

THE EFFECTS OF TAXES AND BENEFITS ON HOUSEHOLD INCOME, 1990

The main points are:

(1) The effect of government expenditure and taxation is to reduce the differences in income amongst households. In 1990 taxes and benefits (including NI pensions) increased the share of total income of the bottom fifth of households from 2.0 per cent of original income to 6.3 per cent of post-tax income (Table C). Cash benefits play the largest part in reducing income differences.

(2) The joint impact of taxes and benefits is greatest for retired households and for those non-retired households containing no economically active people.

Introduction

The aim of this article is to examine how the distribution of income amongst households in the UK is modified by government expenditure and taxation. In 1990 the government raised and spent £214 billion. In this study, the revenue raised is related to the individual households paying the taxes and the expenditure is related to those households which benefit, wherever this is possible. However, 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. Over two thirds of government revenue and about half of government spending in 1990 is directly allocated to households (see Table 1, Appendix 1). One of the consequences of 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 (wages and salaries, self-employment income); from occupational pensions; from their investments and from other income. 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. 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 2).

The article aims to present the most meaningful figures for 1990. The figures cannot be easily compared with earlier articles in this series because the FES changes each year and no special effort has been made to ensure fully consistent time series.

This year, as a special topic, the benefit of company cars in original income is assessed (see Part II). The treatment of company cars in the analysis is a good example of the difficulties in making comparisons over time. By including the benefit derived from company cars as part of income, this year's analysis treats cars consistently across income and taxation. Previous years' results cannot easily be reworked on a similar basis as the data were not collected in the FES.

The contents are as follows:

Part I	Results for 1990 for all households, and for retired and non-retired households separately.
Part II	Company car benefit.
Appendix 1	Detailed results for 1990, with fine breakdown of income components for quintile and decile groups and results for different types of household.
Appendix 2	Methodology and definitions.
Appendix 3	Detailed tables for 1990 ranked using unadjusted disposable income.
Appendix 4	Trends in income distribution, 1977-1990.

MAIN ARTICLE

Basic Results

The results with households ranked by disposable income are given in Table A. This shows that there is a relatively strong relationship between the disposable income of a household and its size. The lowest quintile group has a high proportion of retired households. In contrast, in the top quintile group there are more households with 3 or more adults and few retired households. Further details of the distribution ranked by unadjusted disposable income are shown in Appendix 3.

Equivalisation

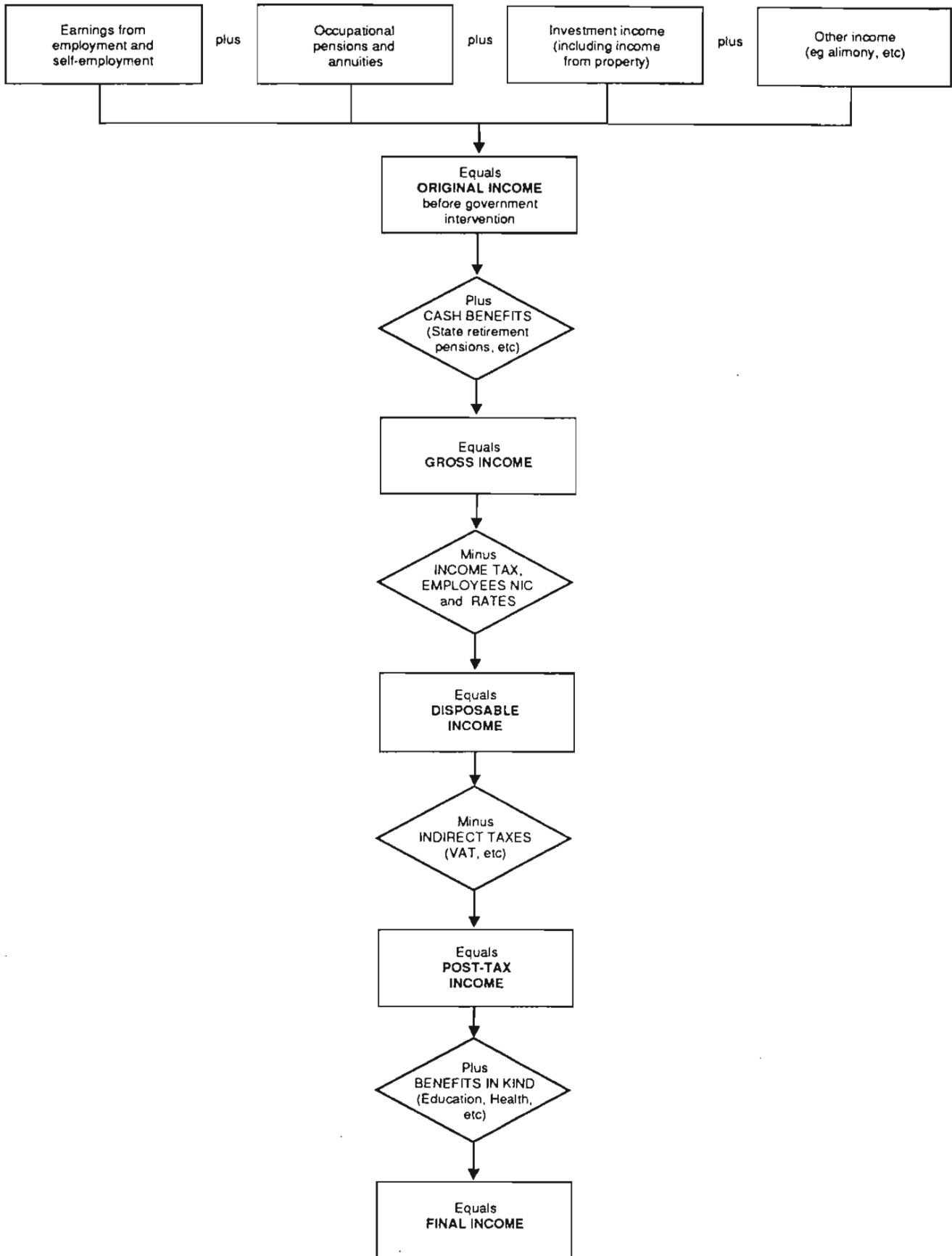
Using household income for comparing the welfare among households does not allow for differences in household composition and thus need. One way to take such differences into account is to use income per capita but such a measure does not allow for the differing needs of children relative to adults or for economies of scale. This analysis therefore uses equivalence scales designed to take into account household size, family composition and age of children. Fuller details of the derivation of equivalised scales are given in Appendix 2. The use of equivalence scales in comparing the redistribution of income has been used in this series of articles since 1987. The remainder of this article refers to distribution of households using equivalised scales.

RESULTS FOR ALL HOUSEHOLDS

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 (the lowest quintile group contains the 20 per cent of households with the lowest equivalised disposable incomes). In the lowest quintile group the average number of economically active people is 0.4 and hence the average original income is low (£1,530 per annum). In the highest quintile group, there are an average of 1.6 economically active people and

CHART 1

Stages of redistribution



Summary of the effects of taxes and benefits by quintile groups of unadjusted disposable income, 1990

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	950	4 480	11 920	19 190	38 170	14 940
+ plus cash benefits	3 150	3 430	1 850	1 300	910	2 130
Gross income	4 100	7 910	13 760	20 490	39 080	17 070
less direct taxes ² and employees' NIC ..	690	1 270	2 640	4 180	8 520	3 460
Disposable income	3 410	6 640	11 120	16 310	30 560	13 610
less indirect taxes	830	1 600	2 590	3 260	4 610	2 580
Post-tax income	2 580	5 040	8 530	13 050	25 940	11 030
plus benefits in kind	1 590	2 130	2 130	2 220	2 270	2 070
Final income	4 170	7 180	10 650	15 260	28 210	13 100
Average per household (number)						
Children ³	0.2	0.6	0.8	0.8	0.8	0.6
Adults	1.2	1.7	1.9	2.1	2.4	1.9
Persons	1.4	2.2	2.7	2.9	3.2	2.5
People in full-time education	0.1	0.4	0.6	0.7	0.7	0.5
Economically active people	0.2	0.6	1.3	1.7	2.1	1.2
Retired people	0.8	0.7	0.3	0.2	0.1	0.4
Composition (Percentages)						
Household type						
Retired	67	40	15	7	3	26
Non-retired						
1 adult	17	16	15	10	4	12
2 adults	4	15	26	29	30	21
1 adult with children ⁴	9	11	3	1	1	5
2 adults with children	3	15	31	34	31	23
3 or more adults ⁵	-	4	11	18	31	13
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 (which is after tax relief at source on mortgage interest and life assurance premiums) and gross domestic rates/Community charge.

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.

average original income is £35,190. In the lowest quintile group, half of the households are retired - defined as households where at least half the total gross income comes from retired people - and the majority of these have virtually no original income since the state retirement pension (including any graduated or additional pension) is a cash benefit.

Chart 2 illustrates the declining importance of cash benefits in gross income as income rises.

Chart 3 shows how the dispersion of incomes is reduced at each stage of the tax-benefit system, so that the average final income for each quintile group ranges from £5,550 to £25,180, a ratio of about 1:5 compared with the ratio for original incomes of about 1:23.

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 over 50 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 2.0 per cent to 6.7 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. This table is calculated using equivalised incomes, and hence 'final income' has not been included. The McClements equivalence scales, which were estimated using household spending patterns, are arguably inappropriate for equivalising non-spendable amounts of income eg benefits from education.

The Gini coefficient is the most widely used summary measure of the inequality of the distribution of income (see paragraph 41 of Appendix 2). It takes values between 0 and 100 per cent - the higher

Summary of the effects of taxes and benefits by quintile groups of equivalised disposable income, 1990

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	1 530	5 330	12 740	19 930	35 190	14 940
plus cash benefits	3 580	3 160	2 040	1 190	670	2 130
Gross income	5 110	8 490	14 770	21 120	35 860	17 070
less direct taxes ² and employees' NIC..	830	1 390	2 770	4 400	7 930	3 460
Disposable income.....	4 280	7 100	12 000	16 720	27 940	13 610
less indirect taxes.....	1 200	1 720	2 630	3 270	4 070	2 580
Post-tax income	3 080	5 380	9 370	13 450	23 860	11 030
plus benefits in kind	2 470	2 330	2 330	1 890	1 320	2 070
Final income	5 550	7 710	11 700	15 330	25 180	13 100
Average per household (number)						
Children ³	0.7	0.6	0.8	0.6	0.4	0.6
Adults.....	1.6	1.7	2.0	2.1	1.9	1.9
Persons	2.3	2.4	2.8	2.6	2.3	2.5
People in full-time education.....	0.5	0.5	0.7	0.5	0.3	0.5
Economically active people.....	0.4	0.7	1.4	1.7	1.6	1.2
Retired people.....	0.7	0.7	0.4	0.2	0.1	0.4
Composition (Percentages)						
Household type						
Retired	51	44	18	10	8	26
Non-retired						
1 adult.....	9	8	9	13	22	12
2 adults	7	11	18	29	39	21
1 adult with children ⁴	12	7	3	2	1	5
2 adults with children.....	15	20	34	26	19	23
3 or more adults ⁵	6	10	17	20	12	13
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 domestic rates/Community charge.

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.

values indicating greater inequality. In this article, Gini coefficients are now calculated using equivalised incomes (using the same equivalence scale that is applied to equalise disposable income). The fall from 52 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; nearly half 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.

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 £3,680 per annum in the lowest quintile group to £39,140 in the highest (Table D), a ratio of 1:11 compared to the ratio of 1:23 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 and Table K (at the end of this section) gives a breakdown by the number of economically active people per household.

CHART 2

Sources of gross income, by quintile groups of equivalised disposable income, 1990

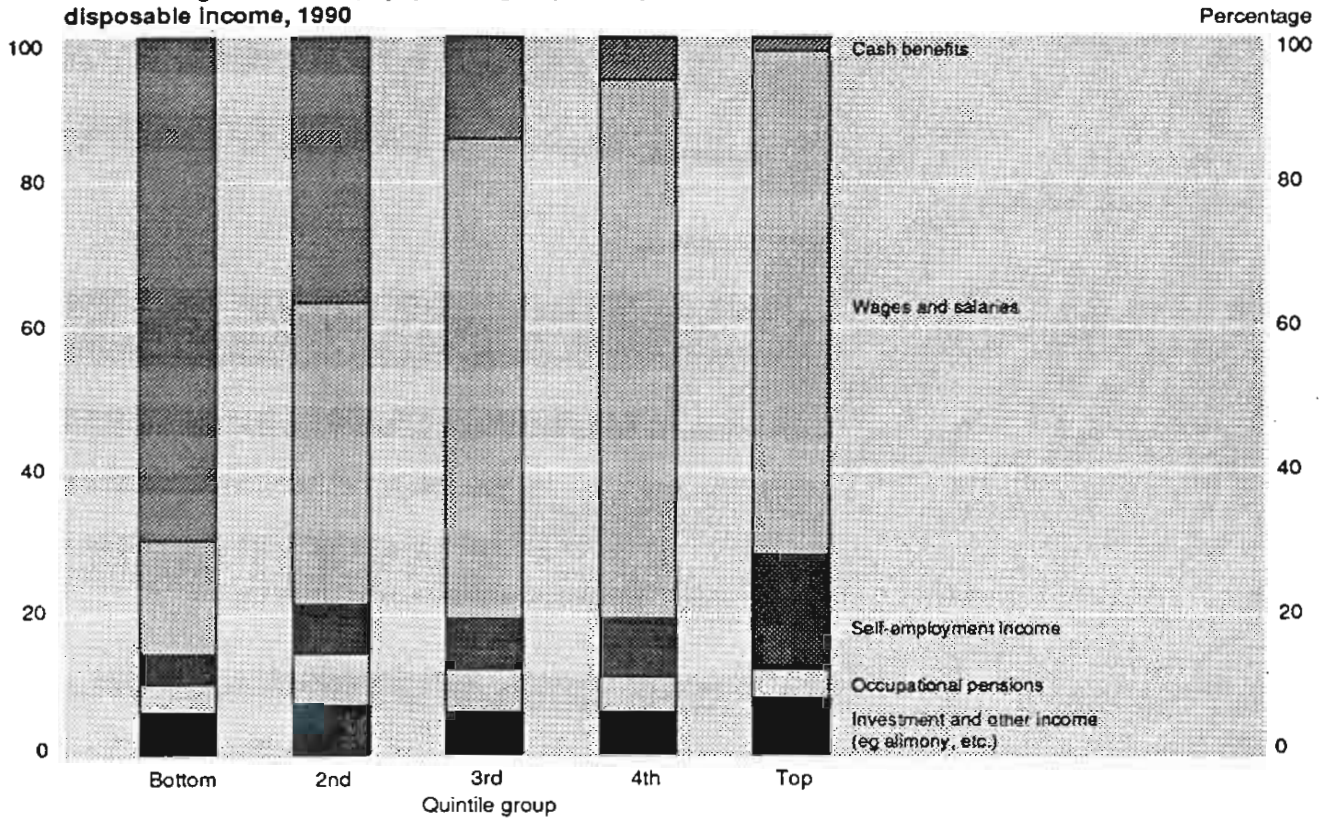
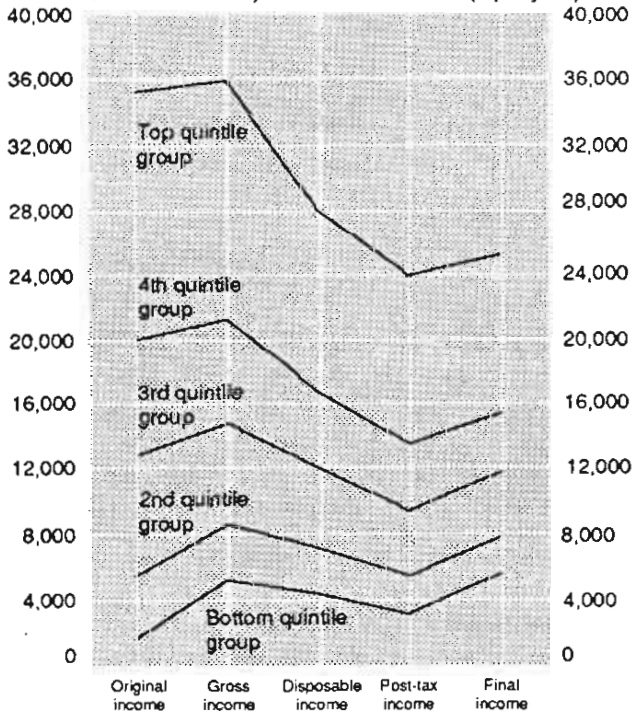


CHART 3

The effects of taxes and benefits on quintile groups¹ of households, 1990

Average income per household (£ per year)



1. Households are ranked throughout by their equivalised disposable incomes

Percentage shares of total household income and Gini coefficients¹, 1990

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...	2.0	6.7	7.0	6.3
2nd	7	10	11	10
3rd	15	16	16	15
4th	25	23	23	23
Top	51	44	43	45
All households	100	100	100	100
Decile group				
Bottom..	0.8	2.9	2.9	2.4
Top	33	28	28	30
Gini coefficient (percent) ..	52	38	36	40

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 the distribution is ranked and this ranked distribution is used to calculate the coefficient.

Summary of the effects of taxes and benefits on NON-RETIRED households, 1990

TABLE D

	Quintile groups of NON-RETIRED households ranked by equalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Original income..	3 680	11 580	17 180	23 060	39 140	18 930
plus cash benefits..	3 280	1 900	1 240	710	450	1 520
Gross income..	6 960	13 490	18 420	23 780	39 600	20 450
less direct taxes ¹ & employees' NIC ..	1 160	2 490	3 760	5 010	8 830	4 250
Disposable income ..	5 800	10 990	14 670	18 760	30 760	16 200
less indirect taxes ..	1 770	2 710	3 090	3 550	4 260	3 080
Post-tax income..	4 020	8 290	11 580	15 220	26 500	13 120
plus benefits in kind..	3 060	2 760	2 130	1 780	1 280	2 200
Final income..	7 080	11 040	13 710	17 000	27 780	15 320
Average per household (number)						
Children ² ..	1.3	1.1	0.8	0.6	0.4	0.8
Adults..	1.8	2.1	2.1	2.1	1.9	2.0
Persons..	3.1	3.2	2.9	2.7	2.3	2.8
People in full-time education ..	1.0	0.9	0.6	0.5	0.3	0.7
Economically active people ..	0.9	1.6	1.8	1.9	1.8	1.6
Retired people ..	0.1	0.1	0.1	0.1	-	0.1

1 These are income tax (which is after tax relief at source on mortgage interest and life assurance premiums) and gross domestic rates.

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

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. An important item, child benefit, is concentrated towards the bottom of the income distribution, in proportion to the number of children per household (Table D). The other non-contributory benefits are mainly income-related, in particular Income Support (formerly Supplementary Benefit) 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. Most contributory benefits, for which contribution records rather than income are the criteria for payment, are highest for the second quintile group. On average, cash benefits formed over 7 per cent of the gross income of non-retired households: their payment resulted in a significant reduction in income inequality.

Income tax, NI contributions and community charge

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 £350 of weekly earnings (the ceiling in operation during most of 1990), households in the top

Average value of cash benefits for each quintile group of NON-RETIRED households, 1990

TABLE E

	Quintile groups of NON-RETIRED households ranked by equalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Contributory						
Retirement pension	160	360	340	180	130	230
Sickness/ injury related	300	280	200	100	70	190
Unemployment benefit	90	30	30	10	10	30
Other	100	70	60	50	40	60
Total contributory	650	740	620	340	240	520
Non-contributory						
Income support	1160	240	80	30	10	300
Child benefit	510	440	290	220	140	320
Housing benefit	640	170	50	20	10	180
Sickness/ disablement related	130	160	120	50	30	100
Other	190	160	80	60	10	100
Total non-contributory	2 630	1160	620	380	220	1000
Total cash benefits	3 280	1900	1240	710	450	1520
Cash benefits as a percentage of gross income	47	14	7	3	1	7

Income tax, employees' NIC and domestic rates/Community charge as percentages of gross income for each quintile group of NON-RETIRED households, 1990

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	5.3	8.8	11.4	12.9	16.8	13.1
Employees NIC	2.4	4.4	4.8	4.8	3.5	4.1
Gross domestic rates/ Community charge	9.0	5.3	4.2	3.3	2.0	3.6
Total	16.7	18.5	20.4	21.1	22.3	20.8

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

quintile group pay rather less in contributions as a percentage of gross income than the middle 60 per cent of households (Table F).

In 1990 over one-third of working age individuals had insufficient income to pay income tax, and marginal tax rates for taxpayers were 25 per cent or 40 per cent. The analysis of households when ranked by equivalised disposable income shows average rates were 5.3 per cent in the lowest quintile, rising steadily to 16.8 per cent in the top quintile. This pattern arises chiefly because the quintile groups are based on (after tax) equivalised disposable income, which means that even the lowest quintile contains individuals who are liable for income tax.

The community charge succeeded domestic rates from the second quarter of 1990 for households in England and Wales. Both community charge and rates (which used to be treated in these articles as an indirect tax) are included here with income tax and NICs in line with the treatment of community charge in the National Accounts. Rebates on these local taxes, which are designed to attenuate the regressive impact of rates at the lower end of the income distribution, are treated as cash benefits. The treatment of community charge/rates in Table F may be misleading in overstating their regressive impact.

Indirect taxes as a percentage of (a) disposable income and (b) expenditure on goods and services for each quintile group of NON-RETIRED households, 1990

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	10.3	9.1	8.1	7.6	6.0	7.5
Duty on beer and cider	1.1	0.9	0.9	0.8	0.5	0.7
Duty on wines and spirits	0.8	0.8	0.7	0.8	0.7	0.7
Duty on tobacco	5.5	3.1	2.0	1.3	0.6	1.7
Duty on hydrocarbon oils	1.9	1.8	1.6	1.5	0.9	1.4
Car tax and vehicle excise duty.. .. .	1.3	1.4	1.1	1.1	0.7	1.0
Other taxes on final goods and services	2.3	1.7	1.4	1.2	1.0	1.3
Intermediate taxes	7.5	5.8	5.0	4.7	3.6	4.7
Total indirect taxes	30.6	24.6	21.1	18.9	13.9	19.0
(b) Percentages of expenditure on goods and services¹						
VAT	7.1	7.7	7.9	7.9	8.1	7.9
Duty on beer and cider	0.8	0.8	0.9	0.8	0.6	0.8
Duty on wines and spirits	0.5	0.6	0.7	0.8	0.9	0.7
Duty on tobacco	3.8	2.6	2.0	1.4	0.8	1.8
Duty on hydrocarbon oils	1.3	1.5	1.6	1.5	1.2	1.4
Car tax and vehicle excise duty.. .. .	0.9	1.2	1.1	1.1	0.9	1.0
Other taxes on final goods and services	1.6	1.4	1.4	1.2	1.3	1.4
Intermediate taxes	5.1	5.0	4.9	4.9	4.8	4.9
Total indirect taxes	21.0	20.9	20.6	19.7	18.7	19.9

¹ Excludes savings, investments, superannuation contributions, and mortgage payments but includes imputed rent of owner occupiers (see paragraph 29 of Appendix 2 for the full definition of expenditure).

Indirect taxes

The estimates of households' payments of indirect taxes are derived from figures for their expenditure recorded in the FES. Because the data on expenditure and incomes in the FES are compiled in different ways, they may not be fully compatible (see Appendix 2, paragraph 5).

In total, indirect taxes expressed as a proportion of disposable income fall as disposable income rises (upper part of Table G), ranging from 31 per cent in the bottom quintile group to 14 per cent in the highest, though the highest quintile pay most in indirect taxes in absolute terms. However, individual taxes have different effects.

VAT, tobacco duty, beer duty and intermediate taxes (see box below) all fall as a percentage of disposable income as income rises. The fall in tobacco duty payments as a percentage of income is particularly marked. For expenditure items relating to motoring (ie car tax and duty on hydrocarbon oils), the tax as a proportion of income is similar for the bottom four quintile groups but much lower for the top group.

INTERMEDIATE TAXES

Some indirect taxes, such as VAT and excise duties on petrol, alcohol, tobacco, etc have a direct effect on the final price of goods and services. However, the producers of these goods and services also incur costs such as employers' National Insurance contributions, non-domestic rates, and duty on hydrocarbon oils, part of which they may pass on to households in the price of their products. These are called intermediate taxes.

The incidence assumptions used for these taxes are more difficult and contentious than those used for other taxes, so the figures must be regarded as very rough estimates.

Although some indirect taxes are less regressive than others, Table G (upper part) shows that the impact of virtually all the indirect taxes declines for the top quintile group compared with the fourth quintile group. This is so partly because higher income households tend to save a larger proportion of their income than households with smaller incomes.

Table G also shows estimates of indirect tax payments expressed as a percentage of *expenditure* (in the lower part of the table), as these figures are more consistent. Indirect taxes in total form a virtually constant proportion of expenditure on goods and services over all income groups. However, VAT payments actually rise as a proportion of expenditure as income goes up. This is largely due to the effects of zero-rating some items such as food and domestic fuel and power, which make up a higher proportion of the spending of the lower income groups. The apparent paradox of indirect taxes being regressive against disposable income but neutral against expenditure can be explained, at least in part, as follows: as income rises, there is a tendency for an increasing proportion of disposable income not to be spent on goods and services but to be channelled into savings, investments and mortgage payments.

Benefits in kind

Government current expenditure in providing certain goods and services to households either free at the time of use or at subsidised prices is 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 23 per cent of total general government

expenditure in 1990. Other items for which imputations are made are school meals and welfare milk, the housing subsidy and travel subsidies, together accounting for a further 1.6 per cent of general government expenditure.

Education benefit to individual households is imputed by reference to the number of pupils and students in the state sector in the households (students living away from home are not included as part of their parents' household), and to the type of education they are receiving, though no allowance is made for differing costs between local authorities. No benefit is allocated for pupils at private schools. 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 take school meals and have them provided free of charge.

Average value of benefits in kind for each quintile group of NON-RETIRED households, 1990

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	1 710	1 520	1 040	790	450	1 100
National health service	1 070	1 090	990	910	750	960
Housing subsidy' ..	140	80	40	20	10	60
Travel subsidies ..	30	40	40	60	60	40
School meals and welfare milk	110	40	20	10	-	30
Total	3 060	2 760	2 130	1 780	1 280	2 200
Benefits in kind as a percentage of post-tax income						
	76	33	18	12	5	17

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.

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 - and it is possible to estimate the use made of each service on average by individuals of different ages and sex. Using this information, an imputed benefit from the state health service can be allocated to each individual in the FES sample; no allowance is made for the use of private health care services. These benefits are then aggregated for members of the household to yield figures on a household basis, so that not only the sex and age composition but also the size of the household determines the attribution of health service benefits.

Age and sex are by no means the only possible determinants on which to base the allocation, but age is certainly a very important factor. Data availability also limits the choice of determinants - the

Percentage shares of total household income and Gini coefficients¹ for NON-RETIRED households, 1990

TABLE J

	Percentage shares of total equivalised income for NON-RETIRED households ranked by equivalised disposable income			
	Original income	Gross income	Disposable income	Post-tax income
Quintile group				
Bottom ..	3.4	6.5	6.8	5.8
2nd ..	11	12	12	11
3rd ..	17	17	17	16
4th ..	24	23	23	23
Top ..	45	43	42	44
All non-retired households	100	100	100	100
Decile group				
Bottom ..	1.0	2.6	2.7	2.1
Top ..	29	27	27	29
Gini coefficient (percent)	43	36	35	39

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.

FES collects little information on health or use of health services. Table H indicates that these benefits are highest for bottom two quintile groups and then decline steadily as income goes up.

Housing subsidy is the sum of Exchequer subsidy and local authority determined rate fund contributions to the housing revenue account. Thus housing subsidy as defined here 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 subsidy is highest. In these articles, tax relief on mortgage interest is treated as an adjustment to income tax, not as part of the housing subsidy analysed in Table H.

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. As a proportion of post-tax income, benefits decrease from 76 per cent in the lowest quintile group to 5 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 45 per cent of all (equivalised) original income, compared with 3.4 per cent received by the lowest quintile group. However, after direct taxes and benefits are taken

Average incomes, taxes and benefits by the number of economically active people per NON-RETIRED household, 1990

TABLE K

	Number of economically active people ¹ per household				All non-retired households
	None	One	Two	Three or more	
<i>Number of households in the sample</i>	484	1 946	2 169	592	5 191
Average per household (£ per year)					
Original income	1 590	14 680	23 290	31 110	18 930
plus cash benefits	4 490	1 600	900	1 080	1 520
Gross income	6 080	16 280	24 190	32 180	20 450
less direct taxes ² & employees' NIC..	610	3 420	5 110	6 840	4 250
Disposable income	5 480	12 870	19 080	25 340	16 200
less indirect taxes	1 330	2 510	3 450	5 010	3 080
Post-tax income	4 150	10 360	15 630	20 340	13 120
plus benefits in kind.. .. .	2 970	1 820	2 190	2 870	2 200
Final income	7 120	12 180	17 820	23 210	15 320
Gini coefficients (percent)					
Equivalised original income	85	47	33	28	43
Equivalised gross income	26	40	31	26	36
Equivalised disposable income	26	39	29	25	35
Equivalised post-tax income.. .. .	33	44	33	29	39

¹ Economically active people comprise employees, the self employed and others not in employment but who are seeking or intending, when able, to seek work.

² These are income tax (which is after tax relief at source on mortgage interest and life assurance premiums) and gross domestic rates/Community charge.

into account, the share of the lowest quintile group rises to 6.8 per cent and that of the highest falls to 42 per cent. Cash benefits are the major factor underlying these changes, causing the Gini coefficient to fall from 43 per cent based on original income to 36 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.

Economic activity

As already mentioned, the size of original income is largely determined by the number of economically active people in the household - even though someone may be defined as economically active if they have been out of work for up to a year as long as they are seeking work. This relationship between income and economic activity amongst non-retired households is explored further in Table K, in

which households are classified according to the number of economically active people they contain.

Original income ranges from an average of £1,590 per annum in households where there are no economically active people to an average of £31,110 for households where there are three or more. Cash benefits are concentrated in households where no-one is economically active and here they form 74 per cent of gross income; but they remain important, at 10 per cent of gross income, for those where one household member is economically active. This latter group will contain a number of households where no-one is currently in work.

Not only does average original income differ widely between the four households groups in Table K, but there is also a considerable difference in the degree of variation of income within the groups. As

Effects of taxes and benefits on RETIRED households, 1990

TABLE L

	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	510	790	1 210	3 670	12 760	3 790
plus cash benefits						
Contributory						
Retirement pension	2 770	3 030	2 810	2 990	2 760	2 870
Sickness/ injury related	20	70	130	220	300	150
Unemployment benefit	-	-	20	-	10	10
Other	40	30	50	60	100	60
Non-contributory						
Income support	160	100	80	110	70	100
Child benefit	10	-	-	-	-	-
Housing benefit	270	630	740	320	70	410
Sickness/ disablement related	40	50	160	400	240	180
Other	30	30	40	20	100	50
Gross income	3 850	4 740	5 250	7 810	16 410	7 610
less income tax ¹	100	70	120	470	2 410	640
less employees' NIC	-	-	-	10	30	10
less domestic rates/community charge(gross)	580	570	540	630	720	610
Disposable income	3 160	4 100	4 590	6 700	13 250	6 360
less indirect taxes						
VAT	250	250	260	470	970	440
Tobacco duty	80	90	100	120	60	90
Other taxes on final goods & services	210	200	210	370	570	310
Intermediate taxes	270	240	240	370	620	350
Post-tax income	2 350	3 320	3 780	5 380	11 030	5 170
plus benefits in kind						
Education	40	20	40	10	20	30
National health service	1 630	1 550	1 470	1 500	1 420	1 520
Housing subsidy ²	50	140	150	80	20	90
Travel subsidies	60	70	60	60	70	60
Final income	4 130	5 090	5 500	7 030	12 560	6 860

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

² Does not include tax relief at source on mortgage payments, which is included in the income tax payments shown above.

measured by the Gini coefficient, variability in original income is very high amongst households where no-one is economically active but where two or more persons are economically active the variability is considerably less. Equally, the tax-benefit system has the effect of substantially reducing inequality between the different types of households within the economically inactive group. This results largely from the diverse nature of the economically inactive group, which ranges from single parents with young children, single full-time students, the disabled, and households where no member has been able to find work during the 12 months prior to interview, to a small number of households where income from other sources such as investments means that they have no need to work.

RESULTS FOR RETIRED HOUSEHOLDS

Retired households have quite distinct income and expenditure patterns and so the tax-benefit system affects them in a different way from non-retired households (Table L). 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 are paid from the National Insurance Fund into which the recipients will have made contributions throughout their working lives.

People over pensionable age do not pay National Insurance contributions so the small payments recorded are made by non-retired people living in households defined as retired (see Appendix 2 paragraph 8 for details of definition). 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 largest indirect tax payment made by retired households is VAT, and the top quintile group pays more than twice as much as the average for all retired households.

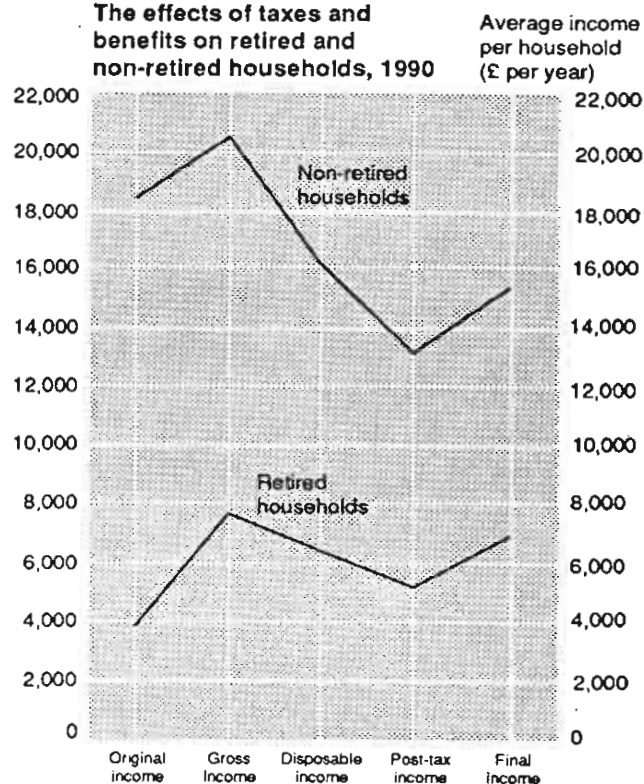
Retired households derive significant benefits from health services and, to a lesser extent, the housing subsidy and travel subsidies, though of course virtually none from the education service. Health benefit is spread fairly evenly within the group of retired households, as a result primarily of the attribution method used, but housing subsidy is substantially higher for the middle three 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 M 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 M 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

CHART 4

The effects of taxes and benefits on retired and non-retired households, 1990



Percentage shares of total household income and Gini coefficients¹ for RETIRED households, 1990

TABLE M

	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	2.7	10.3	10.1	9.3
2nd	4	13	13	13
3rd	7	15	16	16
4th	19	20	20	20
Top	68	42	41	41
All households	100	100	100	100
Decile group				
Bottom	1.4	4.7	4.5	3.9
Top	48	27	26	27
Gini coefficient (percent)	69	31	29	33

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.

Company car benefits and other original income for each quintile group of equivalised disposable income, 1990

TABLE N

	Quintile groups of households ranked by equivalised disposable income					All households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Company car benefit	4	17	82	225	681	202
Other original income	1 530	5 314	12 654	19 703	34 505	14 741
Total original income	1 534	5 331	12 736	19 928	35 186	14 943
% Company car benefit	0.3	0.3	0.6	1.1	1.9	1.4
Average per household (Numbers)						
With car benefit	2	12	51	141	341	547
No car benefit	1 407	1 397	1 359	1 268	1 068	6 499
All households in sample	1 409	1 409	1 410	1 409	1 409	7 046
% Recipients	0.1	0.9	3.6	10.0	24.2	7.8

distribution of post-tax income is more equal amongst the retired than amongst the non-retired. Chart 4 illustrates the different impact which the tax-benefits system has on retired and non-retired households.

**PART II
COMPANY CAR BENEFIT**

This year's article represents an important departure in that for the first time original income includes company car benefit, that is, the imputed value of the availability of a company owned car for private use by a household member.

Company car benefit is the most important of a range of benefits in kind, or "fringe benefits", which together with a salary form the remuneration package for many employees.

The growth of fringe benefits in the post war period is usually seen as a reaction to the income tax regime. Employers reward staff with fringe benefits rather than cash because fringe benefits are considered more tax efficient.

The provision of company cars has increased rapidly since the early 1970s. Around that time only directors and the highly paid were liable for taxation on the benefit and even for them it was "tax efficient".

Company car benefit and other original income for each quintile group of NON-RETIRED households, 1990

TABLE P

	Quintile groups of NON-RETIRED households ranked by equivalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	5th	
Average per household (£ per year)						
Company car benefit	16	43	172	302	833	273
Other original income	3 664	11 539	17 008	22 761	38 309	18 656
Total original income	3 680	11 582	17 180	23 063	39 142	18 929
% Company car benefit.. .. .	0.4	0.4	1.0	1.3	2.1	1.4
Average per household (Numbers)						
With car benefit	7	21	79	133	305	545
No car benefit	1 031	1 017	960	905	733	4 646
All households in sample	1 038	1 038	1 039	1 038	1 038	5 191
% Recipients	0.7	2.0	7.6	12.8	29.4	10.5

The effect of including company car benefit in the analysis of the percentage shares of total household income and Gini coefficients¹, 1990

TABLE Q

	Percentage shares of total equivalised income for households ranked by equivalised disposable income (Figures in bold show estimates excluding company car benefits)							
	Original income		Gross income		Disposable income		Post-tax income	
Quintile group								
Bottom	2.0	2.0	6.7	6.7	7.0	7.1	6.3	6.4
2nd	7	7	10	10	11	11	10	10
3rd	15	16	16	16	16	16	15	16
4th	25	25	23	23	23	23	23	23
Top	51	50	44	44	43	43	45	45
All households	100	100	100	100	100	100	100	100
Decile group								
Bottom	0.8	0.8	2.9	2.9	2.9	2.9	2.4	2.4
Top	33	32	28	28	28	27	30	29
Gini coefficient (percent)	51.6	51.3	38.3	38.0	36.5	36.0	40.3	39.8

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.

In recent years the tax charge on company cars has increased considerably. In the 1988 budget, rates for assessing this benefit for taxation were doubled and they were further increased by 30 per cent in the 1989 budget, 20 per cent in the 1990 budget and again by 20

per cent in the 1991 budget. In addition, the earnings limit at which company cars become taxable for employees - the P11D limit - has remained unchanged since 1979/80 at £8,500 per annum. As a result of these changes, the taxable benefit of the private use of company

Migration of households between decile groups due to the inclusion of company car benefit in the analysis, 1990

TABLE R

	Decile groups of households ranked by equivalised disposable income EXCLUDING company car benefit										Total
	Bottom	2nd	3rd	4th	5th	6th	7th	8th	9th	Top	
Decile groups of households ranked by equivalised disposable income INCLUDING company car benefit											
Bottom	702	3	-	-	-	-	-	-	-	-	705
2nd	1	696	7	-	-	-	-	-	-	-	704
3rd	2	1	693	9	-	-	-	-	-	-	705
4th	-	3	4	684	13	-	-	-	-	-	704
5th	-	-	-	10	672	23	-	-	-	-	705
6th	-	1	1	1	20	646	36	-	-	-	705
7th	-	-	-	-	-	36	624	44	-	-	704
8th	-	-	-	-	-	-	42	632	31	-	705
9th	-	-	-	-	-	-	2	29	634	39	704
Top	-	-	-	-	-	-	-	-	39	666	705
Total	705	704	705	704	705	705	704	705	704	705	7 046
Total "movers"	3	8	12	20	33	59	80	73	70	39	397
Total "non-movers"	702	696	693	684	672	646	624	632	634	666	6 649

Average receipts of company car benefit by quintile groups of households ranked by equivalised disposable income within household type, 1990

TABLE S

	Quintile groups of households ranked by equivalised disposable income within household type					All groups
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Household type						
1 adult retired	-	-	-	-	-	-
2 or more adults retired	-	-	-	13	11	5
1 adult non-retired	-	25	8	154	470	131
2 adults non-retired	6	57	127	360	1 138	338
3 or more adults non-retired	14	28	176	236	824	255
1 adult with children	-	-	-	-	87	17
2 adults with 1 child	107	80	171	248	1 045	331
2 adults 2 children	41	57	233	534	1 016	376
2 adults with 3 or more children	-	40	93	219	1 075	286
3 or more adults with children	-	-	288	380	991	332

cars (including the benefit of fuel provided free) increased from £170m in 1978/9 to £3.48bn in 1989/90.

Although the private use of company cars has been widespread for many years, the benefit has not previously been included as part of original income in this series of analyses. The main reason for this has been the lack of consensus on its valuation. However, with the rapid increase in the level of assessment of this benefit for income tax, an anomaly developed whereby the tax on the benefit was recorded in the analysis but not the corresponding income. In the 1990 FES the coverage of company cars was extended and so for the first time it is possible to make a reasonable estimate of this income. The estimates of the benefit in the article are based on the taxable income from this benefit in accordance with the scale charges used for tax purposes.

In this analysis the benefit is allocated to all recipients regardless of their income even though for those earning less than £8,500 per year the benefit is not taxable. (It is estimated that less than 5% of those with company cars fall below this earnings limit in 1990.)

As might be expected, company car benefits are strongly concentrated at the top of the income distribution of households. Nevertheless, the effect of including company car benefit on Gini coefficients is very slight (see Table Q). The reason for this is that, while the distribution of company car benefits is very unequal, it is highly

correlated with other forms of original income which on aggregate are also very unequal. In addition, while large in absolute terms, company car benefit is relatively small compared with all other forms of income, being only about 1.5 per cent of total original income (see Tables N and P).

Although the impact on inequality as measured by Gini coefficients is slight, the impact of including company car benefit is large for individual households. Only about one in 13 households are recipients of this benefit and they receive on average £2,600 per year. The effect of including this income is for recipient households to move much higher in the distribution displacing non-recipient households. An idea of the impact of this re-ranking of the distribution of households may be gauged from Table R. About 6% of households have moved at least one decile group as a result of this re-ranking. The migration of households is particularly marked toward the top end of the distribution because of the concentration of recipient households there.

The effect of including this benefit in the analysis for 1990 means that the time series figures in Appendix 4 should be treated with special caution. In fact, the extension of the coverage to include company car benefit is a good illustration of the difficulty of using the annual analyses, which are essentially free-standing, to make comparisons over time.

APPENDIX 1

Detailed tables for 1990, with fine breakdown of income components for quintile and decile groups, and results for different types of household

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General government expenditure in 1990

TABLE 1 (Appendix 1)

	£million	Percentage of total expenditure
Allocated expenditure¹		
Allocated cash benefits		
Contributory (National Insurance, etc)		
Retirement	22 070	10.3
Widows and guardians	870	0.4
Unemployment	780	0.4
Sickness/ Statutory sick pay	1 210	0.6
Invalidity	4 440	2.1
Maternity/ Statutory maternity pay	370	0.2
Disablement	570	0.3
Other	310	0.1
Non-contributory		
Family benefits	5 490	2.6
Supplementary benefits	8 910	4.2
War pensions	680	0.3
Other	3 110	1.5
Student maintenance grants ²	950	0.4
Rent rebates and allowances	4 600	2.1
Allocated benefits in kind		
Health services	25 850	12.1
Education	23 640	11.0
School meals and welfare milk	600	0.3
Housing subsidy	1 610	0.8
Travel subsidies ³	1 150	0.5
	<u>107 210</u>	<u>50.0</u>
Unallocated expenditure		
Other current expenditure	71 430	33.3
Capital expenditure	13 390	6.2
Debt interest	18 540	8.7
Non-trading capital consumption	3 690	1.7
Total expenditure.. .. .	<u>214 270</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 2, paragraph 1) to allocate all of Government expenditure to households.

2 Estimated.

3 Including concessionary fares expenditure.

Source: United Kingdom National Accounts, 1991 edition, Table 9.4

Financing of general government expenditure in 1990

TABLE 2 (Appendix 1)

	£ million	Percentage of total financing
Allocated financing¹		
Income tax ²	54 840	25.6
Employees' and self-employed NI contributions	14 680	6.9
Community charge	8 810	4.1
Domestic rates (net of rebates)	2 930	1.4
Taxes on final goods and services		
VAT	24 880	12.5
Duty on hydrocarbon oils	4 380	2.0
Car tax and vehicle excise duty	2 720	1.3
Other	2 750	1.3
Taxes and NI contributions on intermediate goods and services		
Employers' NI contributions	6 600	3.1
Commercial and industrial rates	5 530	2.6
Duty on hydrocarbon oils	2 530	1.2
VAT	1 720	0.8
Vehicle excise duty	620	0.3
Other	610	0.3
	143 400	66.9
Unallocated financing		
Employers' NI contributions not allocated	13 500	6.3
Indirect taxes		
Commercial and industrial rates not allocated	6 250	2.9
Other taxes on expenditure not allocated		
VAT	8 380	3.9
Duty on hydrocarbon oils	2 280	1.1
Other	3 690	1.7
Other taxes		
Corporation tax	21 340	10.0
Petroleum revenue tax	940	0.4
Taxes on capital	4 080	1.9
Other receipts ³	8 170	3.8
Non-trading capital consumption	3 690	1.7
Government borrowing requirement	-1 460	-0.7
Total financing	214 270	100.0

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, 1991 edition, Table 9.1

Average incomes, taxes and benefits, 1990
By quintile groups of households
TABLE 3 (Appendix 1)

	Quintile groups of households ranked by equivalised disposable income					All households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Quintile points (<i>equivalised £</i>)		5 629	8 248	11 894	17 152	
Number of households in the sample	1 409	1 409	1 410	1 409	1 409	7 046
Original income						
Earnings of main earner..	932	3 545	8 616	12 848	23 722	9 932
Other earnings ..	99	624	2 354	4 782	7 172	3 006
Occupational pensions, annuities..	195	588	850	1 075	1 325	807
Investment income ..	193	399	669	982	2 684	985
Other income ..	116	176	246	242	282	213
Total ..	1 534	5 331	12 736	19 928	35 186	14 943
Direct benefits in cash						
Contributory						
Retirement pension ..	1 512	1 503	801	511	314	928
Unemployment benefit ..	42	43	26	17	8	27
Invalidity pension and allowance ..	139	189	187	91	38	129
Statutory sick pay ..	3	18	32	40	28	24
Industrial injury disablement benefit ..	11	23	22	15	13	17
Sickness, industrial injury benefit ..	16	8	9	9	2	9
Widows' benefits ..	47	54	55	36	23	43
Maternity/ Statutory maternity pay ..	5	6	10	14	21	11
Miscellaneous contributory benefits ..	7	10	9	3	1	6
Non-contributory						
Income support/ Supplementary benefit ..	770	289	147	32	22	252
Child benefit..	269	247	313	215	141	237
Housing benefit ..	573	452	123	33	15	239
Invalid care allowance ..	4	10	14	7	4	8
Attendance allowance ..	9	68	55	28	8	34
Mobility allowance ..	10	43	54	22	6	27
War pensions ..	2	12	19	17	11	12
Severe disablement allowance ..	38	68	57	19	2	37
Student maintenance awards ..	32	32	33	33	8	28
Government training schemes..	34	35	34	27	3	27
Family credit/ income supplement ..	36	27	21	2	1	17
Other non-contributory benefits ..	17	20	16	17	5	15
Total cash benefits ..	3 578	3 156	2 035	1 187	674	2 126
Gross income ..	5 112	8 487	14 771	21 115	35 860	17 069
Direct taxes and Employees' NIC						
Income tax ..	234	642	1 709	3 087	6 545	2 443
less: Tax relief at source ¹ ..	49	110	276	434	668	308
Employees' NI contributions ..	52	228	606	950	1 258	619
Domestic rates/Community charge (gross) ..	594	629	731	793	790	707
Total ..	831	1 389	2 769	4 396	7 925	3 462
Disposable income ..	4 281	7 098	12 002	16 719	27 935	13 607
Equivalised disposable income	4 378	6 777	9 983	14 297	27 038	12 494
(Standard error ..)	52	77	116	150	703	170
Indirect taxes						
Taxes on final goods and services						
VAT ..	389	607	990	1 300	1 769	1 011
Duty on tobacco ..	203	231	277	255	184	230
Duty on beer and cider ..	38	59	104	137	130	93
Duty on wines ..	8	12	21	37	87	33
Duty on spirits ..	22	44	68	87	102	65
Duty on hydrocarbon oils ..	65	115	196	251	274	180
Car tax ..	9	22	51	65	84	46
Vehicle excise duty ..	36	57	98	122	126	88
Television licences ..	51	55	61	61	64	58
Stamp duty on house purchase ..	7	11	22	36	61	28
Customs' duties ..	19	28	41	50	60	39
Betting taxes ..	21	32	50	48	65	43
Other ..	9	11	18	17	17	15
Intermediate taxes						
Commercial and industrial rates ..	99	135	199	252	329	203
Employers' NI contributions ..	118	160	237	302	398	243
Duty on hydrocarbon oils ..	50	63	91	113	146	93
Vehicle excise duty ..	11	14	20	26	34	21
Other ..	46	62	91	114	144	91
Total indirect taxes ..	1 200	1 718	2 634	3 274	4 074	2 580
Post-tax income ..	3 081	5 379	9 368	13 445	23 861	11 027
Benefits in kind						
Education ..	901	873	1 085	788	439	817
National health service ..	1 331	1 270	1 122	1 009	810	1 108
Housing subsidy ..	127	113	58	28	10	67
Rail travel subsidy ..	12	9	21	30	44	23
Bus travel subsidy ..	37	38	25	20	14	27
School meals and welfare milk ..	66	28	18	11	5	26
Total ..	2 474	2 330	2 329	1 887	1 323	2 068
Final income ..	5 555	7 710	11 696	15 332	25 184	13 095

¹ On mortgage interest and life assurance premiums.

Average incomes, taxes and benefits, 1990
By decile groups of households
TABLE 4 (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 £)	4 641	5 629	6 696	8 248	9 877	11 894	14 194	17 152	22 672		
Number of households in the sample	705	704	705	704	705	705	704	705	704	705	7 046
Original income											
Earnings of main earner ..	704	1 161	2 133	4 958	7 591	9 642	11 744	13 951	17 101	30 334	9 932
Other earnings ..	63	134	300	948	1 910	2 798	4 166	5 397	6 362	7 981	3 006
Occupational pensions, annuities	138	252	433	744	789	911	993	1 156	1 114	1 537	807
Investment income ..	191	194	310	488	614	724	906	1 058	1 511	3 856	985
Other income ..	92	140	143	208	212	281	165	318	271	294	213
Total	1 188	1 881	3 319	7 346	11 116	14 356	17 974	21 880	26 358	44 002	14 943
Direct benefits in cash											
Contributory											
Retirement pension ..	1 238	1 788	1 697	1 309	877	724	578	444	345	284	928
Unemployment benefit ..	42	41	61	25	22	30	20	13	7	9	27
Invalidity pension and allowance	112	165	174	204	224	150	120	62	42	34	129
Statutory sick pay ..	2	3	11	24	32	31	39	41	30	27	24
Industrial injury disablement benefit	9	13	21	26	29	15	22	7	15	10	17
Sickness, industrial injury benefit	22	11	4	11	6	12	10	8	1	2	9
Widows' benefits ..	46	49	59	49	61	50	53	20	28	19	43
Maternity/ Statutory maternity pay	2	8	8	5	6	13	8	19	21	21	11
Miscellaneous contributory benefits	7	8	10	10	8	10	3	2	1	1	6
Non-contributory											
Income support/Supplementary benefit	898	641	322	256	178	117	44	19	26	18	252
Child benefit	314	224	201	293	344	281	221	208	164	117	237
Housing benefit	471	676	636	267	162	83	43	22	16	13	239
Invalid care allowance ..	2	6	10	10	16	11	12	2	4	4	8
Attendance allowance ..	5	13	62	74	59	52	40	16	9	7	34
Mobility allowance	9	12	21	65	74	34	29	15	7	6	27
War pensions	3	1	6	18	21	16	22	11	4	18	12
Severe disablement allowance	37	38	82	54	63	51	18	19	4	-	37
Student maintenance awards	43	21	24	40	43	24	31	36	15	-	28
Government training schemes	39	30	22	47	40	29	37	17	6	-	27
Family credit/ income supplement	44	28	27	26	36	6	5	-	2	1	17
Other non-contributory benefits	16	19	20	20	12	19	27	8	-	11	15
Total cash benefits	3 361	3 795	3 478	2 833	2 312	1 758	1 382	992	748	600	2 126
Gross income	4 549	5 676	6 797	10 179	13 429	16 114	19 356	22 872	27 106	44 603	17 069
Direct taxes and Employees' NIC											
Income tax	300	169	355	928	1 409	2 008	2 723	3 451	4 513	8 574	2 443
less: Tax relief at source ¹ ..	52	47	69	151	229	324	378	490	623	713	308
Employees' NI contributions ..	40	65	133	323	520	693	858	1 041	1 184	1 333	619
Domestic rates/Community charge (gross)	597	591	590	668	714	748	789	797	780	799	707
Total	884	778	1 010	1 768	2 414	3 125	3 992	4 800	5 855	9 992	3 462
Disposable income	3 664	4 898	5 787	8 410	11 015	12 989	15 364	18 073	21 251	34 610	13 607
Equivalised disposable income	3 596	5 161	6 120	7 435	9 081	10 884	13 012	15 580	19 598	34 467	12 494
(Standard error)	75	45	61	98	108	133	145	167	248	1 305	170
Indirect taxes											
Taxes on final goods and services											
VAT	395	382	467	747	888	1 092	1 271	1 330	1 589	1 948	1 011
Duty on tobacco	210	195	188	275	286	268	269	241	205	164	230
Duty on beer and cider ..	36	41	45	73	98	110	138	136	127	132	93
Duty on wines	7	8	9	15	17	25	31	42	61	114	33
Duty on spirits	23	20	26	62	64	72	84	90	95	108	65
Duty on hydrocarbon oils	66	63	88	142	187	204	247	255	291	258	180
Car tax	10	8	19	25	34	67	57	73	86	82	46
Vehicle excise duty .. .	37	35	42	73	93	103	114	130	137	115	88
Television licences .. .	50	51	53	57	60	61	61	62	63	66	58
Stamp duty on house purchase	8	6	8	14	20	25	31	41	52	70	28
Customs duties	20	18	22	34	39	43	48	51	57	63	39
Betting taxes	17	26	29	34	50	49	48	48	34	95	43
Other	10	8	11	11	14	22	18	16	17	18	15
Intermediate taxes											
Commercial and industrial rates	101	97	110	159	185	212	241	264	297	362	203
Employers' NI contributions	120	115	130	190	221	253	288	316	359	437	243
Duty on hydrocarbon oils	51	48	52	75	86	95	109	118	133	160	93
Vehicle excise duty .. .	11	11	11	17	20	21	25	27	31	38	21
Other	47	44	51	73	85	98	109	118	131	156	91
Total indirect taxes	1 222	1 178	1 360	2 077	2 448	2 821	3 190	3 358	3 764	4 384	2 580
Post-tax income	2 442	3 720	4 427	6 333	8 567	10 168	12 174	14 715	17 487	30 226	11 027
Benefits in kind											
Education	1 164	638	711	1 034	1 158	1 012	804	771	519	360	817
National health service ..	1 307	1 354	1 301	1 238	1 166	1 078	1 027	992	842	778	1 108
Housing subsidy	109	145	130	96	67	49	33	23	15	6	67
Rail travel subsidy	14	11	8	9	16	26	24	36	38	49	23
Bus travel subsidy	31	43	40	37	25	24	22	18	14	14	27
School meals and welfare milk	87	46	25	30	21	15	14	8	7	3	26
Total	2 712	2 235	2 216	2 444	2 454	2 203	1 924	1 849	1 435	1 211	2 068
Final income	5 154	5 956	6 643	8 778	11 021	12 372	14 098	16 564	18 922	31 437	13 095

¹ On mortgage interest and life assurance premiums.

Average Incomes, taxes and benefits, 1990

By quintile groups within household type

TABLE 5 (Appendix 1)

	Quintile groups of households ranked by equivalised disposable income					All groups
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
(i) 1 adult retired						
Quintile points (equivalised £)		4 734	5 618	6 347	8 599	
Number of households in the sample ..	206	207	206	207	206	1 032
Original income	291	558	599	1 654	8 895	2 397
Direct benefits in cash						
Contributory						
Retirement pension	2 219	2 433	2 428	2 384	2 108	2 315
Sickness/ injury related	13	19	23	72	121	50
Unemployment benefit	-	-	-	-	-	-
Other	64	48	49	82	198	88
Total contributory	2 296	2 500	2 500	2 539	2 427	2 452
Non-contributory						
Income support/ Supplementary benefit	96	53	103	78	148	96
Child benefit	2	-	-	-	-	-
Housing benefit	196	586	891	652	143	494
Sickness/ disablement related ..	13	5	25	115	254	82
Other	7	11	19	26	132	39
Total non-contributory	314	655	1 038	871	676	711
Gross income	2 902	3 713	4 137	5 064	11 998	5 561
Income tax ¹ and Employees' NIC ..	45	59	55	193	1 812	432
Domestic rates/community charge (gross)	478	447	445	470	539	476
Disposable income	2 379	3 207	3 637	4 401	9 646	4 652
Equivalised disposable income	3 890	5 258	5 963	7 214	15 814	7 625
Taxes on final goods and services ..	294	372	399	478	1 037	516
Intermediate taxes	190	188	188	235	426	245
Post-tax income	1 894	2 648	3 051	3 688	8 183	3 891
Benefits in kind						
Education	9	-	-	-	-	2
National health service	1 388	1 265	1 196	1 238	1 108	1 239
Housing subsidy	37	130	162	142	34	101
Travel subsidies	43	45	52	53	50	49
School meals and welfare milk ..	-	-	-	-	-	-
Final income	3 371	4 089	4 460	5 121	9 375	5 282
(ii) 2 or more adults retired						
Quintile points (equivalised £)		4 815	5 785	7 487	10 606	
Number of households in the sample ..	165	164	165	164	165	823
Original income	779	1 224	2 859	6 204	16 572	5 532
Direct benefits in cash						
Contributory						
Retirement pension	3 499	3 853	3 666	3 571	3 257	3 569
Sickness/ injury related	32	176	367	359	445	276
Unemployment benefit	3	-	37	23	4	14
Other	17	18	39	17	16	21
Total contributory	3 551	4 047	4 109	3 969	3 722	3 879
Non-contributory						
Income support/ Supplementary benefit	249	128	52	123	17	114
Child benefit	14	11	2	2	-	6
Housing benefit	396	612	337	143	18	301
Sickness/ disablement related ..	76	161	456	575	224	298
Other	67	50	68	28	54	53
Total non-contributory	801	962	916	871	314	772
Gross income	5 132	6 233	7 884	11 044	20 608	10 184
Income tax ¹ and Employees' NIC ..	182	126	339	848	3 061	912
Domestic rates/Community charge (gross)	722	733	730	802	877	773
Disposable income	4 228	5 374	6 814	9 394	16 670	8 499
Equivalised disposable income	4 094	5 253	6 589	8 918	15 887	8 151
Taxes on final goods and services ..	869	813	1 099	1 383	2 107	1 255
Intermediate taxes	362	315	387	503	798	473
Post-tax income	2 997	4 247	5 328	7 507	13 765	6 771
Benefits in kind						
Education	69	58	104	54	-	57
National health service	1 982	1 963	1 928	1 780	1 669	1 864
Housing subsidy	67	130	95	50	10	70
Travel subsidies	88	92	82	86	71	84
School meals and welfare milk ..	-	-	-	-	-	-
Final income	5 204	6 489	7 538	9 478	15 514	8 847

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

Average incomes, taxes and benefits, 1990

By quintile groups within household type

TABLE 5 (Appendix 1) (continued)

	Quintile groups of households ranked by equivalised disposable income					All groups
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
(iii) 1 adult non-retired						
Quintile points (equivalised £)	6 271	10 902	15 974	22 944		
Number of households in the sample	172	173	172	173	172	862
Original income	992	5 043	10 229	15 092	28 148	11 897
Direct benefits in cash						
Contributory						
Retirement pension	90	284	162	112	52	140
Sickness/ injury related	336	407	46	52	12	171
Unemployment benefit	75	15	1	1	1	19
Other	153	192	79	31	32	97
Total contributory	654	899	288	197	97	427
Non-contributory						
Income support/ Supplementary benefit	763	142	5	12	8	186
Child benefit	-	2	-	-	2	1
Housing benefit	638	336	17	4	14	202
Sickness/ disablement related ..	94	170	28	-	40	66
Other	114	67	23	-	-	41
Total non-contributory	1 610	718	73	16	64	496
Gross income	3 256	6 660	10 591	15 304	28 310	12 820
Income tax ¹ and Employees' NIC ..	99	917	1 912	3 053	5 641	2 324
Domestic rates/Community charge (gross)	437	436	470	474	487	461
Disposable income	2 720	5 307	8 208	11 778	22 181	10 035
Equivalised disposable income.. ..	4 459	8 701	13 455	19 308	36 363	16 451
Taxes on final goods and services..	693	931	1 238	1 775	2 239	1 375
Intermediate taxes	217	296	405	565	752	447
Post-tax income	1 810	4 080	6 564	9 438	19 190	8 213
Benefits in kind						
Education.. .. .	507	228	65	65	-	173
National health service	351	379	318	302	310	332
Housing subsidy	117	107	36	29	15	61
Travel subsidies	27	25	23	28	49	30
School meals and welfare milk ..	1	-	-	-	-	-
Final income	2 812	4 818	7 007	9 862	19 564	8 809
(iv) 2 adults non-retired						
Quintile points (equivalised £)	9 017	12 725	16 458	22 292		
Number of households in the sample	291	291	290	291	291	1 454
Original income	5 129	12 909	17 732	24 479	46 276	21 308
Direct benefits in cash						
Contributory						
Retirement pension	816	588	436	200	182	445
Sickness/ injury related	535	275	197	85	105	239
Unemployment benefit	78	28	19	8	12	29
Other	113	57	43	17	24	51
Total contributory	1 542	948	695	310	323	764
Non-contributory						
Income support/ Supplementary benefit	455	51	12	10	-	106
Child benefit	1	1	1	3	-	1
Housing benefit	354	55	31	13	7	92
Sickness/ disablement related ..	299	112	67	4	15	100
Other	84	73	47	15	-	44
Total non-contributory	1 194	293	158	44	22	342
Gross income	7 865	14 149	18 585	24 833	46 621	22 413
Income tax ¹ and Employees' NIC ..	872	2 181	3 095	4 651	10 239	4 208
Domestic rates/Community charge (gross)	710	739	745	777	848	764
Disposable income	6 283	11 229	14 745	19 405	35 533	17 441
Equivalised disposable income.. ..	6 119	10 999	14 484	19 104	35 126	17 168
Taxes on final goods and services ..	333	2 072	2 262	2 638	3 468	2 354
Intermediate taxes	428	644	705	880	1 193	770
Post-tax income	4 521	8 513	11 778	15 888	30 873	14 316
Benefits in kind						
Education	222	124	161	28	24	112
National health service	866	780	745	618	640	30
Housing subsidy	93	52	38	4	1	38
Travel subsidies	37	42	35	47	64	45
School meals and welfare milk ..	-	-	-	-	-	-
Final income	5 739	9 512	12 757	16 586	31 601	15 241

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

Average incomes, taxes and benefits, 1990

By quintile groups within household type

TABLE 5 (Appendix 1) (continued)

	Quintile groups of households ranked by equivalised disposable income					All groups
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
(v) 3 or more adults non-retired						
Quintile points (equivalised £)	8 533	11 366	13 851	17 358		
Number of households in the sample ..	116	117	116	117	116	582
Original income	8 403	16 793	23 411	29 998	49 134	25 540
Direct benefits in cash						
Contributory						
Retirement pension	676	1 028	621	341	248	583
Sickness/ injury related	585	513	395	188	179	372
Unemployment benefit	132	64	52	27	14	58
Other	22	28	77	18	22	33
Total contributory	1 414	1 633	1 145	574	463	1 046
Non-contributory						
Income support/ Supplementary benefit	750	225	78	55	36	229
Child benefit	10	19	16	6	16	13
Housing benefit	413	169	59	55	43	148
Sickness/ disablement related	389	346	295	159	18	241
Other	460	221	202	215	35	227
Total non-contributory	2 022	980	650	491	148	858
Gross income	11 839	19 406	25 205	31 062	49 745	27 444
Income tax ² and Employees' NIC	1 084	2 972	4 417	5 819	9 294	4 716
Domestic rates/Community charge (gross)	975	1 007	1 065	1 102	1 152	1 060
Disposable income	9 780	15 427	19 723	24 141	39 299	21 668
Equivalised disposable income	6 337	9 873	12 593	15 448	24 859	13 818
Taxes on final goods and services	2 523	2 760	3 292	3 939	5 019	3 506
Intermediate taxes	736	805	976	1 124	1 506	1 029
Post-tax income	6 521	11 863	15 455	19 078	32 774	17 132
Benefits in kind						
Education	1 084	521	296	339	429	534
National health service	1 198	1 265	1 176	1 107	1 082	1 166
Housing subsidy	89	83	42	33	38	57
Travel subsidies	82	54	62	81	103	76
School meals and welfare milk	1	-	-	-	-	-
Final income	8 975	13 785	17 032	20 638	34 425	18 965
(vi) 1 adult with children¹						
Quintile points (equivalised £)	4 449	5 276	6 307	8 890		
Number of households in the sample ..	71	71	72	71	71	356
Original income	543	840	1 203	4 785	13 682	4 202
Direct benefits in cash						
Contributory						
Retirement pension	-	-	-	-	-	-
Sickness/ injury related	39	-	60	73	42	43
Unemployment benefit	-	-	-	-	6	1
Other	9	151	72	150	278	132
Total contributory	48	151	132	224	327	176
Non-contributory						
Income support/ Supplementary benefit	1 823	2 277	2 129	1 179	208	1 525
Child benefit	876	900	629	780	744	785
Housing benefit	945	1 125	1 285	664	114	828
Sickness/ disablement related	19	-	61	43	-	25
Other	123	83	180	424	171	196
Total non-contributory	3 787	4 385	4 284	3 090	1 238	3 359
Gross income	4 378	5 376	5 620	8 099	15 246	7 738
Income tax ² and Employees' NIC	-18	-58	13	340	1 372	329
Domestic rates/Community charge (gross)	456	442	448	452	492	458
Disposable income	3 939	4 991	5 159	7 306	13 382	6 950
Equivalised disposable income	3 618	4 890	5 723	7 452	13 803	7 093
Taxes on final goods and services	784	786	780	1 205	1 793	1 069
Intermediate taxes	310	301	289	435	704	407
Post-tax income	2 845	3 903	4 090	5 667	10 885	5 474
Benefits in kind						
Education	2 446	2 032	1 361	2 040	2 259	2 026
National health service	1 110	1 064	965	822	717	936
Housing subsidy	248	208	235	145	57	179
Travel subsidies	25	14	23	15	40	24
School meals and welfare milk	308	311	173	157	39	197
Final income	6 984	7 532	6 847	8 846	13 997	8 835

¹ This group is smaller than the category of "one parent families" because some of these families will be contained in larger household types.

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

Average incomes, taxes and benefits, 1990

By quintile groups within household type

TABLE 5 (Appendix 1) (continued)

	Quintile groups of households ranked by equivalised disposable income					All groups
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
(vii) 2 adults with 1 child						
Quintile points (equivalised £)	8 196	10 522	14 046	18 768		
Number of households in the sample ..	106	105	106	105	106	528
Original income	6 262	12 528	17 744	23 643	41 260	20 296
Direct benefits in cash						
Contributory						
Retirement pension	-	39	-	-	-	8
Sickness/ injury related	255	165	116	90	56	137
Unemployment benefit	125	62	24	32	2	49
Other	85	73	90	95	183	105
Total contributory	465	339	230	217	242	299
Non-contributory						
Income support/ Supplementary benefit	892	162	31	32	22	228
Child benefit	388	395	371	377	362	378
Housing benefit	452	106	31	3	23	123
Sickness/ disablement related	13	210	39	-	32	59
Other	158	77	22	7	1	53
Total non-contributory	1 903	949	495	420	439	842
Gross income	8 631	13 816	18 468	24 280	41 941	21 436
Income tax ¹ and Employees' NIC	1 238	1 815	2 864	4 248	7 717	3 578
Domestic rates/Community charge (gross)	671	684	770	816	857	760
Disposable income	6 721	11 317	14 834	19 216	33 367	17 098
Equivalised disposable income	5 599	9 371	12 348	16 085	27 932	14 273
Taxes on final goods and services	1 802	2 185	2 330	2 672	3 262	2 450
Intermediate taxes	521	698	753	910	1 208	818
Post-tax income	4 398	8 434	11 751	15 633	28 898	13 829
Benefits in kind						
Education	807	970	917	811	625	826
National health service	1 187	1 108	1 189	1 126	1 272	1 177
Housing subsidy	143	42	29	25	1	48
Travel subsidies	32	41	39	46	61	44
School meals and welfare milk	45	11	15	11	5	17
Final income	6 611	10 606	13 940	17 653	30 862	15 941
(viii) 2 adults 2 children						
Quintile points (equivalised £)	7 360	9 564	11 742	15 556		
Number of households in the sample ..	148	148	149	148	148	741
Original income	7 370	13 942	17 928	23 424	39 336	20 396
Direct benefits in cash						
Contributory						
Retirement pension	27	-	-	18	-	9
Sickness/ injury related	114	35	94	60	27	66
Unemployment benefit	100	29	-	10	7	29
Other	37	9	7	45	27	25
Total contributory	278	73	101	133	60	129
Non-contributory						
Income support/ Supplementary benefit	752	89	60	65	3	194
Child benefit	736	750	748	745	736	743
Housing benefit	301	48	17	6	3	75
Sickness/ disablement related	42	33	47	33	22	35
Other	70	53	23	10	44	40
Total non-contributory	1 901	972	895	859	809	1 087
Gross income	9 549	14 987	18 924	24 416	40 205	21 613
Income tax ¹ and Employees' NIC	1 157	2 170	2 813	4 205	7 536	3 575
Domestic rates/Community charge (gross)	706	728	757	792	860	769
Disposable income	7 686	12 089	15 353	19 419	31 810	17 269
Equivalised disposable income	5 372	8 470	10 638	13 603	22 130	12 041
Taxes on final goods and services	1 985	2 091	2 481	2 600	3 246	2 480
Intermediate taxes	599	675	784	887	1 239	837
Post-tax income	5 101	9 323	12 089	15 932	27 325	13 952
Benefits in kind						
Education	2 162	2 054	2 280	2 189	1 880	2 113
National health service	1 302	1 299	1 113	1 445	1 300	1 291
Housing subsidy	116	57	18	14	-	41
Travel subsidies	21	24	32	26	35	27
School meals and welfare milk	79	49	32	43	33	47
Final income	8 781	12 806	15 564	19 648	30 572	17 472

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

Average Incomes, taxes and benefits, 1990

By quintile groups within household type

TABLE 5 (Appendix 1) (continued)

	Quintile groups of households ranked by equivalised disposable income					All groups
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
(ix) 2 adults with 3 or more children						
Quintile points (equivalised £)	5 194	7 196	9 058	12 503		
Number of households in the sample ..	70	69	70	69	70	348
Original income	3 138	10 391	15 157	20 743	46 865	19 280
Direct benefits in cash						
Contributory						
Retirement pension.. .. .	-	-	-	-	-	-
Sickness/injury related	335	93	79	79	10	120
Unemployment benefit	224	72	45	-	18	72
Other.. .. .	1	9	-	16	-	5
Total contributory	560	174	124	95	28	197
Non-contributory						
Income support/ Supplementary benefit	1 708	338	43	36	77	442
Child benefit	1 370	1 195	1 204	1 201	1 210	1 236
Housing benefit	719	172	50	16	11	194
Sickness/ disablement related	250	84	100	115	99	130
Other.. .. .	342	234	118	116	47	171
Total non-contributory	4 389	2 022	1 516	1 484	1 445	2 174
Gross income	8 087	12 588	16 797	22 322	48 338	21 651
Income tax ¹ and Employees' NIC	388	1 261	2 348	3 439	9 680	3 429
Domestic rates/Community charge (gross)	712	749	720	796	912	778
Disposable income	6 987	10 578	13 729	18 087	37 747	17 443
Equivalised disposable income.. .. .	3 888	6 212	8 078	10 437	22 207	10 175
Taxes on final goods and services	1 302	1 849	2 540	2 582	2 986	2 252
Intermediate taxes	469	661	802	894	1 470	860
Post-tax income	5 216	8 068	10 387	14 611	33 290	14 332
Benefits in kind						
Education.. .. .	4 632	3 716	3 992	4 209	3 359	3 982
National health service	1 709	1 576	1 483	1 495	1 848	1 623
Housing subsidy	202	108	98	50	4	92
Travel subsidies	19	29	16	51	87	41
School meals and welfare milk	318	89	103	75	77	133
Final income.. .. .	12 097	13 586	16 079	20 491	38 665	20 202
(x) 3 or more adults with children						
Quintile points (equivalised £)	6 574	9 023	11 962	15 996		
Number of households in the sample ..	64	64	64	64	64	320
Original income	7 418	16 142	21 868	30 917	50 608	25 390
Direct benefits in cash						
Contributory						
Retirement pension.. .. .	239	428	255	358	237	303
Sickness/injury related	487	277	386	195	28	274
Unemployment benefit	99	37	32	35	29	46
Other.. .. .	138	19	99	13	1	54
Total contributory	963	760	771	600	295	678
Non-contributory						
Income support/ Supplementary benefit	1 720	649	229	127	10	547
Child benefit	837	679	558	487	451	603
Housing benefit	410	175	51	72	61	154
Sickness/ disablement related	134	160	122	161	103	136
Other.. .. .	606	579	195	271	80	346
Total non-contributory	3 707	2 242	1 155	1 119	705	1 786
Gross income	12 089	19 144	23 794	32 636	51 607	27 854
Income tax ¹ and Employees' NIC	1 011	2 590	3 722	5 886	10 175	4 677
Domestic rates/community charge (gross)	924	901	917	1 136	1 235	1 023
Disposable income	10 153	15 653	19 155	25 614	40 197	22 154
Equivalised disposable income.. .. .	4 868	7 768	10 307	13 784	21 815	11 788
Taxes on final goods and services	2 292	3 162	3 419	3 724	4 310	3 381
Intermediate taxes	704	956	998	1 219	1 513	1 078
Post-tax income	7 158	11 534	14 739	20 672	34 374	17 695
Benefits in kind						
Education.. .. .	3 816	3 176	2 349	2 736	3 203	3 056
National health service	2 004	1 653	1 312	1 433	1 332	1 547
Housing subsidy	114	59	62	55	8	60
Travel subsidies	76	65	46	148	146	96
School meals and welfare milk	148	87	39	30	12	63
Final income.. .. .	13 317	16 574	18 547	25 075	39 075	22 518

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

Distribution of households' co-operating in the Family Expenditure Survey, 1990

By decile groups of households ranked by equivalised disposable income

TABLE 6 (Appendix 1)

	Retired households					Non-Retired households					All 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	
Decile groups of households ranked by equivalised disposable income											
Bottom	193	128	77	56	18	88	30	35	55	25	705
2nd	221	175	55	39	19	85	21	41	29	19	704
3rd	268	123	53	61	19	59	16	45	38	23	705
4th	119	116	58	91	52	39	43	89	57	40	704
5th	63	89	59	107	68	29	70	111	61	48	705
6th	44	64	72	150	85	20	71	132	31	36	705
7th	39	42	79	207	99	9	68	91	27	43	704
8th	21	40	100	200	100	16	87	81	18	42	705
9th	29	29	129	262	74	8	59	76	16	22	704
Top	35	17	180	281	48	3	63	40	16	22	705
All households	1 032	823	862	1 454	582	356	528	741	348	320	7 046

1 See Appendix 2 for definitions of retired households, adults and children.

APPENDIX 2

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, 67 per cent of government financing (including the Borrowing Requirement) and 50 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 1990, containing detailed data on household characteristics, income, and expenditure, was published in December 1991. 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 1990 was 7,046 (about 1 in every 3,000 households). The response rate in Great Britain was 70 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 to 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 (36 in 1990) 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 employees, the self-employed and others not in employment but who are seeking or intending, when able, to seek work. In 1982 there were changes in the FES in the definition relating to economic activity. The effect of these changes is to exclude all those out of employment for more than a year rather than five years. This exclusion applies regardless of the fact that they may still describe themselves as seeking work. Also excluded are those who have not been in paid employment since leaving full-time education unless they have worked within the previous year; certain of the part-time self-employed with very small incomes; and those whose only economic activity is working as mail-order agents or baby-sitters.

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 community charge / domestic rates = 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 99 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 based on the rateable value of the dwelling. 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. Hitherto, it has not been possible to allocate these benefits to individual households as the information was not available in the FES. However, the company car benefit has been included in the analysis for the first time in 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 1992 (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 allocation 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. The next stage of the analysis is to add cash benefits to original income to obtain gross income. This is slightly different to the 'gross normal weekly income' used in the FES Report, mainly because it excludes the imputed rent of owner-occupiers. Cash benefits are:

Contributory:

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

Non-contributory:

Income support, child benefit, housing benefit, attendance allowance, mobility allowance, war pensions, severe disablement allowance, family credit, old persons pension, government training scheme allowances (YTS etc), student maintenance awards, maternity grant.

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

18. 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.

19. Income tax, community charge/domestic rates 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.

20. The figures for community charge/domestic rates include, as well as the named local authority taxes, charges made by water

authorities for water, environmental and sewerage services. Local taxes are shown in full with any rebates given in 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 as a deduction before disposable income is produced.]

21. 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 1990 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.

22. 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
- Car tax
- Motor vehicle duties
- Driving licenses
- Stamp duties
- Gas levy

23. 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.

24. VAT and car tax affect the prices of secondhand cars and are 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.

25. 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 rateable values) and the probability of a household of that type moving in a given year (estimated from the General Household Survey).

26. Indirect taxes on intermediate goods and services are:

- 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

27. 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.

28. 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.

29. 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. Savings, investments, superannuation contributions and mortgage payments are excluded as well as rates/community charge payments. Imputed rent 'payments' for owner occupiers are included because rent payments are included for households renting their accommodation. We have included payments for house repairs and improvements because VAT is charged on these items. The expenditures on alcohol, tobacco and confectionery have been grossed up to correspond to the grossed-up indirect tax amounts described in paragraph 24 above.

30. 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. Benefits in kind are:

- State education
- School meals and welfare milk
- National Health service
- Housing subsidy
- Railway travel subsidy
- Bus travel subsidy (including concessionary fares schemes)

31. 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.

32. 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.

33. Each individual in the FES is allocated a benefit from the National Health Service according to the estimated average use made of the 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.

34. 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 rate funds and 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 gross rateable value of this dwelling. Housing subsidy does not include mortgage interest tax relief, nor does it include rent rebates / allowances and community charge / rates rebates as these are included in housing benefit.

35. 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. A single allocation of the subsidy to inter-city services was made by dividing that subsidy between all households in proportion to their recorded expenditure on rail fares. In making both these allocations allowances are made for the use of rail travel by the business sector, tourists and the institutional part of the personal sector.

36. 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.

37. 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

38. 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 recent analysis by Banks and Johnson ('Children and Household Living Standards') 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.

39. 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

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 ($=£20,000/1.86$).

40. 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).

Diagram A

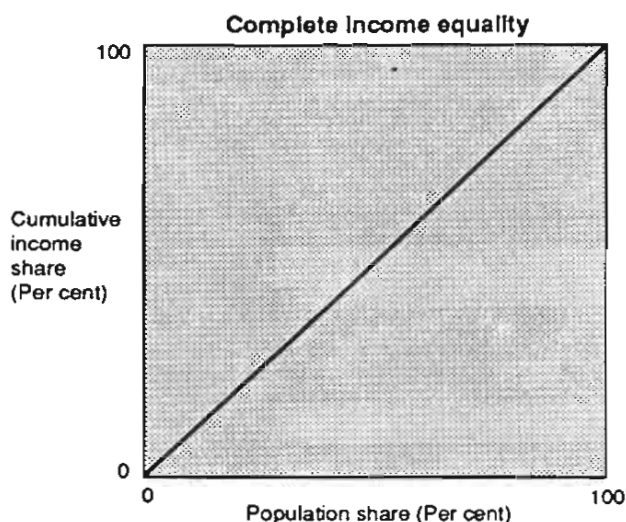
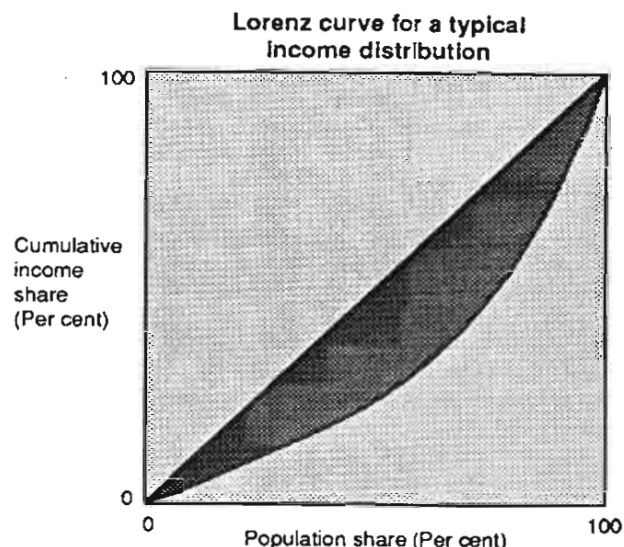


Diagram B



[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

41. 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).

42. 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.]

43. 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 equivilise 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

44. 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.

45. 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 households in Table 1 is given by:

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

where the design factor is 1.15 for 1990, 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 47).

46. 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 £13,607 (see Table 3 in Appendix 1), and its standard error is £186 (from Table 1 below). So the confidence interval for the population value is £13,607 ± £365 ie about (£13,240 to £13,970). It is very likely that the mean disposable income for the whole population (ie all UK private households) will lie in this range.

47. The standard errors for the household types are larger than for the whole sample, mainly because the sample sizes concerned are smaller. For quintile 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 quintile groups are complicated to produce. As well as the variability of the observations between the quintile points, we should also take account of the randomness which exists because the sample quintile 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 (\bar{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 45) to give the standard errors shown in the tables for quintile and decile groups.

48. The 'complex' standard errors for quintile and decile groups are quite a bit larger than the simple random sample estimates, as shown below:

Ratio of 'complex' standard error to simple random sample estimate for equivalised disposable income, 1990

Decile group		Quintile group	
Bottom	1.41	Bottom	1.53
2nd	4.25	2nd	3.79
3rd	5.23	3rd	4.18
4th	5.87	4th	3.78
5th	5.95	Top	1.25
6th	6.12	All	1.15
7th	5.87		
8th	5.23		
9th	4.20		
Top	1.24		
All	1.15		

For the 'all households' group the ratio merely reflects the fact that the simple random sample figure is multiplied by the design factor

(1.15 in 1990) to produce the 'complex' standard error. For the middle quintile group, the quoted standard error is about four times larger than it would have been if we had merely used the simple random sample estimate. The quoted standard errors for the middle decile groups are about six times higher than the simple random sample estimates.

49. Table 2 gives standard errors for quintile groups of households within household type. The standard errors of the top quintile group are often much larger than for the other quintile groups. This is not surprising as, in general, any distribution of incomes has a long positive tail. The standard errors for the top quintile groups of some household types are so large that it is doubtful whether the averages for these groups are reliable enough to be worth quoting in the tables in Appendix 1.

50. Another aspect of sampling errors and reliability is the variation from year to year. Table 3 gives the standard error of the mean (expressed as a percentage of the mean) for disposable income for the years from 1977 to 1990. The two groups with consistently high proportionate standard errors are one adult with children, and two adults with 3 or more children. Relatively small groups like these are more likely to be strongly influenced by unusually large income and expenditure values.

If the change between years were to be considered, then it is the standard error of the *difference* between years that is relevant. This is about 1.4 times the size of the standard error for a particular year (assuming the two standard errors are about the same) - because the variance of a difference between years equals the sum of the variances for those individual years.

51. We have produced estimates for the standard errors of **shares of total income** (shown in Table 1, Appendix 4). These standard errors have been calculated using the formula for the variance of a ratio, and the results are given in Table 4 below.

For example, the top quintile group accounted for 43 per cent of total equivalised disposable income; the standard error of this estimate is 0.47 per cent, and the 95% confidence interval for the true value is (42.4, 44.2) per cent.

As the formula involves an approximation, the figures shown in Table 4 are likely to be under-estimates of the true position.

Previous articles

52. 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.

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

54. 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 1977-1990. Enquiries should be addressed to Dave Westcott, RPHE Branch, Central Statistical Office, Room 1941, Millbank Tower, Millbank, London SW1P 4QQ.

Standard errors of the mean, 1990

TABLE 1 (Appendix 2)

					Standard error of the mean of the five income measures (£ per year)						
					Number in sample	Original income	Gross income	Disposable income		Post-tax income	Final income
								Unadjusted	Equivalised		
Household type/ Quantile group											
All households	..	..	..	..	7 046	249	238	186	170	173	176
Non-retired	..	..	..	..	5 191	309	300	235	220	221	225
Retired	..	..	..	..	1 855	165	163	127	141	113	118
Quintile groups ¹											
Bottom	..	..	..	..	1 409	117	110	89	52	82	154
2nd	..	..	..	..	1 409	508	413	320	77	256	414
3rd	..	..	..	..	1 410	679	599	462	116	437	584
4th	..	..	..	..	1 409	776	754	577	150	506	641
Top	..	..	..	..	1 409	945	943	748	703	722	734
Decile groups ¹											
Bottom	..	..	..	..	705	150	153	118	75	119	228
2nd	..	..	..	..	704	459	377	310	45	242	498
3rd	..	..	..	..	705	794	626	488	61	411	695
4th	..	..	..	..	704	1 136	931	717	98	573	961
5th	..	..	..	..	705	1 268	1 096	859	108	721	1 074
6th	..	..	..	..	705	1 407	1 270	975	133	1 010	1 287
7th	..	..	..	..	704	1 584	1 509	1 146	145	1 005	1 323
8th	..	..	..	..	705	1 526	1 519	1 169	167	1 017	1 281
9th	..	..	..	..	704	1 491	1 495	1 154	248	1 029	1 200
Top	..	..	..	..	705	1 728	1 727	1 378	1 305	1 337	1 352
Household type											
1 adult retired	..	..	..	..	1 032	168	159	121	198	110	111
2 or more adults retired	..	..	..	..	823	292	275	215	199	196	200
1 adult non-retired	..	..	..	..	862	562	544	453	743	439	437
2 adults non-retired	..	..	..	..	1 454	713	698	514	510	485	483
3 or more adults non-retired	..	..	..	..	582	967	928	812	467	785	793
1 adult with children	..	..	..	..	356	365	297	259	255	225	286
2 adults and 1 child	..	..	..	..	528	759	733	596	494	574	574
2 adults and 2 children	..	..	..	..	741	618	604	510	355	504	507
2 adults with 3 or more children	..	..	..	..	348	1 323	1 282	973	597	912	909
3 or more adults with children	..	..	..	..	320	1 105	1 033	763	416	716	743

¹ Households ranked by equivalised disposable income.

Standard errors for disposable income for quintile groups¹ within household type, 1990

TABLE 2 (Appendix 2)

Household type	Numbers in sample	Standard error for mean unadjusted disposable income for quintile groups of households ranked by equivalised disposable income (£ per year)					All groups
		Bottom	2nd	3rd	4th	Top	
All households.. .. .	7 046	89	320	462	577	748	186
Non-retired	5 191	154	421	623	703	974	235
Retired	1 855	92	206	301	409	476	127
1 adult retired	1 032	54	39	37	103	498	121
2 or more adults retired	823	109	163	262	433	743	215
1 adult non-retired	862	121	232	283	349	1 945	453
2 adults non-retired	1 454	257	252	285	388	2 204	514
3 or more adults non-retired	582	503	885	1 067	1 321	3 494	812
1 adult with children	356	249	483	561	691	941	259
2 adults with 1 child	528	400	388	640	761	2 182	596
2 adults 2 children	741	323	411	501	668	1 999	510
2 adults with 3 or more children	348	406	600	948	1 108	3 965	973
3 or more adults with children	320	623	1 386	1 320	1 829	2 216	763

¹ Ranked by equivalised disposable income.

Standard errors for unadjusted disposable income expressed as a percentage of the mean, 1977 to 1990

TABLE 3 (Appendix 2)

	Number in sample (1990)	Standard error for mean unadjusted disposable income expressed as a percentage of the mean (%)								
		1977	1979	1981	1983	1985	1987	1989	1990	
Household type										
All households.. .. .	7 046	1.0	1.0	1.2	1.1	1.2	1.2	1.2	1.4	
Non-retired	5 191	1.0	1.0	1.2	1.1	1.2	1.2	1.2	1.5	
Retired.. .. .	1 855	2.0	1.9	2.0	2.0	2.2	2.7	2.2	2.0	
1 adult retired	1 032	2.0	2.0	2.1	2.1	2.0	4.0	2.8	2.6	
2 or more adults retired	823	2.5	2.3	2.4	2.6	2.9	3.3	2.7	2.5	
1 adult non-retired	862	3.1	3.2	3.9	3.4	3.3	4.0	3.0	4.5	
2 adults non-retired	1 454	2.0	1.6	2.9	2.4	2.0	2.0	2.1	2.9	
3 or more adults non-retired	582	2.0	2.3	2.1	2.4	2.5	3.1	2.3	3.7	
1 adult with children	356	5.3	5.9	13.0	4.9	4.6	4.4	5.8	3.7	
2 adults with 1 child	528	2.4	2.4	2.7	2.6	3.0	3.0	3.2	3.5	
2 adults 2 children	741	2.0	2.2	1.9	2.3	2.6	3.1	3.2	3.0	
2 adults with 3 or more children	348	3.2	3.1	3.9	3.7	5.7	5.0	4.9	5.6	
3 or more adults with children	320	2.2	2.3	2.8	2.5	3.1	3.2	3.0	3.4	

Standard errors for shares of total Income, 1990

TABLE 4 (Appendix 2)

	Share of total income, r (as %)	Standard error of r (as %)	95 % confidence interval for r (as %)
Equivalised original Income			
Quintile group ¹			
Bottom	2.0	0.06	(1.86, 2.09)
2nd	7	0.14	(6.3, 6.8)
3rd	15	0.29	(14.8, 16.0)
4th	25	0.44	(24.4, 26.1)
Top	51	0.43	(50.0, 51.6)
All households..	100		
Equivalised gross Income			
Quintile group ¹			
Bottom	6.7	0.06	(6.56, 6.80)
2nd	10	0.11	(10.1, 10.5)
3rd	16	0.22	(15.2, 16.1)
4th	23	0.33	(22.4, 23.7)
Top	44	0.45	(43.5, 45.2)
All households..	100		
Equivalised disposable income			
Quintile group ¹			
Bottom	7.0	0.06	(6.88, 7.13)
2nd	11	0.11	(10.6, 11.1)
3rd	16	0.22	(15.6, 16.4)
4th	23	0.31	(22.3, 23.5)
Top	43	0.47	(42.4, 44.2)
All households ..	100		
Equivalised post - tax income			
Quintile group ¹			
Bottom	6.3	0.07	(6.18, 6.44)
2nd	10	0.14	(10.0, 10.6)
3rd	15	0.26	(14.9, 15.9)
4th	23	0.37	(21.9, 23.3)
Top	45	0.56	(44.3, 46.5)
All households..	100		

¹ Ranked by equivalised disposable income.

APPENDIX 3

Three tables for 1990, ranked using *unadjusted* disposable income

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Average incomes, taxes and benefits, 1990

By quintile groups of households (ranked by UNADJUSTED disposable income)

TABLE 1 (Appendix 3)

	Quintile groups of households ranked by UNADJUSTED disposable income					All households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
<i>Quintile points</i>		4 820	8 769	13 453	19 650	
Number of households in the sample ..	1 409	1 409	1 410	1 409	1 409	7 046
Original income						
Earnings of main earner	357	2 797	8 482	13 091	24 935	9 832
Other earnings	12	146	1 440	3 858	9 575	3 006
Occupational pensions, annuities	302	810	980	926	1 015	807
Investment income	224	551	793	1 079	2 279	985
Other income	59	179	219	240	365	213
Total	954	4 483	11 915	19 195	38 169	14 943
Direct benefits in cash						
Contributory						
Retirement pension	1 746	1 479	736	428	251	928
Unemployment benefit	19	45	39	16	16	27
Invalidity pension and allowance	106	209	153	120	56	129
Statutory sick pay	1	10	32	39	39	24
Industrial injury disablement benefit.. .. .	7	30	24	10	13	17
Sickness, industrial injury benefit	8	13	12	6	5	9
Widows' benefits.. .. .	63	69	41	29	15	43
Maternity/ Statutory Maternity pay	2	7	11	13	22	11
Miscellaneous contributory benefits.. .. .	10	11	4	4	1	6
Non-contributory						
Income support/ Supplementary benefit	413	544	158	109	35	252
Child benefit.. .. .	76	223	292	305	288	237
Housing benefit	596	431	98	44	26	239
Invalid care allowance.. .. .	1	12	11	4	11	8
Attendance allowance.. .. .	10	75	34	27	23	34
Mobility allowance	8	58	34	22	13	27
War pensions	3	21	13	14	9	12
Severe disablement allowance.. .. .	24	75	51	23	12	37
Student maintenance awards	20	19	35	30	34	28
Government training schemes	12	31	21	38	32	27
Family credit/ income supplement	6	31	34	10	6	17
Other non-contributory benefits.. .. .	18	33	13	11	1	15
Total cash benefits.	3 147	3 426	1 846	1 300	910	2 126
Gross income	4 101	7 910	13 761	20 495	39 079	17 069
Direct taxes and Employees' NIC						
Income tax	195	571	1 647	2 971	6 833	2 443
less: Tax relief at source ¹	28	87	264	492	667	308
Employees' NI contributions	20	160	553	932	1 429	619
Domestic rates/Community charge (gross)	502	624	708	774	928	707
Total	689	1 269	2 644	4 185	8 523	3 462
Disposable income.	3 412	6 641	11 117	16 310	30 556	13 607
Indirect taxes						
Taxes on final goods and services						
VAT	266	550	972	1 281	1 985	1 011
Duty on tobacco	126	226	276	278	245	230
Duty on beer and cider	23	58	102	122	163	93
Duty on wines	6	13	22	35	89	33
Duty on spirits	16	43	68	74	121	65
Duty on hydrocarbon oils	34	102	189	247	329	180
Car tax	6	20	49	64	46	46
Vehicle excise duty	22	57	96	119	146	88
Television licences	48	55	60	62	66	58
Stamp duty on house purchase	6	10	25	39	58	28
Customs' duties	13	24	40	49	71	39
Betting taxes	16	28	44	80	48	43
Other	7	10	14	20	21	15
Intermediate taxes						
Commercial and industrial rates.. .. .	75	126	195	248	370	203
Employers' NI contributions	89	149	235	298	445	243
Duty on hydrocarbon oils	36	58	91	112	165	93
Vehicle excise duty	8	13	21	26	39	21
Other	35	58	90	112	162	91
Total indirect taxes	833	1 601	2 590	3 264	4 613	2 580
Post-tax income	2 580	5 040	8 527	13 046	25 943	11 027
Benefits in kind						
Education	259	700	911	1 099	1 117	817
National health service	1 150	1 223	1 092	1 024	1 053	1 108
Housing subsidy	120	112	56	33	15	67
Rail travel subsidy	8	11	19	25	52	23
Bus travel subsidy	36	37	24	19	18	27
School meals and welfare milk	19	52	26	18	14	26
Total	1 592	2 135	2 127	2 218	2 270	2 068
Final income	4 171	7 175	10 653	15 264	28 213	13 095

1 On mortgage interest and life assurance premiums.

Average incomes, taxes and benefits, 1990

By decile groups of households (ranked by UNADJUSTED disposable income)

TABLE 2 (Appendix 3)

	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)											
<i>Decile points</i>		3 540	4 820	6 591	8 769	11 166	13 453	16 208	19 650	25 923	
Number of households in the sample	705	704	705	704	705	705	704	705	704	705	7 046
Original income											
Earnings of main earner	240	475	1 590	4 006	7 253	9 712	11 591	14 589	17 457	32 402	9 932
Other earnings	7	17	43	248	908	1 972	3 040	4 674	7 197	11 950	3 006
Occupational pensions, annuities	192	411	608	1 012	1 000	959	1 066	787	745	1 285	807
Investment income	216	232	499	603	790	797	1 120	1 039	1 491	3 067	985
Other income	48	69	179	179	240	198	276	205	399	332	213
Total	704	1 205	2 920	6 050	10 192	13 639	17 093	21 293	27 288	49 035	14 943
Direct benefits in cash											
Contributory											
Retirement pension	1 630	1 862	1 664	1 295	849	624	505	352	276	226	928
Unemployment benefit	23	15	45	45	35	44	16	16	18	13	27
Incapacity pension and allowance	79	133	225	193	173	132	115	125	74	39	129
Statutory sick pay	1	1	7	12	31	33	43	35	42	37	24
Industrial injury disablement benefit ..	8	5	25	35	17	31	5	15	16	10	17
Sickness, industrial injury benefit	9	6	8	18	17	8	5	6	4	6	9
Widows' benefits	55	72	74	63	47	34	39	18	19	11	43
Maternity/ Statutory Maternity pay	1	3	2	12	6	16	10	16	26	19	11
Miscellaneous contributory benefits	7	12	15	8	4	5	2	5	2	1	6
Non-contributory											
Income support/ Supplementary benefit ..	309	518	620	467	175	141	119	99	40	31	252
Child benefit	43	109	200	247	280	304	295	314	283	293	237
Housing benefit	480	712	565	296	118	79	61	26	23	29	239
Invalid care allowance	2	-	6	19	9	12	2	6	12	10	8
Attendance allowance	1	18	54	95	33	35	32	22	31	15	34
Mobility allowance	4	13	38	79	46	22	24	19	7	18	27
War pensions	3	3	12	30	15	10	12	16	9	10	12
Severe disablement allowance	14	34	65	85	75	27	20	26	14	10	37
Student maintenance awards	22	17	24	14	37	33	34	25	44	24	28
Government training schemes	11	12	24	38	14	28	41	35	47	17	27
Family credit/ income supplement	5	7	19	44	41	26	19	2	10	3	17
Other non-contributory benefits	7	29	35	30	9	17	19	4	2	-	15
Total cash benefits	2 714	3 581	3 727	3 125	2 033	1 660	1 420	1 180	997	823	2 126
Gross income	3 418	4 785	6 647	9 175	12 224	15 299	18 514	22 473	28 286	49 858	17 069
Direct taxes and Employees' NIC											
Income tax	243	146	345	797	1 384	1 910	2 631	3 311	4 481	9 182	2 443
less: Tax relief at source ¹	25	31	52	121	224	304	442	543	633	701	308
Employees' NI contributions	13	28	88	233	449	658	813	1 050	1 274	1 584	619
Domestic rates/Community charge (gross)	483	522	605	643	682	734	750	798	864	992	707
Total	714	665	987	1 551	2 291	2 998	3 753	4 617	5 986	11 057	3 462
Disposable income	2 705	4 120	5 660	7 624	9 933	12 301	14 761	17 857	22 300	38 801	13 607
Indirect taxes											
Taxes on final goods and services											
VAT	247	286	454	646	844	1 100	1 148	1 413	1 635	2 334	1 011
Duty on tobacco	112	140	218	233	265	287	265	291	244	245	230
Duty on beer and cider .. .. .	..	19	26	47	69	89	116	112	132	144	182
93											
Duty on wines	5	7	10	16	18	26	29	41	55	122	33
Duty on spirits	15	17	27	58	66	70	72	76	109	133	65
Duty on hydrocarbon oils	29	40	80	124	170	209	226	268	318	339	180
Car tax	7	4	22	19	28	70	60	68	68	115	46
Vehicle excise duty	20	25	45	68	87	105	112	125	143	150	88
Television licences	47	49	55	55	60	61	62	63	64	68	58
Stamp duty on house purchase	6	5	7	14	23	26	36	42	51	65	28
Customs' duties	11	15	21	27	35	45	45	52	61	81	39
Betting taxes	16	15	22	35	40	48	108	52	39	56	43
Other	7	8	8	12	12	16	16	24	20	22	15
Intermediate taxes											
Commercial and industrial rates	70	80	107	144	178	213	225	272	310	430	203
Employers' NI contributions	82	96	127	170	214	256	268	327	373	518	243
Duty on hydrocarbon oils	33	40	51	66	86	97	100	123	140	191	93
Vehicle excise duty	7	9	11	15	20	22	23	28	32	45	21
Other	33	37	50	66	81	98	102	121	137	188	91
Total indirect taxes	767	899	1 364	1 838	2 314	2 867	3 011	3 517	3 944	5 282	2 580
Post-tax income	1 938	3 222	4 296	5 786	7 619	9 434	11 750	14 339	18 356	33 519	11 027
Benefits in kind											
Education	220	297	621	780	839	983	1 106	1 093	1 048	1 186	817
National health service	1 089	1 212	1 262	1 184	1 109	1 074	1 001	1 047	1 047	1 060	1 108
Housing subsidy	103	138	132	91	59	52	41	26	15	15	67
Rail travel subsidy	8	8	13	9	18	20	23	28	41	62	23
Bus travel subsidy	32	41	43	32	25	22	20	17	17	20	27
School meals and welfare milk	7	30	56	48	26	26	19	18	15	13	26
Total	1 458	1 726	2 126	2 144	2 076	2 178	2 209	2 228	2 183	2 357	2 068
Final income	3 396	4 948	6 422	7 930	9 695	11 612	13 959	16 567	20 539	35 875	13 095

1 On mortgage interest and life assurance premiums.

Cross-tabulation of households ranked by disposable income, unadjusted and equivalised, 1990

TABLE 3 (Appendix 3)

(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	919	490	-	-	-	1 409
2nd	440	540	302	127	-	1 409
3rd	47	324	619	278	142	1 410
4th	3	55	431	610	310	1 409
Top	-	-	58	394	957	1 409
All households	1 409	1 409	1 410	1 409	1 409	7 046

(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	364	277	64	-	-	-	-	-	-	-	705
2nd	194	84	271	155	-	-	-	-	-	-	704
3rd	93	221	173	38	122	58	-	-	-	-	705
4th	39	87	94	235	61	61	118	9	-	-	704
5th	11	30	71	122	195	126	3	113	34	-	705
6th	3	3	26	105	148	150	159	3	108	-	705
7th	1	1	6	36	109	144	140	165	18	84	704
8th	-	1	-	13	58	120	150	155	146	62	705
9th	-	-	-	-	11	44	114	181	229	125	704
Top	-	-	-	-	1	2	20	79	169	434	705
All households	705	704	705	704	705	705	704	705	704	705	7 046

APPENDIX 4

Trends in income distribution, 1977-1990

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Percentage shares of original, gross, disposable and post-tax income by quintile group of households, 1977-1990	1
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This section gives Gini coefficients and shares of income for 1977 to 1990. 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 in the 1990 analysis, 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 - 1988/89* (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, 1977-1990

TABLE 1 (Appendix 4)

	1977	1979	1981	1983	1985	1987	1989	1990 ²
Equivalised original income								
Quintile group								
Bottom	3.6	2.4	2.9	3.0	2.5	2.1	2.0	2.0
2nd	10	10	9	8	7	7	7	7
3rd	18	18	17	17	17	16	16	15
4th	26	27	26	26	27	25	26	25
Top	43	43	46	47	47	50	49	51
All households	100	100	100	100	100	100	100	100
Equivalised gross income								
Quintile group								
Bottom	8.9	8.5	8.4	8.5	8.3	7.5	7.1	6.7
2nd	13	13	12	12	12	11	11	10
3rd	18	18	17	17	17	16	16	16
4th	24	24	23	23	24	23	23	23
Top	37	37	39	39	40	43	42	44
All households	100	100	100	100	100	100	100	100
Equivalised disposable income								
Quintile group								
Bottom	9.7	9.4	9.3	9.5	9.2	8.2	7.6	7.0
2nd	14	13	13	13	13	12	12	11
3rd	18	18	17	17	17	16	17	16
4th	23	23	23	23	23	23	23	23
Top	36	36	38	38	38	41	41	43
All households	100	100	100	100	100	100	100	100
Equivalised post-tax income								
Quintile group								
Bottom	9.4	9.5	9.0	8.9	8.6	7.6	6.9	6.3
2nd	14	13	13	13	13	12	11	10
3rd	17	18	17	17	17	16	16	15
4th	23	23	22	22	23	22	23	23
Top	37	37	39	39	39	43	43	45
All households	100	100	100	100	100	100	100	100

1 Ranked by equivalised disposable income.
2 Includes company car benefit.

Gini coefficients for the distribution of income at each stage of the tax-benefit system, 1977-1990

TABLE 2 (Appendix 4)

	1977	1979	1981	1983	1985	1987	1989	1990 ¹
Gini coefficients (per cent)								
Equivalised original income	43	44	46	48	49	51	50	52
Equivalised gross income	29	30	31	32	32	36	36	38
Equivalised disposable income	27	27	28	28	29	33	34	36
Equivalised post-tax income	29	29	31	31	32	36	37	40

1 Includes company car benefit.

