97	95	95	95	95	94	87	82	85	91

Average incomes, taxes and benefits by decile groups of NON-RETIRED households *without* CHILDREN, 1993

TABLE 6 (Appendix 1)

	Decile groups of households ranked by equivalised disposable income										All households
	Bottom	2nd	3rd	4th	5th	6th	7th	8th	9th	Top	
Average per household (£ per year)											
Decile points (<i>equivalised</i> £)	6 667	8 942	11 003	13 029	14 989	17 308	19 975	23 784	30 044		
Number of households in the sample	281	281	282	281	281	281	281	282	281	281	2 812
Original income											
Wages and salaries	974	3 677	7 570	10 336	13 864	16 710	20 118	23 236	26 322	38 591	16 139
Imputed income from benefits in kind	3	13	14	39	84	195	242	470	642	1 579	328
Self-employment income	473	782	922	1 476	1 162	1 545	1 004	1 740	2 248	8 149	1 950
Occupational pensions, annuities	188	285	346	678	595	702	986	801	685	1 809	707
Investment income	264	278	362	479	400	588	640	1 050	1 144	4 046	925
Other income	177	206	236	195	141	172	363	398	371	590	285
Total	2 078	5 241	9 450	13 202	16 246	19 912	23 353	27 696	31 412	54 764	20 334
Direct benefits in cash											
Contributory											
Retirement pension	161	554	640	608	424	338	345	245	173	222	371
Unemployment benefit	134	93	96	59	97	46	45	59	13	28	67
Invalidity pension and allowance	457	710	575	344	346	237	174	196	37	34	311
Statutory sick pay	1	10	20	15	23	35	30	25	15	6	18
Sickness, industrial injury benefit	72	57	13	18	29	7	0	2	8	20	23
Widows' benefits	97	109	131	116	42	23	15	28	10	36	61
Statutory Maternity Pay/ Allowance	-	-	1	-	-	-	2	3	-	10	2
Christmas bonus for pensioners	3	4	4	3	3	2	2	1	1	1	3
Non-contributory											
Income support	1 143	692	553	250	257	109	69	24	28	4	313
Child benefit	10	7	15	9	7	6	8	4	5	4	7
Housing benefit	720	718	394	174	179	41	61	15	36	11	235
Invalid care allowance	-	24	56	27	18	6	17	-	-	6	15
Attendance allowance	8	-	49	33	11	17	14	-	-	6	14
Disability living allowance	45	125	248	166	228	95	92	16	32	11	106
War pensions	3	-	21	18	70	15	11	-	19	3	16
Severe disablement allowance	13	43	99	91	98	21	21	-	7	-	39
Industrial injury disablement benefit	34	21	34	10	82	25	27	15	13	-	26
Student maintenance awards	355	184	104	161	50	66	72	56	9	38	109
Government training schemes	44	39	47	21	23	37	7	41	3	0	26
Family credit	-	8	32	-	-	1	2	-	-	-	4
Other non-contributory benefits	2	21	11	12	6	7	17	1	26	-	10
Total cash benefits	3 302	3 420	3 144	2 136	1 994	1 133	1 030	732	436	440	1 777
Gross income	5 381	8 661	12 594	15 337	18 240	21 045	24 384	28 428	31 848	55 204	22 111
Direct taxes and Employees' NIC											
Income tax	300	548	1 112	1 630	2 200	2 863	3 588	4 577	5 365	11 458	3 364
less Tax relief at source ¹	46	66	107	163	196	273	285	340	399	406	228
Employees' NI contributions	76	233	468	671	874	1 049	1 247	1 451	1 565	1 875	951
Local taxes ²	553	552	586	615	599	618	662	663	685	747	628
Total	884	1 267	2 060	2 752	3 478	4 258	5 213	6 351	7 215	13 675	4 715
Disposable income	4 497	7 394	10 533	12 585	14 763	16 787	19 171	22 077	24 633	41 530	17 396
Equivalised disposable income	4 839	7 784	10 048	12 001	13 957	16 100	18 512	21 787	26 509	45 229	17 675
(Standard error)	193	192	214	236	238	281	310	397	517	2 201	337
Indirect taxes											
Taxes on final goods and services											
VAT	627	829	1 069	1 211	1 457	1 496	1 700	1 882	1 978	2 738	1 499
Duty on tobacco	298	334	383	341	441	338	272	285	191	138	302
Duty on beer and cider	83	89	130	149	159	192	165	187	156	156	147
Duty on wines	16	17	17	26	30	29	34	59	63	133	42
Duty on spirits	53	52	60	82	106	83	103	128	109	162	94
Duty on hydrocarbon oils	135	158	246	282	310	370	363	397	377	387	303
Vehicle excise duty	48	56	82	94	106	123	119	143	130	119	102
Television licences	58	65	72	72	75	74	76	76	76	78	72
Stamp duty on house purchase	9	10	9	17	17	21	27	37	48	68	26
Customs duties	24	30	42	40	49	48	55	64	66	79	50
Betting taxes	17	38	51	127	71	65	45	64	27	139	64
Fossil fuel levy	18	20	20	21	22	21	21	22	22	23	21
Other	7	5	14	8	19	12	19	17	13	13	13
Intermediate taxes											
Commercial and industrial rates	112	133	171	193	221	234	268	289	308	418	235
Employers' NI contributions	140	166	214	243	278	296	341	362	390	532	296
Duty on hydrocarbon oils	69	78	98	111	127	135	159	160	172	235	135
Vehicle excise duty	12	14	18	20	23	25	30	29	32	44	25
Other	67	79	100	113	130	135	156	166	180	240	137
Total indirect taxes	1 791	2 172	2 797	3 151	3 640	3 697	3 953	4 366	4 337	5 704	3 561
Post-tax income	2 706	5 222	7 736	9 434	11 123	13 089	15 218	17 711	20 296	35 826	13 835
Benefits in kind											
Education	1 227	596	384	522	172	260	363	248	240	115	413
National health service	832	985	1 140	1 107	960	947	921	883	756	790	932
Housing subsidy	67	90	52	38	40	13	28	1	1	12	34
Rail travel subsidy	37	26	26	24	23	55	41	57	85	102	48
Bus travel subsidy	17	18	25	23	19	16	19	15	10	14	18
School meals and welfare milk	1	1	0	1	-	-	-	-	-	-	0
Total	2 179	1 716	1 628	1 714	1 215	1 290	1 372	1 205	1 093	1 033	1 445
Final income	4 886	6 938	9 364	11 148	12 338	14 380	16 590	18 916	21 389	36 858	15 280

1. On mortgage interest and life assurance premiums.

2. Gross Council tax, Community charge. Rates and Water charges but after deducting discounts and transitional relief.

Average incomes, taxes and benefits by decile groups of NON-RETIRED households with CHILDREN, 1993

TABLE 7 (Appendix 1)

	Decile groups of households ranked by equivalised disposable income										All households
	Bottom	2nd	3rd	4th	5th	6th	7th	8th	9th	Top	
Average per household (£ per year)											
Decile points (equivalised £)	5 330	6 525	7 783	9 318	10 833	12 727	14 659	17 417	22 253		
Number of households in the sample	232	232	232	232	232	232	232	232	232	232	2 320
Original income											
Wages and salaries	967	2 164	5 002	8 322	12 425	16 345	19 051	22 694	29 374	42 238	15 858
Imputed income from benefits in kind	12	44	48	28	160	247	317	701	808	1 633	400
Self-employment income	603	824	883	1 233	1 859	1 884	2 382	2 631	2 280	9 129	2 371
Occupational pensions, annuities	11	25	93	93	126	271	122	225	134	812	191
Investment income	36	23	74	102	107	343	293	384	914	2 324	460
Other income	192	282	228	398	265	283	323	694	697	834	420
Total	1 821	3 362	6 328	10 176	14 942	19 375	22 489	27 328	34 205	56 965	19 699
Direct benefits in cash											
Contributory											
Retirement pension	-	26	33	66	79	68	58	107	55	29	52
Unemployment benefit	99	45	73	102	56	81	84	31	27	17	61
Incapacity pension and allowance	164	251	290	129	199	114	72	46	31	53	135
Statutory sick pay	6	9	12	15	23	19	30	20	17	8	16
Sickness, industrial injury benefit	28	15	44	27	9	13	4	-	5	9	15
Widows' benefits	13	53	22	67	18	50	18	10	-	-	25
Statutory Maternity Pay/ Allowance	11	9	29	10	26	28	70	73	115	258	63
Christmas bonus for pensioners	1	1	1	1	1	1	1	1	0	0	1
Non-contributory											
Income support	2 514	2 263	1 588	1 090	638	315	219	117	118	40	890
Child benefit	1 164	1 034	987	922	930	861	819	785	799	791	909
Housing benefit	917	1 116	1 045	693	356	183	105	70	50	8	454
Invalid care allowance	7	26	38	54	29	23	29	-	-	-	21
Attendance allowance	-	7	7	8	31	-	-	7	-	-	6
Disability living allowance	33	49	116	130	95	59	102	30	7	24	65
War pensions	-	-	-	-	-	4	-	-	8	52	6
Severe disablement allowance	8	24	24	34	19	22	8	10	-	-	15
Industrial injury disablement benefit	12	-	24	-	8	4	8	-	-	-	6
Student maintenance awards	75	9	75	82	41	50	62	26	16	35	47
Government training schemes	106	23	31	61	34	65	24	23	8	13	39
Family credit	170	261	219	229	142	44	36	9	13	4	113
Other non-contributory benefits	7	7	9	4	2	1	27	0	-	8	6
Total cash benefits	5 334	5 228	4 669	3 724	2 736	2 005	1 777	1 363	1 271	1 350	2 946
Gross income	7 155	8 591	10 997	13 900	17 677	21 380	24 266	28 692	35 476	58 315	22 645
Direct taxes and Employees' NIC											
Income tax	261	235	646	1 051	1 817	2 645	3 445	4 231	5 833	11 142	3 131
less Tax relief at source ¹	93	93	124	163	294	328	413	436	485	527	296
Employees' NI contributions	108	143	345	512	774	1 025	1 176	1 409	1 644	1 825	896
Local taxes ²	576	570	573	610	628	645	690	715	763	827	660
Total	852	856	1 441	2 009	2 924	3 986	4 899	5 920	7 756	13 267	4 391
Disposable income	6 303	7 735	9 556	11 890	14 753	17 393	19 367	22 771	27 720	45 048	18 254
Equivalised disposable income	4 232	5 909	7 142	8 524	10 067	11 771	13 602	15 996	19 565	32 684	12 949
(Standard error)	126	111	145	196	203	253	246	316	441	1 731	268
Indirect taxes											
Taxes on final goods and services											
VAT	811	727	948	1 153	1 382	1 607	1 798	1 831	2 267	2 986	1 551
Duty on tobacco	420	403	370	379	418	335	278	278	172	121	317
Duty on beer and cider	48	62	62	89	119	130	137	138	123	137	105
Duty on wines	13	12	12	21	22	28	32	36	50	111	34
Duty on spirits	30	36	34	54	84	70	52	61	91	128	64
Duty on hydrocarbon oils	189	170	182	243	351	365	410	426	438	447	322
Vehicle excise duty	60	52	64	83	103	116	128	130	137	145	102
Television licences	65	62	66	74	77	77	79	80	82	78	74
Stamp duty on house purchase	12	9	14	16	22	28	35	37	57	77	31
Customs duties	37	33	39	45	53	59	61	64	77	98	57
Betting taxes	21	24	17	32	35	73	48	40	62	26	38
Fossil fuel levy	26	27	24	25	27	25	25	26	24	31	26
Other	18	6	14	15	16	15	18	20	16	17	15
Intermediate taxes											
Commercial and industrial rates	145	135	159	198	235	262	291	305	371	492	259
Employers' NI contributions	181	167	201	250	293	328	364	383	470	622	326
Duty on hydrocarbon oils	88	83	100	122	134	146	159	167	204	262	146
Vehicle excise duty	15	14	18	22	24	25	28	29	36	47	26
Other	87	80	95	115	139	157	175	181	221	292	154
Total indirect taxes	2 264	2 104	2 420	2 935	3 533	3 844	4 119	4 232	4 899	6 117	3 647
Post-tax income	4 039	5 630	7 136	8 956	11 221	13 549	15 248	18 540	22 821	38 93	14 607
Benefits in kind											
Education	4 055	3 253	2 807	3 204	3 319	3 200	2 600	2 728	2 512	2 298	2 998
National health service	1 873	1 644	1 960	1 623	1 669	1 688	1 728	1 745	1 819	1 871	1 762
Housing subsidy	120	145	116	98	48	34	27	11	13	1	61
Rail travel subsidy	7	7	19	16	35	42	36	51	67	79	36
Bus travel subsidy	16	16	14	19	15	12	15	17	14	9	15
School meals and welfare milk	326	209	148	71	45	29	22	25	25	20	92
Total	6 397	5 274	5 063	5 030	5 132	5 006	4 429	4 578	4 451	4 278	4 964
Final income	10 436	10 904	12 199	13 986	16 353	18 555	19 677	23 117	27 272	43 210	19 571

1 On mortgage interest and life assurance premiums.

2 Gross Council tax, Community charge, Rates and Water charges but after deducting discounts and transitional relief.

Distribution of households¹ co-operating in the Family Expenditure Survey and Summary of the effects of taxes and benefits, by household type, 1993

TABLE 8 (Appendix 1)

	Retired households		Non-Retired households								
	1 adult	2 or more adults	1 adult	2 adults	3 or more adults	1 adult with children	2 adults with 1 child	2 adults with 2 children	2 adults with 3 or more children	3 or more adults with children	All households
Decile groups of households ranked by equivalised disposable income											
Number of households											
Bottom	137	110	75	69	26	89	37	57	73	25	698
2nd	160	143	65	51	21	115	33	52	41	17	698
3rd	234	118	68	46	33	68	28	47	34	22	698
4th	159	144	59	83	36	54	27	72	31	33	698
5th	69	107	62	138	57	41	46	81	44	53	698
6th	70	84	74	140	70	14	62	112	33	38	697
7th	45	66	83	170	87	18	73	94	27	35	698
8th	42	56	94	198	76	14	75	85	26	32	698
9th	11	41	131	226	89	5	75	81	22	17	698
Top	24	27	159	279	47	10	60	63	14	15	698
All households	951	896	870	1 400	542	428	516	744	345	287	6 979
Summary of the effects of taxes and benefits, by household type											
Average per household (£ per year)											
Original income	2 672	7 002	12 147	22 862	26 946	4 358	22 158	24 267	20 226	25 681	16 005
plus Cash benefits	4 024	5 681	1 417	1 572	2 884	5 188	1 926	1 919	3 337	3 624	2 973
Gross income	6 696	12 684	13 564	24 434	29 829	9 546	24 085	26 186	23 563	29 305	18 978
less Direct taxes & employees' NIC	966	1 682	3 001	5 335	5 864	1 012	4 930	5 556	4 474	5 341	3 707
Disposable income	5 730	11 002	10 563	19 099	23 965	8 535	19 154	20 630	19 089	23 964	15 271
<i>Equivalised disposable income</i>	<i>9 369</i>	<i>10 552</i>	<i>17 317</i>	<i>18 738</i>	<i>15 506</i>	<i>8 576</i>	<i>15 914</i>	<i>14 419</i>	<i>11 010</i>	<i>12 661</i>	<i>14 058</i>
less Indirect taxes	1 002	2 400	2 130	3 722	5 440	1 799	3 672	3 985	3 881	5 198	3 092
Post-tax income	4 729	8 602	8 434	15 377	18 525	6 736	15 482	16 645	15 208	18 766	12 179
plus Benefits in kind	1 838	2 801	660	1 259	3 183	4 618	3 001	4 799	7 898	5 909	2 842
Final income	6 567	11 403	9 094	16 635	21 708	11 354	18 483	21 444	23 106	24 675	15 021

¹ See Appendix 3 for definitions of retired households, adults and children.

Average incomes, taxes and benefits by decile groups of households (ranked by UNADJUSTED disposable income), 1993

TABLE 9 (Appendix 1)

	Decile groups of households ranked by UNADJUSTED disposable income										All households
	Bottom	2nd	3rd	4th	5th	6th	7th	8th	9th	Top	
Average per household (£ per year)											
Decile points (£)	4 496	6 037	7 800	9 825	12 144	14 877	17 982	21 909	29 354		
Number of households in the sample	698	698	698	698	698	697	698	698	698	698	6 979
Original income											
Wages and salaries	230	421	1 495	3 280	6 542	9 933	14 023	18 224	25 222	38 909	11 828
Imputed income from benefits in kind	-	2	19	21	56	64	171	353	581	1 385	265
Self-employment income	133	148	304	580	905	1 147	1 604	1 544	2 101	7 343	1 581
Occupational pensions, annuities	261	492	673	1 046	1 375	1 488	1 381	1 511	1 127	2 027	1 138
Investment income	207	286	339	569	666	723	740	1 043	1 253	3 425	925
Other income	76	117	196	158	182	215	223	252	470	782	267
Total	907	1 465	3 026	5 654	9 727	13 571	18 142	22 927	30 753	53 872	16 005
Direct benefits in cash											
Contributory											
Retirement pension	1 673	1 962	1 762	1 561	1 194	875	617	560	392	313	1 091
Unemployment benefit	41	41	68	63	44	78	38	52	44	43	51
Invalidity pension and allowance	144	212	251	328	340	356	225	233	171	97	236
Statutory sick pay	-	4	3	7	16	15	22	22	21	15	13
Sickness, industrial injury benefit	37	21	11	26	9	21	7	13	4	13	16
Widows' benefits	87	59	69	39	59	39	36	33	13	5	44
Statutory maternity pay/ Allowance	1	7	4	5	6	23	18	32	39	80	22
Christmas bonus for pensioners	7	8	7	7	5	4	3	3	2	1	5
Non-contributory											
Income support	479	771	1 131	863	528	359	269	176	125	56	476
Child benefit	71	161	333	334	305	334	376	376	390	395	308
Housing benefit	559	935	809	605	290	192	121	65	29	21	363
Invalid care allowance	2	6	12	16	34	20	28	22	10	4	16
Attendance allowance	4	27	66	124	64	31	43	25	15	2	40
Disability living allowance	17	48	63	119	133	170	99	85	53	35	82
War pensions	1	5	12	19	41	32	26	18	2	39	19
Severe disablement allowance	7	13	12	35	53	40	25	46	27	3	26
Industrial injury disablement benefit	12	9	17	33	32	38	32	19	22	-	21
Student maintenance awards	45	29	76	90	65	64	57	54	57	71	61
Government training schemes	16	7	11	36	24	28	14	40	34	31	24
Family credit	8	10	80	109	82	36	35	20	13	1	39
Other non-contributory benefits	19	21	14	42	41	19	5	5	26	19	21
Total cash benefits	3 230	4 357	4 812	4 463	3 364	2 773	2 094	1 900	1 490	1 244	2 973
Gross income	4 137	5 823	7 838	10 117	13 091	16 344	20 236	24 827	32 243	55 116	18 978
Direct taxes and Employees' NIC											
Income tax	165	128	350	652	1 247	1 799	2 595	3 494	5 066	10 437	2 594
Less Tax relief at source ¹	25	28	51	86	147	213	290	312	375	422	195
Employees' NI contributions	23	29	99	224	420	633	878	1 123	1 530	1 878	684
Local taxes ²	488	499	528	574	612	637	645	676	740	847	625
Total	651	629	925	1 364	2 133	2 855	3 829	4 981	6 962	12 740	3 707
Disposable income	3 486	5 194	6 912	8 754	10 958	13 489	16 408	19 846	25 281	42 376	15 271
Indirect taxes											
Taxes on final goods and services											
VAT	384	439	642	850	1 082	1 309	1 432	1 753	2 128	3 000	1 302
Duty on tobacco	138	172	236	306	300	309	304	349	266	225	260
Duty on beer and cider	26	28	54	70	94	109	127	159	176	187	103
Duty on wines	8	9	13	17	20	26	33	39	52	112	33
Duty on spirits	23	34	43	70	68	90	82	91	107	152	76
Duty on hydrocarbon oils	67	71	126	176	227	275	335	365	453	488	258
Vehicle excise duty	32	32	49	65	86	101	115	121	145	160	91
Television licences	62	62	66	71	75	76	76	78	79	80	73
Stamp duty on house purchase	8	5	7	12	16	22	26	30	44	62	23
Customs duties	17	18	27	33	39	47	50	61	72	94	46
Betting taxes	10	17	28	37	42	68	50	63	59	82	46
Fossil fuel levy	16	18	21	22	21	22	23	24	25	28	22
Other	6	5	6	14	10	8	14	13	24	18	12
Intermediate taxes											
Commercial and industrial rates	77	86	116	145	175	209	235	273	339	470	212
Employers' NI contributions	96	107	144	183	219	263	295	345	426	599	268
Duty on hydrocarbon oils	45	51	68	88	99	118	132	155	186	266	121
Vehicle excise duty	8	9	12	16	17	21	24	28	34	49	22
Other	46	50	68	86	103	125	139	162	197	273	125
Total indirect taxes	1 068	1 214	1 726	2 260	2 694	3 197	3 492	4 109	4 811	6 345	3 092
Post-tax income	2 418	3 980	5 186	6 494	8 264	10 292	12 915	15 737	20 470	36 031	12 179
Benefits in kind											
Education	288	416	1 096	1 305	1 200	1 377	1 299	1 404	1 611	1 773	1 177
National health service	1 425	1 589	1 712	1 682	1 531	1 480	1 406	1 475	1 451	1 491	1 524
Housing subsidy	59	97	98	78	51	39	24	24	11	10	49
Rail travel subsidy	13	9	7	22	21	28	40	39	55	103	34
Bus travel subsidy	31	40	35	35	29	26	20	20	18	19	27
School meals and welfare milk	8	35	85	67	36	30	14	9	12	12	31
Total	1 825	2 186	3 033	3 189	2 868	2 980	2 803	2 972	3 157	3 409	2 842
Final income	4 243	6 165	8 219	9 683	11 131	13 272	15 719	18 709	23 628	39 440	15 021

¹ On mortgage interest and life assurance premiums.

² Gross Council tax (net of transitional relief), community charge, Rates and net Water charges.

Cross-tabulation of households ranked by disposable income, unadjusted and equivalised, 1993

TABLE 10 (Appendix 1)

(i) Quintile groups

	Quintile groups of equivalised disposable income					All households
	Bottom	2nd	3rd	4th	Top	
Number of households						
Quintile groups of unadjusted disposable income						
Bottom	824	544	28	-	-	1 396
2nd	491	472	295	138	-	1 396
3rd	75	323	598	275	124	1 395
4th	6	56	416	629	289	1 396
Top	-	1	58	354	983	1 396
All households	1 396	1 396	1 395	1 396	1 396	6 979

(ii) Decile groups

	Decile groups of equivalised disposable income										All households
	Bottom	2nd	3rd	4th	5th	6th	7th	8th	9th	Top	
Number of households											
Decile groups of unadjusted disposable income											
Bottom	332	226	140	-	-	-	-	-	-	-	698
2nd	178	88	181	223	28	-	-	-	-	-	698
3rd	104	226	140	21	103	104	-	-	-	-	698
4th	67	94	93	218	44	44	128	10	-	-	698
5th	13	47	93	78	240	69	6	126	26	-	698
6th	4	11	39	113	97	192	136	7	98	-	697
7th	-	5	9	37	110	128	155	162	19	73	698
8th	-	1	3	7	62	116	146	166	145	52	698
9th	-	-	-	1	14	39	118	163	235	128	698
Top	-	-	-	-	-	5	9	64	175	445	698
All households	698	698	698	698	698	697	698	698	698	698	6 979

APPENDIX 2

Trends in income distribution, 1977-1993

CONTENTS

	Table
Percentage shares of original, gross, disposable and post-tax income by quintile group of households, 1977-1993	1
Gini coefficients for the distribution of income at each stage of the tax-benefit system, 1977-1993	2

This section gives Gini coefficients and shares of income for 1977 to 1993. As was noted in the Introduction, it is not possible to produce a fully consistent time series because of changes in methodology and definition. Many of these changes, like the inclusion of the income from company cars since 1990, improve the quality of the results but previous data cannot be reproduced on the same consistent basis. However, Gini coefficients and shares of income are relatively robust and can be used to shed light on broad trends in income distribution. The Department of Social Security publication, *Households Below Average Income 1979 - 1991/92* (HMSO), contains more detailed data for comparison of incomes over time.

Percentage shares of total original, gross, disposable and post-tax incomes by quintile groups of households¹, 1977-1993

TABLE 1 (Appendix 2)

	1977	1978	1979	1980	1981	1982	1983	1984	1985
Equivalised original income									
Quintile group									
Bottom	3.6	2.8	2.4	2.4	2.9	2.9	3.0	2.9	2.5
2nd	10	10	10	9	9	8	8	7	7
3rd	18	18	18	18	17	17	17	17	17
4th	26	26	27	26	26	26	26	26	27
Top	43	43	43	44	46	46	47	47	47
All households	100	100	100	100	100	100	100	100	100
Equivalised gross income									
Quintile group									
Bottom	8.9	8.7	8.5	8.3	8.4	8.5	8.5	8.6	8.3
2nd	13	13	13	12	12	12	12	12	12
3rd	18	18	18	18	17	17	17	17	17
4th	24	23	24	23	23	23	23	23	24
Top	37	37	37	38	39	39	39	39	40
All households	100	100	100	100	100	100	100	100	100
Equivalised disposable income									
Quintile group									
Bottom	9.7	9.8	9.4	9.2	9.3	9.5	9.5	9.6	9.2
2nd	14	14	13	13	13	13	13	13	13
3rd	18	18	18	18	17	17	17	17	17
4th	23	23	23	23	23	23	23	23	23
Top	36	35	36	37	38	37	38	37	38
All households	100	100	100	100	100	100	100	100	100
Equivalised post-tax income									
Quintile group									
Bottom	9.4	9.7	9.5	9.0	9.0	9.0	8.9	9.1	8.6
2nd	14	14	13	13	13	13	13	13	13
3rd	17	18	18	17	17	17	17	17	17
4th	23	23	23	23	22	22	22	22	23
Top	37	36	37	38	39	39	39	38	39
All households	100	100	100	100	100	100	100	100	100

¹ Ranked by equivalised disposable income.

Gini coefficients for the distribution of income at each stage of the tax-benefit system, 1977-1993

TABLE 2 (Appendix 2)

	1977	1978	1979	1980	1981	1982	1983	1984	1985
Gini coefficients (per cent)									
Equivalised original income	43	43	44	44	46	47	48	49	49
Equivalised gross income	29	29	30	31	31	31	32	31	32
Equivalised disposable income	27	26	27	28	28	28	28	28	29
Equivalised post-tax income	29	28	29	30	31	31	31	30	32

Percentage shares of total original, gross, disposable and post-tax incomes by quintile groups of households¹, 1977-1993

TABLE 1 (continued) (Appendix 2)

	1986	1987	1988	1989	1990 ²	1991 ²	1992 ³	1993 ³
Equivalised original income								
Quintile group								
Bottom	2.5	2.1	2.0	2.0	2.0	2.0	2.1	2.3
2nd	7	7	7	7	7	7	6	6
3rd	16	16	16	16	15	16	15	15
4th	26	25	26	26	25	26	26	25
Top	49	50	50	49	51	50	50	52
All households	100	100	100	100	100	100	100	100
Equivalised gross income								
Quintile group								
Bottom	8.0	7.5	7.1	7.1	6.7	6.7	6.9	7.0
2nd	11	11	11	11	10	10	11	11
3rd	16	16	16	16	16	16	16	16
4th	23	23	23	23	23	23	23	23
Top	41	43	43	42	44	44	43	44
All households	100	100	100	100	100	100	100	100
Equivalised disposable income								
Quintile group								
Bottom	8.8	8.2	7.6	7.6	7.0	7.2	7.4	7.6
2nd	12	12	11	12	11	11	11	12
3rd	17	16	16	17	16	16	16	16
4th	23	23	23	23	23	23	23	23
Top	40	41	42	41	43	42	42	42
All households	100	100	100	100	100	100	100	100
Equivalised post-tax income								
Quintile group								
Bottom	8.2	7.6	6.9	6.9	6.3	6.5	6.5	6.6
2nd	12	12	11	11	10	11	11	11
3rd	16	16	16	16	15	16	16	16
4th	22	22	22	23	23	23	23	22
Top	41	43	44	43	45	44	44	44
All households	100	100	100	100	100	100	100	100

1 Ranked by equivalised disposable income.

2 Includes Company car benefit.

3 Includes Company car benefit and beneficial house purchase loans from employers.

Gini coefficients for the distribution of income at each stage of the tax-benefit system, 1977-1993

TABLE 2 (continued) (Appendix 2)

	1986	1987	1988	1989	1990 ¹	1991 ¹	1992 ²	1993 ²
Gini coefficients (per cent)								
Equivalised original income	50	51	51	50	52	51	52	53
Equivalised gross income	34	36	37	36	38	37	37	38
Equivalised disposable income	31	33	35	34	36	35	34	35
Equivalised post-tax income	35	36	38	37	40	39	38	38

1 Includes Company car benefit.

2 Includes Company car benefit and beneficial house purchase loans from employers.

METHODOLOGY AND DEFINITIONS

The allocation of government expenditure and its financing

1. There are considerable difficulties in moving from the aggregates of government expenditure and financing published in the United Kingdom National Accounts - the CSO Blue Book - to apportioning taxes and benefits to individual households. We can obtain information about the types of household that receive cash benefits and pay direct taxes through surveys such as the Family Expenditure Survey (FES). From the replies respondents give to questions on their expenditure we can impute their payments of indirect taxes, and from information they supply about such factors as their ages and number of children in the household we can estimate the average costs of providing them with social services, such as health and education. But there are other kinds of financing, such as corporation tax and government receipts from public corporations: no attempt is made in this analysis to apportion them to households because it would be too difficult. Similarly, there are other items of government expenditure, such as capital expenditure and expenditure on defence and on the maintenance of law and order, for which there is no clear conceptual basis for allocation, or for which we do not in any event have sufficient information to make an allocation. In all, 57 per cent of government financing (including the Borrowing Requirement) and 55 per cent of expenditure are allocated to households in this analysis.

Family Expenditure Survey (FES)

2. The estimates in this article are based mainly on data derived from the FES. The FES is an annual survey of the expenditure and income of private households. People living in hotels, lodging houses, and in institutions such as old peoples' homes are excluded. Each person aged 16 and over keeps a full record of payments made during 14 consecutive days and answers questions about hire purchase and other payments. The respondents also give detailed information, where appropriate, about income (including cash benefits received from the state) and payments of income tax. Information on age, occupation, education received, family composition and housing tenure is also obtained. The survey covers the whole 12 month period.

3. One of the main purposes of the FES is to produce information on household expenditure patterns which is used to derive the weights for the index of retail prices. The survey is conducted by the Office of Population Censuses and Surveys on behalf of the Central Statistical Office who analyse and report on it (prior to July 1989, the FES was the responsibility of the Department of Employment). The Family Expenditure Survey Report for 1993, containing detailed data on household characteristics, income, and expenditure, was published in August 1994. Details of the survey method are set out in 'The Family Expenditure Survey Handbook' by W F F Kemsley, R U Redpath and M Holmes. Both are published by Her Majesty's Stationery Office.

4. The number of households in the United Kingdom responding to the FES in 1993 was 6,979 (about 1 in every 3,000 households).

The response rate in Great Britain was 69 per cent: the FES in Northern Ireland is done as a separate exercise to the rest of UK, with a larger sampling fraction, and only a proportion of these cases go into the UK analysis. To count as a co-operating household, all members aged 16 and over must fill in the diaries for both weeks and give full details of income etc. The available evidence suggest that older households, households where the head is self-employed, those without children and higher income households, are less likely to co-operate than others (see 'Family Expenditure Survey: a second study of differential response, comparing Census characteristics of FES respondents and non-respondents' by Bob Redpath, *Statistical News No 72* February 1986 HMSO). In addition response in Greater London is noticeably lower than in other areas. However, at present, the results in this article are based on the responses of those households which actually co-operated in the survey and they are not reweighted. This means that some of the figures differ from those produced by other surveys such as the Survey of Personal Incomes from the Inland Revenue.

5. The FES is designed primarily as a survey of expenditure on goods and services by households. It has been developed to gather information about the income of household members, and is an important and detailed source of income data. However, no information is collected that would enable a balance sheet of income and expenditure be drawn up for a household over any particular period. Much expenditure relates to the two-week period after the interview, whereas many income components refer to a much longer period (eg investment income over the previous 12 months). FES income does not include proceeds from the sale of assets (eg a car) or windfalls such as legacies. But recorded expenditure might reflect these items, as well as the effects of living off savings, using capital or borrowing money. Hence, there is no reason why income and expenditure should balance either for an individual household or even averaged over a group of households. Indeed, measured expenditure substantially exceeds measured income for the bottom decile groups of households. Moreover, the difference between income and expenditure is not necessarily a measure of savings or dis-savings.

Unit of analysis

6. The basic unit of analysis in the article is the household, and not the family, individual or benefit unit. A household is defined in the FES as comprising people who live at the same address and who share common catering for at least one meal a day. Spending on many items, particularly on food, housing, fuel and light, is largely joint spending by the members of the household. Without further information or assumptions it is difficult to apportion indirect taxes between individuals or other sub-divisions of households.

7. In classifying the households into various types, a **child** (ie a dependant) is defined as:

either aged under 16

or aged 16, 17 or 18 not married, and receiving full-time non-advanced further education.

[The definition used in the pre-1987 articles was a person aged under 16].

Most of the 'extra' adults in households with at least three adults are

sons or daughters of the head of household rather than retired people.

8. A **retired household** is defined as one where the combined income of retired members amounts to at least half the total gross income of the household, where a retired person is defined as anyone who describes themselves as 'retired' or anyone over minimum NI pension age describing themselves as 'unoccupied' or 'sick or injured but not intending to seek work'.

9. By no means all retired people are in retired households: about one in five households comprising three or more adults contain retired people, for example, and households comprising one retired and one non-retired adult are often classified as non-retired.

10. The sample households have been classified according to their compositions at the time of the interview. This classification is sensible for the vast majority of households, but it can be misleading for the very small number of cases (34 in 1993) where a spouse is absent from the household at the time of interview. The absent spouse may well be working away from home (eg on an oil rig), or living separately - but contributing financially to the household's upkeep. These contributions would be picked up as part of the household's original income. Also, it is likely that some households will have changed their composition during the year.

11. Economically active people comprise persons aged 16 or over who, at the time of interview, were:

- (a) employees at work,
- (b) employees temporarily away from work through illness, temporary lay-off, industrial action etc.
- (c) on government training schemes,
- (d) self-employed,
- (e) not in employment but who had sought work within the last four weeks, or were waiting to start a job already obtained.

Income: redistributive stages

12. Stage one:
Original income plus cash benefits = Gross income.

Stage two:
Gross income minus income tax, employees' National Insurance contributions and local taxes (see paragraph 21 below) = Disposable income.

Stage three:
Disposable income minus indirect taxes = Post-tax income.

Stage four:
Post-tax income plus 'benefits in kind' = Final income.

13. The starting point of the analysis is **original income**. This is the annual income in cash of all members of the household before the deduction of taxes or the addition of any state benefits. It includes income from employment, self-employment, investment income, occupational pensions and annuities. Employment income is based on the last payment received before the interview or, where different, the amount usually received. Allowance is made for any periods of absence from work through sickness and unemployment in the preceding 12 months, and for bonuses. Income from self-employment is recorded in the FES for a past period. This is brought up to current levels using the average earnings index. Income from interest, dividends and rent is taken as the amount received in the 12 months before the interview. Income from occupational pensions is based on the last payment received.

14. About 98 per cent of original income comes from earnings,

occupational pensions (including annuities) and investment income. The tiny bit remaining comes from a variety of sources: trade union benefits, income of children under 16, private scholarships, earnings as a mail order agent or baby-sitter, regular allowance from a non-spouse, allowance from an absent spouse and the imputed value of rent-free accommodation. Households living in rent-free dwellings are each assigned an imputed income. This is counted as employment income if the tenancy depends on the job.

15. In addition to salary, many employees receive as part of their income fringe benefits such as company cars, private medical insurance and beneficial loans. Until recently, these benefits were not allocated to individual households as the information was not available in the FES. However, the company car benefit, together with the benefit from fuel for personal use, has been included in the analysis since 1990. This is by far the most important fringe benefit accounting for over two thirds of all taxable fringe benefits according to Inland Revenue statistics. The benefit is taken to be the taxable income in accordance with Inland Revenue scale charges. Inland Revenue Statistics 1994 (HMSO) contains more detailed information on taxable fringe benefits and their impact on individuals. Although for those earning below £8,500 per year the benefit is not taxable, benefit has been allocated to all those with a company car regardless of the level of earnings. The calculation of this benefit is based primarily on the engine size as reported in the FES. In any given year the total amount of benefit will depend on the level of scale charges for tax purposes as well as the numbers and engine sizes of vehicles in the FES.

16. In the 1992 and 1993 analyses, the benefit of subsidised loans from employers for house purchase has been allocated. The benefit is taken to be the difference between the interest payments on such loans as reported in the FES and the interest payments that would have been payable at the ruling market rate of interest.

17. The next stage of the analysis is to add cash benefits to original income to obtain **gross income**. This is slightly different from the 'gross normal weekly income' used in the FES Report. Cash benefits include:

Contributory:

Retirement pension and Christmas bonus, unemployment benefits, invalidity pension and allowance, statutory sick pay, sickness and industrial injury benefits, widows' benefits, and statutory maternity pay.

Non-contributory:

Income support, child benefit, housing benefit, invalid care allowance, attendance allowance, disability living allowance, disability working allowance, war pensions, severe disablement allowance, industrial injury disablement benefits, family credit, old persons pension, government training scheme allowances (YTS etc), student maintenance awards.

18. Statutory Sick Pay and Statutory Maternity Pay are classified as cash benefits even though they are paid through the employer.

19. Income from short-term benefits is taken as the product of the last weekly payment and the number of weeks the benefit was received in the 12 months prior to interview. Income from long-term benefits, and from housing benefit, is based on current rates.

20. Income tax, local taxes and employees' and self-employed contributions to National Insurance and National Health services are

then deducted to give disposable income. Taxes on capital, such as capital gains tax and inheritance tax, are not included in these deductions because there is no clear conceptual basis for doing so, and the relevant data is not available from the FES.

21. The figures for local taxes include:

council tax (for households in Great Britain interviewed from April 1993),
community charge (for households in Great Britain interviewed before April 1993),
domestic rates (for households in Northern Ireland),
and charges made by water authorities for water, environmental and sewerage services.

Council tax is shown after deduction of transitional relief and discounts to reduce or remove the personal element of the tax (eg the discount of 25% for single person households). All local taxes are shown gross of rebates. These rebates are included as part of housing benefit.

[In pre-1987 articles, domestic rates were included in the 'indirect' tax category. Since then, they have been deducted in the derivation of disposable income in anticipation of their replacement by the community charge. The National Accounts system, which strongly influences this article, shows the community charge/council tax as a deduction before disposable income is produced.]

22. The tax estimates are based on the amount deducted from the last payments of employment income and pensions, and on the amount paid in the last 12 months in respect of income from self-employment, interest, dividends and rent. The income tax payments recorded will therefore take account of a household's tax allowances, with the exception of tax relief obtained in this way 'at source'. In 1993 there were two types of tax relief obtained in this way: mortgage interest relief and life assurance premium relief. Where households are eligible for these reliefs imputations are made and deducted from recorded income tax payments. In the case of mortgage interest relief obtained through the MIRAS scheme, which was introduced in April 1983, these imputations are based on the interest component of the latest mortgage repayment.

23. The next step is to deduct indirect taxes to give **post-tax income**. Indirect tax on final consumer goods and services include:

Duties on beer, wines, spirits, tobacco, oil, betting, etc
Value Added Tax (VAT)
Customs (import) duties
Motor vehicle duties
Driving licenses
Television licenses
Stamp duties
Gas levy
Fossil fuel levy

24. Taxes levied on final goods and services are assumed to be fully incident on the consumer, and can be imputed from a household's FES expenditure record. For example, the amount of VAT which is paid by the household is calculated from the household's total expenditure on goods and services subject to VAT.

25. VAT affects the prices of secondhand cars and is therefore assumed to be incident on the purchasers of such cars as well as on the purchasers of new cars. In allocating taxes, expenditures recorded in the FES on alcoholic drink, tobacco, ice cream, soft drinks and confectionery are grossed up to allow for the known

under-recording of these items in the sample. The true expenditure in each case is assumed to be proportional to the recorded expenditure. This approach has its drawbacks because there is some evidence to suggest that heavy drinkers, for example, are not picked up by the FES.

26. The incidence of stamp duty on house purchase on an owner-occupying household has been taken as the product of the hypothetical duty payable on buying their current dwelling (estimated from valuations given in the FES) and the probability of a household of that type moving in a given year (estimated from the General Household Survey).

27. Indirect taxes on intermediate goods and services include:

Rates on commercial and industrial property
Motor vehicle duties
Duties on hydrocarbon oils
Employers' contributions to National Insurance, the National Health Service, the industrial injuries fund and the redundancy payments scheme
Customs (import) duties
Stamp duties
VAT

28. These are taxes that fall on goods and services purchased by industry. Only the elements attributable to the production of subsequent goods and services for final consumption by the UK personal sector are allocated in the article, being assumed to be fully shifted to the consumer. Their allocations between different categories of consumers' expenditure are based on the relation between intermediate production and final consumption using estimated input-output techniques. This process is not an exact science, and many assumptions have to be made. Some analyses, eg that by Dilnot, Kay and Keen 'Allocating Taxes to Households: A Methodology', suggest that the taxes could be progressive rather than regressive if one were to use different incidence assumptions.

29. In discussing the incidence of indirect taxes, we have used the terms '**progressive**' and '**regressive**' to mean taking an increasing or decreasing proportion of income as income rises. The degree to which a tax is progressive or regressive is strongly affected by the definition of income which the tax is compared with. For example, if indirect taxes were to be compared with gross income (rather than disposable income as in this article), they would appear much more regressive than shown in Table G of this article.

30. For Table G of the main article, we have constructed a measure of expenditure on goods and services which is similar to that used in the Consumers' Expenditure part of the National Accounts except that mortgage interest payments are included as a proxy for imputed rent "payments" for owner-occupiers. Savings, investments, superannuation contributions and capital repayments on mortgages are excluded as well as payments of local taxes. The expenditures on alcohol, tobacco and confectionery have been grossed up to correspond to the grossed-up indirect tax amounts described in paragraph 25 above.

31. Finally, we add those notional benefits in kind provided to households by government for which there is a reasonable basis for allocation to households, to obtain **final income**. The benefits in kind allocated are:

State education
School meals and welfare milk
National Health service
Housing subsidy
Railway travel subsidy

Bus travel subsidy (including concessionary fares schemes)

32. Education benefit is estimated by the Department of Education and Science as the cost per pupil or student in special schools, primary and secondary schools, universities, and other further education establishments. The value of the benefits attributed to a household depends on the number of people in the household recorded in the FES as receiving each kind of state education (students away from the household are excluded). No benefit is allocated for pupils attending private schools.

33. The value of school meals and other welfare foods is based on their costs to the public authorities. Any payment by the individual household is subtracted to arrive at a net contribution.

34. Data are available on the average cost to the Exchequer of providing the various types of health care - hospital inpatient/outpatient care, GP consultations, dental services, etc. Each individual in the FES is allocated a benefit from the National Health Service according to the estimated average use made of these various types of health service by people of the same age and sex, and according to the total cost of providing those services. The benefit from maternity services is assigned separately to those households containing children under the age of 12 months. No allowance is made for the use of private health care services.

35. In this article public sector tenants are defined to include the tenants of local authorities, New Town Corporations, the Scottish Special Housing Association (SSHA), Northern Ireland Housing Executive (NIHE) and housing associations. The total housing subsidy includes the contribution from central government to the housing revenue accounts of local authorities: and grants paid to the New Town Corporations, the SSHA, the NIHE and housing associations. Within Greater London, the rest of England, Wales, Scotland and Northern Ireland each public sector tenant has been allocated a share of the region's total relevant subsidy based on the size of the dwelling. Housing subsidy does not include mortgage interest tax relief, rent rebates and allowances or local tax rebates included in housing benefit.

36. The rail travel subsidies allocated are those to British Rail passenger operations and the London Underground. The subsidy to London and South East services is allocated to households living in the area and subsidies to provincial services to households living outside the South East, in proportion to households' expenditure on rail fares as recorded in the FES. In making these allocations allowances are made for the use of rail travel by the business sector, tourists and the institutional part of the personal sector.

37. In this article, bus travel subsidy covers both the cost of concessionary travel schemes for senior citizens and others, and subsidies to operators. Separate allocations are made for Greater London, the other metropolitan areas and the rest of the United Kingdom. The subsidy is divided between households according to recorded expenditure on bus travel and the types of concessionary passes held.

38. We must emphasise that the analysis in this article provides only a very rough guide to the kinds of household which benefit from government expenditure, and by how much, and to those which finance it. Apart from the fact that large parts of expenditure and receipts are not allocated, the criteria used both to allocate taxes and to value and apportion benefits to individual households could be regarded as too simplistic. For example, the lack of data forces us to assume that the incidence of direct taxes falls on the individual from whose income the tax is deducted. This implies that the benefit of tax relief for mortgage interest, for example, accrues directly to the taxpayer rather than to some other party, for instance, the vendor

of the land. It also implies that the working population is not able to pass the cost of the direct tax back to employers through lower profits, or to consumers through higher prices. And, in allocating indirect taxes we assume that the part of the tax falling on consumers' expenditure is borne by the households which buy the item or the service taxed, whereas in reality the incidence of the tax is spread by pricing policies and probably falls in varying proportions on the producers of a good or service, on their employees, on the buyer, and on the producers and consumers of other goods and services. Another example is that we know only an estimate of the total financial cost of providing benefits such as education, and so we have to treat that cost as if it measured the benefit which accrues to recipients of the service. In fact, the value the recipients themselves place on the service may be very different to the cost of providing it: moreover, there may be households in the community, other than the immediate beneficiaries, who receive a benefit indirectly from the general provision of the service.

Equivalence scale

39. The equivalence scale used in this analysis is the *McClements scale* (before housing costs are deducted). The scales (separate ones for before and after housing costs) were developed by Dr L D McClements at the Department of Health and Social Security (DHSS) in the mid-seventies, based on expenditure data from the 1971 and 1972 FES. They are based on the assumption that it is possible to estimate equivalence scales from people's spending behaviour as recorded in the FES without making any specific assumption about the criteria for equivalence. These scales are in regular use and an analysis by Banks and Johnson ('Children and Household Living Standards', IFS, 1993) suggests that the scales are as valid now as when they were developed. The scales are regarded as plausible and they are well within the range of equivalence scales developed at different times in a number of countries. Hence their use is fully justified for broad statistical standardisation.

40. The equivalence values are given below:

Type of household member	Equivalence value
a. <u>married head of household</u> (ie a married couple of 2 adults)	1.00
1st additional adult	0.42
2nd (or more) additional adult	0.36 (per adult)
b. <u>single head of household</u> (ie 1 adult)	0.61
1st additional adult	0.46
2nd additional adult	0.42
3rd (or more) additional adult	0.36 (per adult)
c. <u>Child aged:</u>	
16-18	0.36
13-15	0.27
11-12	0.25
8-10	0.23
5-7	0.21
2-4	0.18
Under 2	0.09

Diagram A

Complete income equality

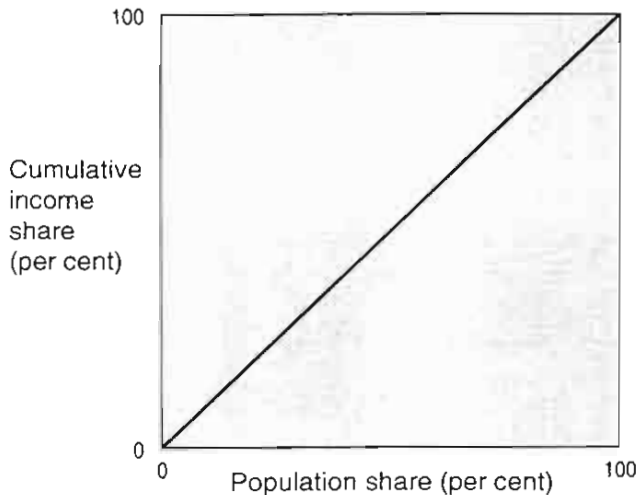
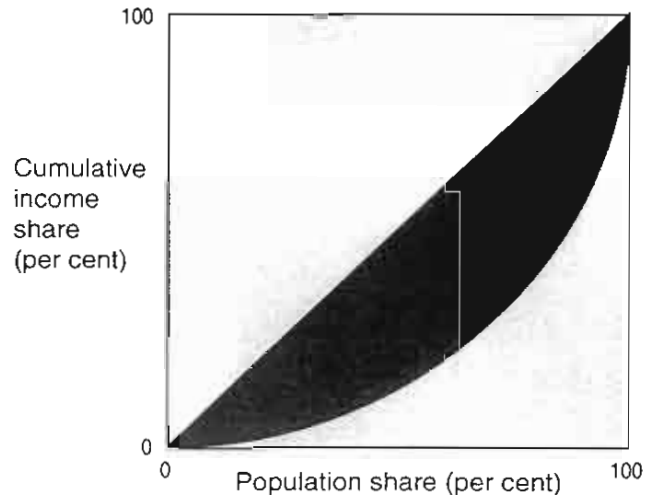


Diagram B

Lorenz curve for a typical income distribution



The values for each household member are added together to give the total equivalence number for that household. This number is then divided into the disposable income for that household to give **equivalised disposable income**. For example, a household has a married couple with 2 children (aged 6 and 9) plus one adult lodger. The household's equivalence number is $1.0 + 0.21 + 0.23 + 0.42 = 1.86$. The household's disposable income is £20,000, and so its equivalised disposable income is £10,753 ($=£20,000/1.86$).

41. This quantity is used to produce the single ranking used in all the tables in this article (apart from the Gini coefficients which have to be ranked afresh for each different definition of income).

[In pre-1987 articles, three types of ranking were used; the main one was using original income but gross income and disposable income were also used. In addition, the tables showing income shares were re-ranked for each separate income measure].

It is important to note that most monetary values shown in the article are ordinary (ie un-equivalised) £ a year, not equivalised £ a year. Where equivalised £ a year do appear (eg the quintile points in Table 3 of Appendix 1), they are shown in *italics*.

Gini coefficient

42. The Gini coefficient is the most widely used summary measure of the degree of inequality in an income distribution. It can more easily be understood by considering a Lorenz curve of the income distribution, (see Diagram B) ie a graph of the cumulative income share against the cumulative share of households. The curve representing complete equality of income is thus a diagonal line while complete inequality (with only one recipient of income) is represented by a curve comprising the horizontal axis and the right-hand vertical axis (see Diagram A). The area between the Lorenz curve and the diagonal line of complete equality, as a proportion of the triangular area between the curves of complete equality and inequality, gives the value of the Gini coefficient. Thus a distribution of perfectly equal incomes has a Gini coefficient of zero; as inequality increases (and the Lorenz curve bellies out), so does the Gini coefficient until, with complete inequality, it reaches its maximum value of 1 (or 100 per cent).

43. To calculate the Gini coefficient for an income distribution, the first step is to rank that distribution in ascending order. All the Gini

coefficients shown in this article are based on distributions of equivalised income eg the coefficient for original income is calculated after dividing the original income for all the households by their appropriate equivalence values.

[In pre-1987 articles, no such equivalisation was used.]

44. Strictly speaking, one could argue that the equivalence scales used here are only applicable to disposable income because this is the only income measure relating directly to spending power. Since the scales are often applied, in practice, to other income measures, we are content to use them to equivalise original, gross and post-tax income for the purpose of producing Gini coefficients (and in the tables giving percentage shares of total income). However, we do not think it is appropriate to equivalise the final income measure because this contains notional income from benefits in kind (eg state education): the equivalence scales used in this article are based on actual household spending and do not, therefore, apply to such items as notional income.

Sampling errors and reliability

45. As the FES is a sample survey, data from it will differ in varying degrees from those of all households in the UK. The degree of difference will depend on how widely particular categories of income and expenditure vary between households. This 'sampling error' is smallest in relation to, say, the average expenditure of large groups of households on items purchased frequently (when spending does not vary greatly between households). Conversely, it is largest for small groups of households, and for items or services purchased infrequently (for which expenditure varies considerably between households). A broad numerical measure of the amount of variability is provided by the quantity known as the standard error.

46. It is difficult to calculate these standard errors exactly because of the multi-stage design of the FES, but we have made a good approximation by combining the simple random formula with the appropriate design factor from the FES analysis. [The design factor is the ratio of the standard error using the detailed formula that takes account of the full complexity of the sample design to the standard error using the simple random sample formula.] The most appropriate design factor from the FES work is for 'gross normal weekly household income'. The standard error of the mean for N house-

holds in Table 1 is given by:

$$(\text{design factor}) * S/\sqrt{N}$$

where the design factor is 1.34 for 1993, and S^2 is the estimate of the population variance.

This simple formula is applicable to a complete group of households, but for quintile or decile groups a more complex formula is required (see paragraph 48).

47. The standard errors can be used to give an idea of the reliability of a mean by quoting a confidence interval of the form:

$$\text{estimate of mean} \pm (1.96 * \text{standard error})$$

where the factor 1.96 corresponds to the 95% confidence interval.

For example: the mean disposable income for all households is £15,271 (see Table 3A in Appendix 1), and its standard error is £186 (from Table 1 below). So the confidence interval for the population value is £15,271 ± £365 ie about (£14,900 to £15,640). It is very likely that the mean disposable income for the whole population (ie all UK private households) will lie in this range.

48. The standard errors for the household types are larger than for the whole sample, mainly because the sample sizes concerned are smaller. For quantile groups of given household types, the sample sizes are of course smaller still, which would tend to increase sampling variability. On the other hand, the income values are by definition in a narrower range which would tend to reduce the sampling error. Precise estimates of standard errors for averages for quantile groups are complicated to produce. As well as the variability of the observations between the quantile points, we should also take account of the randomness which exists because the sample quantile points are themselves subject to random variation. We have used a formula for the asymptotic variance of a 'randomly trimmed' mean. This formula gives a good approximation where the total sample size is around 1,000 (when the variance is under-estimated by about 2 per cent on average), and a reasonable approximation for samples of 100-500 (when the variance is under-estimated by about 5 per cent on average). The formula for the variance of a mean (x) calculated between two sample percentiles, Q_1 and Q_2 , corresponding to proportions p_1 and p_2 is:

$$\frac{S^2 + p_1(x - Q_1)^2 + (1 - p_2)(Q_2 - x)^2 + \frac{p_1(1 - p_2)}{(p_2 - p_1)}(Q_2 - Q_1)^2}{n(p_2 - p_1)}$$

where S^2 = variance calculated from observations between Q_1 and Q_2 , and n = total sample size.

The square root of this quantity is then multiplied by the design factor (as described in paragraph 46) to give the standard errors shown in the tables for quintile and decile groups.

49. The 'complex' standard errors for quintile and decile groups are quite a bit larger than the simple random sample estimates. For the 'all households' group the ratio merely reflects the fact that the simple random sample figure is multiplied by the design factor (1.34 in 1993) to produce the 'complex' standard error. The quoted standard errors for the middle decile groups are about six times higher than the simple random sample estimates.

Ratio of 'complex' standard error to simple random sample estimate for equivalised disposable income, 1993

Decile group

Bottom	1.81
2nd	4.81
3rd	6.22
4th	6.67
5th	6.88
6th	7.01
7th	6.87
8th	6.06
9th	4.76
Top	1.56
All	1.34

50. We have produced estimates for the standard errors of **shares of total income** (shown in Table 1, Appendix 2). These standard errors have been calculated using the formula for the variance of a ratio, and the results are given in Table 2 below.

For example, the top quintile group accounted for 42 per cent of total equivalised disposable income: the standard error of this estimate is 0.26 per cent, and the 95% confidence interval for the true value is (41.5, 42.6) per cent.

As the formula involves an approximation, the figures shown in Table 2 are likely to be under-estimates of the true position.

Previous articles

51. This article is the latest in an annual series. Earlier articles covering the years 1957 to 1986 (using the old methodology) were published in the following issues of Economic Trends:

November 1962, February 1964, August 1966, February 1968, 1969, 1970, 1971, 1972, November 1972 and 1973, December 1974, February 1976, December 1976, February 1978, January 1979, 1980, 1981 and 1982, December 1982, November 1983, December 1984, December 1985, July 1986, November 1986, July 1987 and December 1988.

52. The results for 1987 (the first year of using the new methodology) were published in the May 1991 edition of Economic Trends, the 1988 results appeared in the March 1991 edition, the 1989 results in the January 1992 edition, the 1990 results in the January 1993 edition, the 1991 results in the May 1993 edition and the 1992 results in the January 1994 edition. The latest seven articles use a very different methodology from the earlier years, and hence are completely incompatible.

53. The results in all articles are intended to be free standing: they were not designed for direct comparison with other years except where some limited comparisons were made in the articles. Such comparisons are fraught with difficulty because of changes in definitions eg housing benefit in 1983. However, some broader measures like the Gini coefficients are relatively robust and will stand comparison with other years: this year's article gives such a comparison for the years 1977-1993. Enquiries should be addressed to Dave Westcott, Social Regional Statistics and Household Expenditure Branch, Central Statistical Office, Room 1823, Millbank Tower, Millbank, London SW1P 4QQ.

Standard errors of the mean, 1993

TABLE 1 (Appendix 3)

Household type/ Quantile group	Number in sample	Standard error of the mean of the five income measures (£ per year)					
		Original income	Gross income	Disposable income		Post-tax income	Final income
				Unadjusted	Equivalised		
All households	6 979	264	246	186	180	165	173
Non-retired	5 132	359	340	253	225	230	240
Retired	1 847	260	220	199	217	178	187
Non-retired without children	2 812	474	454	334	337	302	310
Non-retired with children	2 320	550	448	290	268	352	364
Decile groups ¹ of all households							
Bottom	698	186	188	162	83	156	383
2nd	698	615	517	444	70	368	766
3rd	698	1 109	886	716	78	548	1 082
4th	698	1 461	1 125	899	110	716	1 220
5th	698	1 790	1 439	1 117	135	907	1 419
6th	697	2 041	1 736	1 336	158	1 120	1 651
7th	698	2 115	1 873	1 441	185	1 263	1 700
8th	698	2 096	1 998	1 511	211	1 274	1 684
9th	698	1 921	1 905	1 436	311	1 265	1 597
Top	698	1 787	1 786	1 318	1 168	1 239	1 282
Household type							
1 adult retired	951	278	271	190	310	179	183
2 or more adults retired	896	425	405	315	301	289	294
1 adult non-retired	870	618	578	427	700	402	400
2 adults non-retired	1 400	706	672	482	479	447	446
3 or more adults non-retired	542	1 090	1 017	749	498	681	702
1 adult with children	428	596	523	420	416	381	438
2 adults and 1 child	516	1 001	945	714	591	667	670
2 adults and 2 children	744	1 084	1 052	772	550	719	726
2 adults with 3 or more children	345	1 324	1 222	931	544	842	872
3 or more adults with children	287	1 578	1 459	1 167	604	1 035	1 087

¹ Households ranked by equivalised disposable income.

Standard errors for shares of total income, 1993

TABLE 2 (Appendix 3)

	Share of total income, r (as %)	Standard error of r (as %)	95 % confidence interval for r (as %)
Equivalised original income			
Quintile group ¹			
Bottom	2.3	0.06	(2.16,2.42)
2nd	6	0.16	(5.6, 6.2)
3rd	15	0.32	(14.0,15.3)
4th	25	0.48	(23.9,25.9)
Top	52	0.15	(51.9,52.6)
All households	100		
Equivalised gross income			
Quintile group ¹			
Bottom	7.0	0.07	(6.88,7.14)
2nd	11	0.10	(10.3,10.8)
3rd	16	0.22	(15.1,16.1)
4th	23	0.33	(22.0,23.4)
Top	44	0.27	(43.6,44.7)
All households	100		
Equivalised disposable income			
Quintile group ¹			
Bottom	7.6	0.07	(7.46,7.72)
2nd	12	0.10	(11.3,11.8)
3rd	16	0.20	(15.7,16.6)
4th	23	0.29	(22.0,23.3)
Top	42	0.26	(41.5,42.6)
All households	100		
Equivalised post-tax income			
Quintile group ¹			
Bottom	6.6	0.04	(6.56,6.70)
2nd	11	0.13	(10.8,11.4)
3rd	16	0.23	(15.0,16.0)
4th	22	0.35	(21.7,23.1)
Top	44	0.34	(43.6,45.0)
All households	100		

¹ Ranked by equivalised disposable income.