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ECONOMIC POLICY AND THE DIVISION OF INCOME WITHIN THE FAMILY

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PREFACE

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INTRODUCTION

This report is about the way in which economic policy should take account of the economic relationships and interactions between family members. How do the relationships between family members affect the need for government policy interventions? Can we, for example, assume that all family members share the same standard of living, or should the state be concerned about the possibility of poverty within the family? Can we also assume that all family members share the same objectives — that parents and children take the same view about the desirability of further education, for example, or that all family members perceive the trade-off between higher local authority spending and increased local taxation in the same way? If, in fact, the economic relationships between family members are complex, and the circumstances, objectives and attitudes of family members differ, how should this be reflected in public policy?

It is clear that this set of questions raises issues of many sorts, including some basic issues about the roles of the family and government institutions in the organisation of society. In this report we confine ourselves to the limited objective of considering the relationship between the state, families and individuals from the standpoint of economic analysis. What division of responsibility is implicit in current economic policy, and what implications does it have for the distribution of individual welfare?

Much economic analysis, both of behaviour and of policy, has made the convenient assumption that households or families can be treated as single units, within which the individual members have common objectives, make common decisions, and experience a common standard of living. The assumption is convenient for two reasons. Firstly, it obviates the need to model processes and decisions within the family unit; as recent attempts to develop non-co-operative models of household behaviour have demonstrated, relaxing the assumption that the family can be treated as a single unit can lead rapidly to considerable complexity (Woolley, 1988). Secondly, analysis at the level of the family economises on the amount of information necessary in empirical applications. Whilst the two major household surveys in the UK provide detailed information on individual incomes of household members, neither provides information on resource transfers within the household,¹ or on individual consumption.²

In the first chapter of this report we consider theoretical and empirical economic analyses of the relationship between individuals and the family unit. To what extent is the convenient simplification that the family can be treated as the basic unit of analysis at all inappropriate? How would we expect individuals within households to behave if they were not co-operating to take decisions as a single unit, and did not share common objectives and a common standard of living? What evidence can be found from existing data that suggests that households behave in this way?

In subsequent chapters we consider the implications of different assumptions about household behaviour for the formulation of economic policy in five areas. In each area we consider what assumptions regarding the division of responsibility between the state and the family underlie current policy, and what the implications and effects would be of taking alternative views about the division of responsibility.

Chapter 2 looks at social security policy and the division of income within the family. It describes the basis on which entitlement to a range of social security benefits is currently assessed, and the income-sharing assumptions that are implicit in these arrangements. It considers in detail the implications for social security policy of alternative assumptions about income-sharing. Is the individual, the immediate family unit, or the wider household the most appropriate unit over which to measure incomes and to assess benefit entitlements?

In Chapter 3, the corresponding assumptions underlying the income tax system are assessed. In recent years there has been much discussion of the 'married man's allowance', and possible reforms of the tax treatment of husband and wife that would reduce the extent to which the tax system presumed that wives were dependent on their husbands. Chapter 3 describes the reform option that the Government has chosen, and considers how far it meets basic objectives regarding economic efficiency and inter-family and inter-personal equity in the income tax system.

Chapter 4 looks at what is, perhaps, the most controversial recent tax reform affecting family relationships, the replacement of domestic rates by a poll tax, called the 'Community Charge'. The Community Charge forms one component of a package of measures following the 1986 Green Paper *Paying for Local*

Government, as Chapter 4 argues, the most important attribute of the Community Charge within this package of reforms is precisely that it substitutes an 'individual' tax for a 'household' tax. Chapter 4 describes how the effects of this change depend on the assumed model of taxpayer behaviour, and draws some implications for the operational implementation of the new tax.

The relationships between parents and their children are the focus of Chapter 5, which looks at the way that participation in post-compulsory education may be affected by the extent of income-sharing within the family. There is a close relationship between the education decisions that young people make and the extent to which the state expects them to be financially dependent on their parents. If the state's expectations regarding the willingness of children to be supported by their parents, or of parents to support their children, during education are unrealistic, participation in post-compulsory education may be deterred, even where it would benefit both society and the individual.

The fifth area of policy examined is pensions policy. The pension entitlements of married couples accrue as a result of the participation of individuals in paid employment. As a result, a family member whose career has been interrupted by unpaid domestic labour becomes dependent on her spouse for post-retirement income. Chapter 6 examines the extent of such dependence, and policy problems associated with it.

Finally, Chapter 7 draws together some conclusions from the preceding discussion about the assumptions that economic policy makes about economic relations within the family, and about particular policy issues in each of the five areas discussed.

NOTES TO INTRODUCTION

1. The new panel data survey being mounted at the University of Essex will for the first time provide evidence in a large survey on household budgeting processes.
2. Whilst the Family Expenditure Survey has individual diary records of purchases, it does not reveal for whose benefit purchases were made (see Chapter 1).

CHAPTER 1

ECONOMIC ANALYSIS AND THE DIVISION OF INCOME WITHIN THE FAMILY

In this chapter we consider economic analyses of the relationship between individuals and the family, or household, unit.¹ In the first section we review briefly the theoretical economic analyses of family behaviour, and in subsequent sections consider empirical evidence on sub-household processes and their practical significance.

1.1 Economic Models of the Family

Can we treat the family as a single unit making common decisions which maximise family utility? Much analysis of economic behaviour and of the effects of economic and social policies on family living standards assumes that we can, and that we can ignore processes within the family. Then we can, for example, represent family preferences by a utility function in which the arguments are family consumption of various goods (q_1, \dots, q_n) and leisure/household production H :

$$U = U(q_1, \dots, q_n, H). \quad (1)$$

The family is assumed to make a set of decisions about the individual labour supplies of family members (L_H, L_W) and about expenditures that maximise family utility as given by equation (1), subject to an overall budget constraint:

$$L_H W_H + L_W W_W = p_1 q_1 + \dots + p_n q_n. \quad (2)$$

There is, however, increasing interest in alternative approaches to modelling household behaviour, in which processes and relationships between household members are specified in greater detail. There is also a growing body of empirical evidence that households do not always behave as if they shared common goals, made common decisions, and experienced a common standard of living (see, for example, Ashworth and Ulph (1981)).

From a methodological point of view there is, indeed, something rather unsatisfactory about the notion of a household or family utility function. As Arrow (1951) has demonstrated, the conditions under which such an objective function can be derived from

individual utility functions are stringent, and unlikely in practice to give rise to the well-behaved utility functions assumed to be underlying household behaviour. Nevertheless, analysis ‘as if’ such a function could be constructed may prove to be a useful simplification if it can be demonstrated that, in practice, differences between family members’ preferences are of negligible consequence for behaviour.

Once we abandon the convenient fiction that we can assume a single ‘household’ utility function and a single household decision-making process, it becomes necessary to specify the nature of the economic interactions that occur within households. What — if anything — is it that links household members’ choices and behaviour and gives rise to interaction between the decisions of individual household members? What is the process by which this interaction occurs?

There are three principal channels by which interdependence arises between the decisions of household members.

First, individual household members’ utilities may be interdependent — in other words, family members may care not only about their own standard of living, but also about the standard of living of other members of the family. As a result the decisions they take may be influenced by the implications for not only their own utility, but also that of other family members. ‘Altruism’ of this form may not, of course, be confined to family members; it is, for example, often assumed to be the source of government concerns about poverty and income distribution. Nevertheless, it seems reasonable to suppose that the links between the utility functions of family members will be considerably greater than those between unrelated individuals.

A second source of interdependence arises from the existence of economies of scale in living together as a family, and sharing the benefits from a range of ‘household public goods’. Analysis of the consumption patterns of households of different sizes indicates that the economies of scale from living together, particularly in housing costs, can be quite substantial. The literature on ‘equivalence scales’ which seeks to measure these scale economies has been the subject of considerable controversy over methodology, but broad agreement about the practical importance of the issue. The equivalence scales implicit in the structure of UK

income support suggest that a single adult requires some 64 per cent of the income of a couple of two adults (and no children) to have the same standard of living.²

The economies of scale from joint living can be formalised in terms of the provision of household 'public goods' — goods which once provided are of benefit to all members of the household, and where the consumption benefits that any family member derives are not diminished by whether other family members also benefit from the good. Such household public goods — TV sets, as opposed to 'private' goods such as loaves of bread, for example — may be subject to the same sorts of deficiencies in individual provision as are public goods at local or national level (parks, the legal system and national defence, for example). Since individuals know that other individuals care about the level of provision, a form of 'prisoner's dilemma' arises, in which the public goods are underprovided because each individual tries to 'free ride' on the others' willingness to pay for their provision. Some of the literature on individual provision of public goods has obvious application to the analysis and understanding of household behaviour (see, for example, Ulph (1988)).

A third reason for interdependence between individual family members' actions arises from the 'trade' of unpaid household work between family members. It may, from the point of view of the family, be more efficient for one family member to 'specialise' in the performance of household work, and for the other to specialise in paid, 'market' work.³ Changes in the 'formal' economy incomes of one family member may thus affect the living standards of the other — and, indeed, may affect the extent to which the particular pattern of specialisation chosen remains optimal.

Since the number of family members is small, the process by which family decisions are reached fits naturally into a two-player game theoretic framework. The nature of the 'game' between family members has been specified in various ways. Manser and Brown (1980), for example, adopt a model of a co-operative game, in which the allocation of resources after marriage is determined by bargains concluded before marriage. This, however, highlights a particular problem with co-operative game models of family processes. As Woolley (1988) observes, co-operative games require that it is possible to enter into binding agreements regarding future conduct, and there are obvious practical and legal difficulties about

negotiating and enforcing binding agreements within marriage. Non-co-operative game models of family behaviour have been studied by, amongst others, Leuthold (1968), Ulph (1988) and Woolley (1988), using a variety of specifications and equilibrium concepts.

The non-co-operative Nash model of household consumption behaviour developed by Ulph (1988) has particular relevance to a number of important policy issues, including the question of the effects of making child benefit payable to the 'caring parent' — usually the mother. Ulph observes that the popular view that the pattern of consumption would be affected by who received benefit or other incomes is not supported by certain theoretical models, such as those developed by Becker (1981); in these models, so long as one household member is sufficiently altruistic, the distribution of income may have no effect on household spending patterns. In other models, by contrast, such as those of Apps (1981) and Apps and Jones (1986), the distribution of income does affect household behaviour. Ulph develops a general model of the consumption behaviour of a two-person household, in which labour supplies are assumed fixed, and husband and wife each decide how to spend their own incomes, based on Nash conjectures about how the other will behave. Two classes of goods are allowed, one group over which husband and wife have the same preferences, the other over which their preferences differ. Ulph shows that each individual will then ensure that strategic purchases are made of the commodities over which there is disagreement, in order to precommit the household to a minimum expenditure on these items, and that remaining income will, effectively, be pooled and spent in an agreed manner.

The effect on spending patterns of the division of income between husband and wife in Ulph's model is complex. Where one or other partner has nearly all the income, spending patterns will conform to their preferences (the Becker result). Intermediate between these two extremes, there will be some ranges where the pattern of spending on the goods over which there is disagreement will vary with the division of income between husband and wife. There will be one commodity whose demand increases with the share of income going to the wife, one for which it falls, and for all others, demand first falls and then rises. As Ulph observed, these theoretical results have strong and testable implications for the observed pattern of consumer spending.

1.2 'Process' and 'Outcome' Evidence

Empirical evidence on the extent to which the household (or family) can be regarded as a single unit for the purposes of economic analysis and policy formulation might in principle be obtained from one of two sources. The first, which we may describe as 'process' evidence, relates to the way in which households make decisions, and describes the processes or transactions between household members. The second, 'outcome' evidence, is concerned with the effects that different underlying processes or behavioural patterns within the family might be expected to have on observable outcomes (expenditures, labour supply decisions, etc.) and tries to infer from the observed outcomes the nature of the intra-household processes which generated them.

It is clear that both approaches have strengths and weaknesses. One of the most important concerns the data requirements (Jenkins, 1989). The existing large-scale data sets on household circumstances and behaviour which are available to researchers in the UK, including the Family Expenditure Survey (FES) and the General Household Survey (GHS), provide little or no descriptive information about processes within the household.⁴ On the other hand, they provide substantial samples of data, with comprehensive and carefully-collected information on economic variables such as income and expenditure, which permits rigorous testing of outcome evidence, allowing for a wide range of possibly interrelated decisions. Process evidence, on the other hand, has generally required the institution of specific surveys, which inevitably have had rather smaller sample sizes and a restricted range of information about economic and other household characteristics. Nevertheless, the various small-scale surveys that have been conducted in the UK do show a degree of stability in the patterns of 'process' information that emerge.

Process Evidence

From a study of household budgeting arrangements amongst a sample of 102 married couples with at least one child in Kent in 1982–83, Pahl (1984) described four types of allocative systems used by the couples in managing individual and family expenditures. The four systems described by Pahl are:

- (1) the whole wage system, in which one partner, usually the wife,

- is responsible for managing all the household finances, except for the personal spending money of the other partner;
- (2) the allowance system, in which, typically, the husband gives his wife a set amount of money and she is responsible for some expenditure, while the rest of the money remains in his control and he pays for other items;
 - (3) the pooling system, in which both partners have access to all or nearly all the household money and both are responsible for managing the common pool and for expenditure drawn from it;
 - (4) the independent management system, in which both partners have incomes which they maintain separately, neither having access to all the financial resources of the household. In this system each partner is responsible for specific items of expenditure; these responsibilities may change over time but the principle of keeping flows of money separate within the household is maintained (Pahl, 1986, p. 243).

Pahl found that the pooling system was used by about half of all households; a quarter used the allowance, a sixth the whole wage system and a twelfth the independent management system.

Pahl found a complex relationship between the economic circumstances of the couples and the type of allocative system employed. Couples with low incomes tended to operate the whole wage system managed by the wife, whilst at higher incomes allowance and pooling systems became more common. Couples whose income came predominantly from social security tended to adopt the whole wage system. The financial system employed was also correlated with the wife's economic position: pooling and independent management systems were more common when both spouses were in employment. Broadly similar patterns were also found by Edwards (1981) in a study of 50 Australian families.

Pahl's study suggested that few couples ever changed the system of financial management they employed, with no evidence that there was any life-cycle pattern to intra-family financial processes. There was, however, evidence of significant 'cohort' differences, with older couples, and the couples' parents, being more likely to employ the allowance system, and younger couples the pooling system.

Survey evidence of this sort on the pattern of household financial arrangements is, at best, suggestive of the likely consequences of a change in the financial resources accruing to an individual household member. Thus, for example, Pahl (1986) argues that the allowance system and the independent management system are the ones in which husbands would not necessarily transfer additional money to the wife or to the family. However, these conclusions are based on assumptions about the likelihood of 'renegotiation' of financial allocations in changed circumstances, which the small-scale surveys employed do not allow us to test.

The situations in which changed circumstances might prompt a renegotiation of financial allocations and expenditure responsibilities or, more fundamentally, of the system of financial management employed by a couple are likely to be a function of the effect of the change in circumstances on the living standards of each partner, the psychic and other costs of renegotiation, and the nature of the decision-making process between husband and wife. In general it might be expected that 'small' changes in circumstances might not affect partners' living standards sufficiently to make it worth incurring the costs of renegotiation, but that changes that had a large and adverse effect on the standard of living of either partner would lead them to reopen the question of intra-household financial allocations. There are fewer obvious points to be made about how the decision-making process might affect the frequency of renegotiation, although it is perhaps plausible that the costs of renegotiation would be rather higher where the couple's decisions were the outcome of a non-co-operative process reflecting highly divergent individual preferences and interests than where a co-operative process and similar interests were involved. Where bargaining processes are involved, the direction of the change may be important: a partner whose bargaining position was already weak may be less able to derive advantage from reopening negotiations after an adverse shift in external circumstances.

More generally, the pattern of financial management tells us little about the extent to which incomes are devoted to joint purposes, and the extent to which they are spent on purchases which merely benefit individual members of the household. Each different pattern of financial management could be consistent with any pattern of household expenditure, with some purchases benefiting 'the household' jointly, and others benefiting only one or other

individual member. Indeed, some of the wife's income may, for instance, be spent on goods solely consumed by the husband. The pattern of financial management may have real effects on the distribution of living standards within the household; but alternatively it may be merely a veil, concealing particular allocations of household resources to the individual partners and to the joint household.

Outcome Evidence

There is considerable outcome evidence that household members behave in a way that reflects some process of resource-sharing within the household, rather than being based on purely individual circumstances, incomes and expenditures. Thus, for example, in Dilnot and Kell's recent study of the labour supply decisions of women married to unemployed men, it was found that such women were less frequently observed in employment than otherwise similar women whose husbands were employed (Dilnot and Kell, 1987). This, argue the authors, reflects the structure of the benefit system, which reduces the husband's benefit entitlement when the wife is receiving employment income. It appears that the women married to unemployed men take account of the benefit income accruing to the husband in deciding whether or not to work, and are rarely observed working in part-time jobs, where the only effect would be to substitute their own employment income for their husband's benefit entitlement, without increasing the total income of the family unit.

Nevertheless, whilst studies of this sort, which reveal the interdependence of family members' decisions, indicate that some form of sharing occurs within the household, they do not in general indicate the extent to which resources are shared, nor the process by which resources are shared within the household — whether through 'altruistic' transfers, through 'trade' of household work for command over some portion of household incomes, or, indirectly, through the effect of each partner's circumstances on their purchases of household 'public goods'. In particular, they do not shed light on the policy-relevant question, whether the allocation of incomes between family members has *any* impact on the living standards of individual family members.

One study which is directed at this issue is the paper by Piachaud (1982), which uses Family Expenditure Survey data for 1977 to

analyse the income and expenditure patterns of some 2,000 married couples with a head under 65 and a level of normal income between 100 per cent and 300 per cent of the relevant supplementary benefit level. Piachaud observes that the distribution of incomes within the families was highly uneven: in 60 per cent of the couples the woman provided under one-fifth of combined gross income, and in less than one-tenth of couples two-fifths or more.

The effects of the distribution of couples' incomes on combined expenditures were estimated in a linear expenditure system, into which the net incomes of both husband and wife were entered separately, and then compared with a formulation where the couple's income was entered simply as an aggregate total. Piachaud found that the way that income was divided between husband and wife did not affect how much was spent on food, but that clothing, alcohol and tobacco expenditures all went up when the woman had a larger share in the total income. He observed that this may reflect greater preferences for these goods on the part of the wife, but that this explanation could not be distinguished from the possibility that the wife's employment status might affect the pattern of commodity demands.⁵

Piachaud (1982) also contains an analysis of the pattern of individual household members' expenditures, but he correctly observes that this has nothing to do with the distribution of living standards between individual household members. 'What expenditure data does provide is indirect information on how the burdens or pleasures of shopping are distributed' (Piachaud, 1982, p. 479). In other words, the individual diary records in the FES may provide material for a theory of shopping, but not any evidence on who benefits from spending, or on the pattern of household members' incomes.

1.3 Evidence from Household Spending Data

In this section we pursue further the approach taken by Piachaud (1982) to test whether the pattern of incomes within the family has any significant effect on the observed pattern of expenditures. As in Piachaud's work, the data are taken from the UK Family Expenditure Survey, but we aggregate data from five successive years of the survey, 1980–84, so as to obtain a substantial increase in sample size — about 14,000 married couples with or without children, compared with the 2,000 in the earlier study. We confine

our attention to data on total household spending on particular groups of goods and services, rather than seeking to make any use of the individual diary records of purchases. We also include information on a wider range of demographic and other factors which may affect the pattern of household spending, including measures of the hours worked by each partner, in addition to the information about individual incomes.

The results reported in this section relate to families that consist of a married couple where both partners are in the age range 18–59, with or without children aged under 18.⁶ Overall, slightly more than two-thirds of the couples in the sample have children. It would, in principle, be possible to extend the methods used here to other household types, although the sample sizes in each year of the survey are likely to be appreciably smaller.

Nearly all of the husbands in the sample were in full-time employment, self-employed or unemployed; very few were working part-time. Sixty per cent of the wives were working, about half of them in part-time jobs. The average weekly income of the husbands in the sample was £129.40 (in 1980 price terms), whilst the average income, from all sources, of the wives was £40.19 per week, less than one-third of the incomes of the husbands. On average, 79 per cent of the wives' total income was employment income, and 17 per cent social security benefits (principally child benefit).

One of the problems of any analysis of this sort is that a substantial proportion of the variation in wives' income and share of income arises from two sources — variations in child benefit receipt, which depend on the number of children, and variations in earnings, which are closely related to differences in hours worked. Both the number of children and the hours worked by the wife are likely to have appreciable effects on the pattern of household consumption, quite independently of any effects arising through the division of income between husband and wife. Although by using multivariate methods we can of course try to control for these influences on spending, and by using a large data sample have increased our chances of being able to distinguish between the effects of the division of income and other factors, the limited amount of variation in wives' wage rates is likely to make statistically significant effects harder to find.

Overall there is a substantial amount of variation in the wife's share

of household income, except that there are very few households where the wife's share exceeds 60 per cent (Table 1.1). In about 19 per cent of households the wife's share exceeded 40 per cent, about double the proportion observed in Piachaud's data. One reason for this difference appears to be that Piachaud's analysis was restricted to couples with normal income between 100 per cent and 300 per cent of the supplementary benefit level, which in our data would have excluded a substantial proportion of couples where the wife worked full-time; half of these couples in our data have a wife's income share above 40 per cent.

TABLE 1.1

Wife's Share of Household Income and Wife's Employment

All 'couple' households, 1980-84, percentages

Wife's share of household income (%)	Wife not working	Wife working part-time	Wife working full-time	Wife self-employed	All households
0	11.5	0.2	0.6	0	4.7
1 - 9	56.1	9.8	1.7	13.2	25.6
10 - 19	21.3	33.9	3.7	29.3	20.6
20 - 29	7.3	32.5	12.2	14.1	16.6
30 - 39	2.1	14.7	29.8	11.4	13.9
40 - 59	1.1	7.1	43.4	27.3	15.4
60 - 79	0.3	1.2	6.3	3.4	2.3
80 - 100	0.3	0.6	2.3	1.3	1.0
All	100.0	100.0	100.0	100.0	100.0
<i>n</i>	5,541	4,429	3,935	447	14,352

Most, however, of the variation in the wife's share of household income can be traced to differences in the labour force participation of the wives in the data set. Amongst those households where the wife's usual hours were zero (excluding households where the wife was self-employed, which are shown separately), almost 90 per cent had the wife's share of household income below 20 per cent. Amongst those households where wives were working full-time, only 6 per cent of wives had a share of household income below 20 per cent, and about three-quarters had between 30 and 59 per cent.

We examine influences on the pattern of household expenditures by estimating Engel curves for groups of household expenditures,

using, in the main, the ten-commodity breakdown of expenditures shown in the published Family Expenditure Survey tables. The functional form used relates linearly the share of total household expenditure devoted to a particular group of goods and services to the logarithm of total household expenditure. As Deaton and Muellbauer (1980) observe, this functional form, first employed by Working (1943) and Leser (1963), has the property that it satisfies 'adding up'; in other words, the estimated parameters are consistent with the overall household budget constraint.

We thus use ordinary least squares to estimate Engel curves taking the form:

$$S_i = a_i + b_i \log E + c_i Z$$

where S_i is the share of household expenditure on a particular group of goods and services (expressed as a percentage);
 E is total household spending;
 Z is a vector of other household characteristics;
 and a_i , b_i and c_i are parameters to be estimated.

Table 1.2 shows estimated Engel curves for household spending on food, as an example of the results obtained, and Table 1.3 summarises the coefficients of interest from Engel curves estimated for each heading of the ten-commodity breakdown of household expenditures.

The three equations shown in Table 1.2 show, first, an Engel curve for food estimated with a term included showing the wife's share of household income; second, the same equation excluding the wife's share; and third, an equation containing terms in both the wife's share and the square of the wife's share. The logarithm of real expenditure is shown to exert a negative and significant effect on the budget share of food, indicating that food has the characteristics of a 'necessity' in household spending. The presence and number of children raises the budget share of food, by greater amounts the older the child. A number of socio-economic, regional and temporal effects are also statistically significant at the 5 per cent level.

However, in Table 1.2, neither the wife's share of household income nor the square of the wife's share has a statistically significant effect on the budget share of food, suggesting that

TABLE 1.2

Engel Curves for Household Spending on Food

14,352 households consisting of a married couple, with or without children, taken from the Family Expenditure Survey, 1980-84

	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Constant	69.750	83.56	69.703	84.15	69.612	82.97
Log (spending)	-10.643	-70.56	-10.641	-70.61	-10.644	-70.57
Wife's income share (Wife's share) ²	-0.208	-0.46			1.314	1.26
Husband's hours	0.037	6.47	0.038	6.65	0.037	6.43
Wife's hours	-0.006	-1.10	-0.008	-1.93	-0.010	-1.62
Children, age 0-2	1.693	12.84	1.692	12.84	1.687	12.79
Children, age 3-5	2.139	16.90	2.137	16.90	2.124	16.75
Children, age 6-10	2.543	29.06	2.539	29.11	2.521	28.49
Children, age 11-18	2.957	40.60	2.954	40.73	2.938	39.85
Rateable value	-0.255	-6.30	-0.255	-6.29	-0.253	-6.25
Owner-occupiers	0.039	0.28	0.040	0.28	0.044	0.31
House has phone	-0.397	-2.37	-0.399	-2.38	-0.396	-2.36
Has washing- machine	-0.038	-0.16	-0.035	-0.15	-0.043	-0.18
No. of cars and vans	-0.687	-6.99	-0.688	-7.01	-0.686	-6.98
Has central heating	-0.398	-2.91	-0.396	-2.90	-0.396	-2.90
Husband's age	0.094	14.05	0.094	14.07	0.094	14.12
Age husband left school	-0.004	-0.17	-0.004	-0.18	-0.002	-0.12
Professional/ administrative	-0.301	-2.08	-0.301	-2.08	-0.299	-2.06
Clerical	-0.154	-0.67	-0.158	-0.68	-0.160	-0.69
HM Forces	-2.226	-3.56	-2.219	-3.55	-2.214	-3.54
Unemployed	0.301	0.71	0.293	0.70	0.348	0.82
Self-employed	3.601	12.37	3.602	12.37	3.582	12.29
Unemployed	-1.289	-4.95	-1.306	-5.08	-1.258	-4.82
Northern region	-0.420	-2.41	-0.421	-2.41	-0.421	-2.42
Midlands	-0.416	-2.37	-0.416	-2.37	-0.415	-2.36
Greater London	1.310	5.81	1.306	5.79	1.313	5.82
Wales and South-West	-0.803	-3.91	-0.804	-3.92	-0.800	-3.89
Scotland	1.109	4.82	1.107	4.82	1.107	4.81
Northern Ireland	1.533	3.51	1.528	3.50	1.525	3.49
First quarter	0.551	3.52	0.552	3.53	0.550	3.51
Second quarter	0.366	2.33	0.367	2.34	0.367	2.33
Third quarter	-0.107	-0.69	-0.106	-0.68	-0.103	-0.66
Year = 1981	-0.793	-4.61	-0.794	-4.61	-0.793	-4.61
Year = 1982	-1.667	-9.61	-1.669	-9.63	-1.668	-9.62
Year = 1983	-1.653	-9.32	-1.654	-9.33	-1.655	-9.34
Year = 1984	-1.299	-7.26	-1.305	-7.31	-1.306	-7.30
R-squared	.442		.442		.442	
R-bar-squared	.440		.440		.440	
F-statistic	323.4		332.9		314.5	

household spending on food is not affected by the division of income between husband and wife.

This pattern is repeated in a number of the other estimated Engel curves reported in Table 1.3, including those for fuel, light, and power, alcoholic drinks, clothing, durables, other goods, and transport. Statistically significant effects do, however, appear in three cases, in the Engel curves for spending on housing, on tobacco and on services. In the first two, the wife's share appears to reduce the budget share, and in the case of services to increase the budget share.

The statistical significance is greatest in the case of the estimates for housing expenditure, but it is here that the interpretation of estimated results is likely to have to do with more than just the extent to which couples do or do not share household incomes. The observed effect may have at least something to do with the mortgage lending rules operated by many of the principal UK mortgage lenders. These calculate the maximum amount that the lender is prepared to advance, as a function of the incomes and other circumstances of the borrowers. Typically, the earnings of each partner are not treated equally in this calculation, the income of the higher earner (who is usually in practice the husband) normally being given greater weight (sometimes three times the weight) than the income of the other partner.⁷ The operation of lending rules of this form will mean that amongst couples with the same total income, those where the income is all earned by the husband will have access to a higher borrowing limit than those where both earn a proportion of the income.

The effects of this would be felt in the expenditures of those who take out mortgages, since those borrowing more will tend to be paying more in interest and in other expenses related to the value of the property. The borrowing rules may also affect whether households *become* owner-occupiers at all, or the point in the life cycle at which they become owner-occupiers. However, even though the housing expenditures of tenants may thus be affected by the operation of the mortgage lending rules, it is not clear that the wife's share should, as a result of the mortgage rules, affect housing expenditures of tenants in the same way as they affect the expenditures of owner-occupiers. Engel curves estimated for tenants and owner-occupiers separately suggest that the coefficients on the wife's share are in fact broadly similar. The

TABLE 1.3
Engel Curves for Household Spending on Ten Commodity Groups

	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
<i>Housing</i>						
Wife's income share (Wife's share) ²	-1.826	-3.71			-4.172	-3.69
Wife's weekly hours	0.004	0.57	-0.012	-2.70	0.009	1.39
F-statistic		172.8		177.4		168.2
<i>Fuel, light and power</i>						
Wife's income share (Wife's share) ²	-0.144	-0.59			-0.874	-1.57
Wife's weekly hours	-0.014	-4.61	-0.015	-6.87	-0.012	-3.73
F-statistic		157.7		162.3		153.4
<i>Food</i>						
Wife's income share (Wife's share) ²	-0.208	-0.46			1.314	1.26
Wife's weekly hours	-0.006	-1.10	-0.008	-1.93	-2.011	-1.62
F-statistic		323.4		332.9	-0.010	-1.62
<i>* Alcoholic drinks</i>						
Wife's income share (Wife's share) ²	-0.498	-1.51			0.198	0.26
Wife's weekly hours	0.030	7.23	0.025	8.49	-0.919	-1.02
F-statistic		35.2		36.2	0.028	6.33
<i>* Tobacco</i>						
Wife's income share (Wife's share) ²	-0.591	-2.15			-0.961	-1.52
Wife's weekly hours	0.011	3.33	0.006	2.56	0.488	0.65
F-statistic		114.1		117.3	0.012	3.33
<i>* Clothing</i>						
Wife's income share (Wife's share) ²	0.560	1.16			1.830	1.65
Wife's weekly hours	0.004	0.62	0.009	1.94	-1.677	-1.27
F-statistic		29.5		30.3	0.001	0.10
<i>Durables</i>						
Wife's income share (Wife's share) ²	-0.503	-0.81			0.461	0.32
Wife's weekly hours	0.001	0.09	-0.004	-0.65	-1.273	-0.75
F-statistic		60.3		62.1	-0.002	-0.20
<i>Other goods</i>						
Wife's income share (Wife's share) ²	0.233	0.62			-0.956	-1.11
Wife's weekly hours	-0.017	-3.61	-0.015	-4.36	1.570	1.53
F-statistic		18.4		19.0	-0.014	-2.77
<i>Transport</i>						
Wife's income share (Wife's share) ²	1.228	1.66			1.267	0.74
Wife's weekly hours	0.004	0.47	0.015	2.20	-0.052	-0.03
F-statistic		78.1		80.3	0.004	0.43
<i>Services</i>						
Wife's income share (Wife's share) ²	1.575	2.67			1.403	1.03
Wife's weekly hours	-0.015	-2.05	-0.002	-0.31	0.227	0.14
F-statistic		52.6		53.9	-0.015	-1.85

Note: An asterisk denotes the three commodity groups where more than 5 per cent of households in the sample recorded no spending during the survey period.

mortgage rules are thus unlikely to be the whole story; it may indeed be that, for the same prudential reasons that induce mortgage lenders to lend a lower multiple of the wife's income, families themselves choose to commit themselves to lower housing expenditures when the household's income level is more dependent on the wife's earnings.

The effect of the wife's share of income on the budget share of tobacco has the opposite sign to that observed by Piachaud (1982). The explanation for this difference can be found in the coefficient estimated on the wife's hours of work (a variable not included by Piachaud); the greater the hours of work of the wife, the higher the budget share of tobacco. As Piachaud speculated, the apparent positive effect of the wife's income on tobacco expenditures in his system appears to have reflected a tendency for women who worked to smoke more, rather than a higher preference for tobacco amongst women, which is translated into expenditures when the wife has more income of her own.

The tobacco estimates, however, are affected by the presence of non-consumers in the data sample, whose decisions may be unaffected by changes in income or other household circumstances; as a result of their inclusion the effects of changes in circumstances summarised in the Engel curve may be subject to bias. About 42 per cent of the families in the sample spent nothing on tobacco products in the survey fortnight, and the vast majority of these households were probably non-consumers, spending nothing because no member of the household smokes.

A substantial proportion of zero records are also recorded for two other spending groups — alcoholic drink (16 per cent of households in the sample recording no spending) and clothing and footwear (11 per cent). The group of durable goods contained only a small proportion of zero records (4 per cent), probably because it contains a heterogeneous aggregate of large and small items. In these cases the explanation for zero records is likely to be different from that for tobacco, probably reflecting purchase infrequency rather than non-consumption.

A number of possible approaches might be adopted to take account of the reasons for zero records, to estimate Engel curves making appropriate corrections for their effects (Blundell and Meghir, 1986; Pudney, 1985), and would appear to represent a promising,

TABLE 1.4

**Engel Curves for Household Spending:
Separate Estimates for Quintiles of Gross Household Income**

14,352 households consisting of a married couple, with or without children, taken from the Family Expenditure Survey, 1980 – 84

	Lowest 20%		Second quintile group		Third quintile group		Fourth quintile group		Highest 20%	
	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t
<i>Housing</i>										
Wife's income share	-1.067	-1.23	-1.685	-1.58	-1.792	-1.31	-1.518	-1.14	-2.452	-2.02
Wife's weekly hours	0.016	1.05	0.014	1.08	-0.031	-1.97	-0.021	-1.34	0.026	1.80
<i>Fuel, light and power</i>										
Wife's income share	-0.628	-1.14	0.891	1.36	-0.478	-0.80	-0.582	-1.00	0.515	1.25
Wife's weekly hours	-0.018	-1.89	-0.014	-1.75	-0.010	-1.47	0.001	0.14	-0.015	-3.09
<i>Food</i>										
Wife's income share	0.220	0.25	2.678	2.30	-0.176	-0.14	-2.454	-2.07	-2.205	-2.25
Wife's weekly hours	0.001	0.10	-0.055	-3.89	-0.019	-1.31	0.012	0.87	0.004	0.33
<i>Alcoholic drinks</i>										
Wife's income share	0.241	0.42	-0.112	-0.12	0.225	0.23	-1.009	-1.12	-1.324	-2.02
Wife's weekly hours	0.018	1.84	0.019	1.71	0.025	2.24	0.019	1.79	0.019	2.49
<i>Tobacco</i>										
Wife's income share	-1.170	-1.90	0.893	1.13	1.139	1.52	-1.510	-2.43	-0.374	-0.92
Wife's weekly hours	0.017	1.59	0.005	0.52	0.013	1.47	0.017	2.32	0.011	2.22

<i>Clothing</i>										
Wife's income share	0.991	1.34	1.527	1.22	-0.500	-0.37	0.431	0.31	-1.640	-1.36
Wife's weekly hours	-0.007	-0.56	0.001	0.08	0.002	0.16	0.021	1.31	0.006	0.44
<i>Durables</i>										
Wife's income share	-0.344	-0.41	-2.786	-1.90	-1.197	-0.67	-1.764	-0.96	1.045	0.62
Wife's weekly hours	-0.012	-0.84	0.020	1.14	0.038	1.86	0.025	1.16	0.005	0.27
<i>Other goods</i>										
Wife's income share	-0.061	-0.11	1.115	1.20	1.569	1.36	1.873	1.82	-1.416	-1.52
Wife's weekly hours	0.000	-0.04	-0.032	-2.84	-0.019	-1.39	-0.044	-3.71	-0.008	-0.77
<i>Transport</i>										
Wife's income share	1.511	1.48	-2.841	-1.55	-3.806	-1.84	3.717	1.65	2.960	1.56
Wife's weekly hours	-0.009	-0.47	0.039	1.73	0.037	1.53	-0.013	-0.48	-0.004	-0.17
<i>Services</i>										
Wife's income share	0.205	0.33	0.282	0.21	4.991	3.12	2.517	1.38	4.387	2.50
Wife's weekly hours	-0.008	-0.71	0.003	0.16	-0.035	-1.91	-0.013	-0.61	-0.038	-1.84

although computationally complex, avenue for further investigation of spending patterns where a high proportion of households record no expenditure during the survey period.

The problem of zeros limits one further avenue that has been explored using these data, that of expenditure disaggregation. A small number of detailed expenditure categories consist of spending which may be presumed to be predominantly, or entirely, for the benefit of one individual partner.

In the Annex, data relating to spending on men's clothing, women's clothing, children's clothing, cosmetics, and hairdressing are separately tabulated from the Family Expenditure Survey. All, to a greater or lesser degree, are expenditures attributable mainly to individual household members. Unfortunately, their usefulness for the analytical approach employed here is limited by the fact that the proportion of the sample recording no expenditure on each of the items is substantially higher than with the broader expenditure categories — between one-third and two-thirds are zero observations.

A second avenue was suggested by the emphasis in some of the 'process' literature on poorer families and families under stress. Separate estimates for the Engel curves were produced for each quintile of household income; the results are summarised in Table 1.4. Given the reduction in sample size (to some 2,870 households in each quintile), lower levels of significance might be anticipated; there remain, none the less, a number of equations where the wife's share of household income has a significant effect on the budget share for particular goods, independent of the wife's hours of work. In the Engel curve for housing, the wife's share of household income has a negative coefficient throughout, but is only significant at the 5 per cent level in the highest quintile group. In the tobacco equations, the wife's share is only significant in the fourth quintile group, and in two groups has an opposite (though not significant) sign to that found in the aggregate equations. The budget share of services is positively related to the wife's share in all quintile groups, though significantly related only in the middle and top quintiles.

In contrast to the aggregate equations, statistically significant effects of the wife's income share on the budget share of food are found in three of the quintile groups, although the sign of the

effect changes, with the relationship being positive (i.e. food has the characteristics of a luxury) at lower income levels, and negative in higher income quintiles.

1.4 Some Qualifications

The results described in the previous section, based on Engel curves estimated for some 14,000 married couples covered by the UK Family Expenditure Survey during 1980–84, suggest that the extent to which the division of income between husband and wife affects behaviour may be rather limited. With the exception of housing expenditures, where we have suggested the results may be accounted for by factors other than income-sharing, we find that the distribution of income between husband and wife seems to have little clear effect on the pattern of spending.

We do, however, observe significant effects on the pattern of expenditure from the wife's hours of work. The more hours the wife works, other things being equal, the lower the budget shares of fuel, light and power and of 'other goods', and the higher the shares of spending on alcoholic drinks and tobacco. A distinction may thus be made between the effects of labour force participation by each partner on the pattern of spending, and the effects on spending of a different division of income between the two partners. Differences in participation are, of course, closely correlated with differences in the share of income, but the evidence presented here suggests that the pattern of spending is more strongly related to the former than to the latter. Earlier results which showed that the incomes of husband and wife had different effects on the pattern of spending may at least partly be explained by a failure to distinguish these two separate channels of influence.

Nevertheless, although our results do not provide any evidence that the division of income within the household has, in itself, any significant impact on behaviour, there are some important caveats that should be borne in mind in evaluating the work reported here. The obvious limitations of the data should be borne in mind, especially the short time period over which households keep diary records of spending for the FES, which means that the disaggregated data on spending contain many 'zeros', simply reflecting the infrequency with which certain items are purchased. These 'zeros' greatly complicate the modelling of expenditures, especially at the detailed level of highly disaggregated

commodities, where 'male' and 'female' purchases (for example, of clothing) might be distinguished.

The pattern of non-response to the FES may also exclude many of the households of greatest interest. Households within which the conflict over resources is most severe might be less likely to co-operate with the FES, and thus be under-represented in the sample.

Perhaps the most significant caveat, however, concerns the causal relationships between the variables studied. The estimates implicitly take the participation decision of each partner as exogenously given, and test whether the pattern of spending shows any evidence that the incomes earned by each partner are not fully-shared, 'household', incomes. This neglects the possibility of other simultaneous effects. In particular, the wife's participation decision may be partly a function of the extent to which resources are shared within the household. Households where resources are not shared will be households where each partner has a strong need for incomes of their own, and hence will be households where the labour force participation of the wife will tend to be particularly high. This suggests that household spending and labour force participation would need to be modelled together, if the simultaneity of spending and participation is not to bias the coefficients on the income variables.

Simultaneous modelling of spending and participation would involve a significant increase in the computational complexity and analytical sophistication of the analysis, and is beyond the scope of the present report. However, our results here suggest that this direction will need to be explored, if a definitive answer is to be given to the question of whether the distribution of income within the household has any appreciable effect on behaviour.

NOTES TO CHAPTER 1

1. In much of the discussion we use the terms 'household' and 'family' interchangeably; the terms obviously have different social meanings, and in statistical analysis the differences may be important too.
2. Evaluated at the income support income level.
3. Whilst most models of production suggest that there would be gains rather than losses from the division of labour, it is clear that this static consideration is not the only relevant criterion for individuals to take into account. Specialisation in household work may close off options for entering paid work at a later date if circumstances change,

and individuals may thus wish not to specialise fully, in order to maintain a full range of future options.

4. Probably the only example of such information in the FES is the data on the amount of pocket-money paid by parents to their children under 16.
5. As would be suggested by models of household production, in which domestic labour can be substituted for purchases of certain goods and services, and may require certain purchased inputs (e.g. Gershuny, 1983).
6. Full details of the data, the selection of the sample, and variable definitions are given in the Annex, and full details of the regression results are available from the author on request.
7. Although this practice does not formally discriminate against women, since it refers to the 'main' or 'principal' earner, it is clear that it does in practice. Moreover, it is hard to see why lending rules should want to give less weight to the incomes of the lower-income earner, except as a way of identifying — and discounting — the incomes of women, who are presumed to be more prone to cease work at a later date.

CHAPTER 2

SOCIAL SECURITY POLICY AND THE DIVISION OF INCOME WITHIN THE FAMILY

Perhaps the most obvious area of public economic policy where assumptions about the division of income within the family will be important is social security policy. One of the explicit criteria by which potential reforms to the social security system are assessed is 'the extent to which the proposed change provides effective help for the target group and accurately directs benefits to those most in need'.¹ Clearly the assessment of need will depend very heavily on the assumptions made about income-sharing. If, for example, it is assumed that there is complete sharing of income within a married couple, then even if one partner has no independent means, he or she will not necessarily be deemed to be needy and may consequently have no entitlement to state income support.

In this chapter we describe the basis on which entitlement to a range of social security benefits is assessed and discuss the assumptions about income-sharing which might underlie that basis of assessment. Since there will be a range of other considerations which will affect the choice of assessment unit, we also consider how assumptions about income-sharing might interact with other objectives in the framing of optimal social security policy. Having set up this analytical framework we then discuss in some detail whether the individual, the immediate family unit or the wider household is the most appropriate unit over which to measure incomes and to assess benefit entitlement. Finally we consider the policy implications which flow from this analysis.

2.1 The Main Elements of the UK Social Security System

Social security benefits in the United Kingdom may be grouped under three main headings:

- (1) *National Insurance benefits.* National Insurance benefits are the single largest group of benefits, accounting for slightly over half of all social security expenditure. The principal National Insurance benefits are retirement pensions, sickness and invalidity benefits, unemployment benefit, and widows' pensions. Entitlement is based primarily on the individual's record of National Insurance contributions over a specified period. There is, however, some element of income-relation

in the determination of overall entitlement to benefit, particularly in the case of additions for 'dependants' (see discussion below).

- (2) *Income-related benefits.* The three principal income-related benefits are income support, housing benefit and family credit. These benefits account for around one-quarter of total social security expenditure. The measures contained in the 1988 Social Security Act mean that for the first time a single, uniform definition of income is used in the assessment of entitlement to income-related benefits (with minor exceptions). Entitlement to benefit arises when the income of the 'benefit assessment unit' (see below) exceeds a prescribed 'needs' level based on the age and marital status of members of the assessment unit.
- (3) *Non-insurance contingent benefits.* This final group covers a broad range of benefits payable in some cases to individuals and in others to families. Their unifying feature is that entitlement is not based on a record of National Insurance contributions, nor does it vary with the level of the claimant's income. Rather, the claimant must simply fall into one of the groups earmarked as deserving of special assistance. The most well known of these benefits is child benefit, but other important examples in terms of total expenditure include attendance allowance, mobility allowance, war pension, and severe disablement allowance.

Of the three groups of benefits listed above, it is clearly in the area of income-related benefits that assumptions concerning income-sharing within the family will have the greatest influence. We thus concentrate our description and analysis on these benefits. We will, however, also discuss the concept of 'dependency' used in the assessment of National Insurance benefits. We begin then with a broad outline of the way in which entitlement to the three main income-related benefits is assessed.

2.2 The Measurement of Income and Assessment of Needs

For the purposes of assessing entitlement to income support, family credit and housing benefit, individuals are grouped into 'benefit assessment units'. Even in official circles, this term is sometimes used interchangeably with 'family', as for example where the old series of low income statistics, based on the benefit assessment unit,

was entitled 'Low Income Families'. The benefit assessment unit is, however, a rather narrower concept than the one commonly understood by the word 'family'.

The benefit assessment unit comprises one adult together with any spouse, and together with any 'dependent' children. Thus a grandmother sharing accommodation with her children would constitute a separate benefit unit although being very much a member of the family. A similar division between the common understanding of the family unit and the stricter definition of a benefit unit arises from the definition of 'dependent' children. For the purposes of benefit assessment, a dependent child is one under 16, or under 19 and in non-advanced full-time education. Thus an 18-year-old still resident with his or her parents but no longer at school would be counted as a separate benefit unit despite being a member of the immediate family.

Once a claimant's benefit unit has been determined (and this may not be uncontroversial as we discuss below) then the income of all members of the benefit unit is aggregated, with some forms of income being 'disregarded' either in full or in part. Also calculated for the benefit unit is a specified 'needs' level, the size of which will vary with the number, age and marital status of the members of the benefit unit. Entitlement to benefit is then assessed on the basis of a comparison of these two figures.

In the case of income support, the value of any benefit payable is simply the amount by which the calculated needs level exceeds the assessed income for the benefit unit. For housing benefit, those whose needs (calculated in the same way as for income support) exceed their income receive a rebate of 100 per cent of their rent and 80 per cent of any rates/Community Charge. Where income exceeds needs, assistance with rent and rates is reduced below these maximum levels by a fraction of the excess. Under family credit, income is compared with a constant 'applicable amount'.² Where income falls below that level, a full family credit, the size of which depends on family composition, is payable. When income exceeds the applicable amount, 70 per cent of any excess is deducted from the amount of family credit that is paid.

This then is a very sketchy outline of the way in which individuals are grouped together for the purposes of assessment of entitlement to income-related benefits. This idea of a 'benefit assessment unit'

is common to all three benefits. It would, however, be wrong to conclude immediately that the 'official' view is that income is shared extensively *within* benefit units and to a far lesser extent *between* benefit units.

In the first place, a range of factors will affect the selection of the most appropriate unit of assessment and not merely any assumption about the extent of income-sharing. Perhaps the most important of these is cost, but also relevant will be the impact of the choice on work incentives of claimants, the administrative and other costs of gathering the relevant information, and so forth. These differing considerations reflect the fact that the social security system will have many objectives, of which poverty alleviation is only one. We discuss this point in more detail below.

There is a second reason why it would be wrong to conclude that income-sharing is seen officially as occurring solely within benefit units and not between units. This is that in the assessment of entitlement to each of the three main income-related benefits, some adjustment is made to the benefit-unit-based assessment, in one case to reflect transactions *between* benefit units and in another to reflect incomplete income-sharing *within* a benefit unit.

The adjustment made in respect of transfers between benefit units affects help with housing costs available under housing benefit and income support. Where a benefit unit is claiming for assistance with housing costs, the amount of any help will be reduced if there are any 'non-dependants' present in the household. The definition of a non-dependant is quite complex, but basically it refers to the presence of a benefit unit other than the one claiming for help with housing costs. If it were being assumed very strictly that income was not being shared between benefit units then such a deduction could not be justified.

However, in the case of housing costs, it seems a reasonable assumption that in most cases, all benefit units in a household would be making some contribution. Consequently a predetermined deduction is made from any calculated benefit entitlement, the amount depending on the financial circumstances of the non-dependant. A deduction is still made even where no such financial transaction between benefit units has in fact been made. It is perhaps indicative of the difficulty in modelling financial flows within the family and household that the structure

of non-dependant deductions is probably the element of the benefit system which has undergone most frequent change over the last decade.

The adjustment made in response to the possibility of incomplete income-sharing *within* the benefit unit occurs in the case of family credit (and also with child benefit). The regulations for family credit state that in the case of a married couple, the claim must be made by the woman, unless special dispensation is made by the DSS. Similarly, where both parents of a child are living together, it is the mother who has prior entitlement to claim the benefit rather than the father. Both of these examples suggest that the official view is that even within a benefit unit, income-sharing will not necessarily be complete.

We see then that although the income-related benefits system is based fundamentally on the benefit unit, this does not of itself enable us to draw strong conclusions about the 'official' view regarding income-sharing within the family/household. In the first place there are features of these benefits which suggest that account is taken of the possibility both of incomplete sharing within the benefit unit and of some degree of sharing between benefit units. Secondly, a range of other factors apart from any view about income-sharing will affect the choice of assessment unit. Before examining such factors in detail, however, we conclude this section with a brief examination of the assessment of entitlement to National Insurance benefits.

As noted at the outset, entitlement to National Insurance benefits is based on an individual's record of National Insurance contributions over a specified period. In the case of short-term benefits such as unemployment or sickness benefit, the relevant period is the preceding two years. For longer-term benefits including widow's pension and the retirement pension, entitlement depends on contributions over the whole working life.

Since entitlement is assessed on an individual basis, it might be thought that the issue of income-sharing and dependency would not arise. Additions to National Insurance benefits are, however, payable in respect of dependent adults, and, in the case of the long-term benefits, dependent children also. The concept of a dependent adult is expressed in a rather rough-and-ready fashion for these purposes. The basic rule is that a member of a couple is

entitled to an addition for a dependent spouse as long as the spouse is not earning more than the amount of the addition. This has the slightly arbitrary result that where the wife of a retirement pensioner (for example) is earning £24 per week, a full dependant's addition is payable, but if she earns £25 per week no addition is payable. Any addition for an adult dependant which is paid goes, however, to the claimant on whose record of National Insurance contributions the claim is based. The assumption in this case does then seem to be the simple one of income-sharing within the benefit unit.

We have considered the two main groups of benefits where some view about the extent of income-sharing should be made in determining the most appropriate unit of assessment. We now move on to examine a range of factors which might impinge on this decision.

2.3 Issues in the Selection of an Assessment Unit

A wide range of factors must be taken into account when attempting to determine the most appropriate unit of assessment for social security purposes. We list the most important of these below. In the light of each of these objectives, we then assess the competing claims of the three main alternative income units which might form the basis of social security assessment. These are the individual, the (narrow) family unit, and the household.

Implications for Poverty Alleviation

If there were any question that income-sharing was less than complete either between benefit units in a given household or even within a given benefit unit, then only an individually assessed income maintenance benefit could hope to relieve poverty. However, it may not be possible to achieve such an ideal because of the cost of doing so. To make such a benefit available at an adequate level to all individuals would involve a major increase in expenditure, financed by sharply increased tax rates, reduced public spending or higher borrowing. It has been calculated that to finance a full 'basic income'-type payment (equal to one-third of average earnings) as a replacement for existing cash benefits would require a single tax rate in the 70 to 85 per cent range (Parker, 1988). It is of course true that a benefit set at such a level might be in excess of that which was required for 'subsistence' in

a modern economy, but it remains the case that cost is the single largest objection to an individually assessed benefit system.

Part of the reason why an individual-based scheme might, however, be unnecessarily expensive is that state payments might simply be 'crowding out' intra-benefit-unit transactions which would in any case occur. Without detailed information on patterns of income-sharing within the family, it is difficult to say whether the extra expenditure necessary for an individual-based scheme would be going to many genuinely needy people. Indeed, such a scheme might be counter-productive in making the guaranteed minimum far lower than would be available under a family-based scheme.

It could of course be argued that the natural extension of this reasoning would be to pay benefits at a household level. This would enable relatively high rates of benefit to be paid to the rather smaller number of households with incomes below the minimum level. It might be objected, however, that whilst some confidence could be had in the widespread existence of financial flows between married couples, for example, it is less realistic to assume that such flows are common among separate benefit units in a household.

There is though some evidence to suggest that the assumption of financial flows even between benefit units might not necessarily be unrealistic. In discussing the concept of a household in its technical review on low income statistics, the DSS notes that 'there are very few instances where households contain more than one assessment unit ... who are not in fact related. Under 2 per cent of households consisted of non-related units' (DHSS, 1988, p. 24).

The implication drawn from these figures is that since members of a family may be expected to provide financial assistance for other members of the family, the division of households into separate assessment units may be to some extent arbitrary. This conclusion is particularly strong if we are concerned only with the prevention of poverty — it may be that members of a family will allow other relations to continue on lower incomes than themselves, but rather less likely that they will allow them to descend into poverty.

A further consideration is that although a household may be classified as containing more than one benefit unit, it is unlikely that access to consumer durables etc. would be limited by such considerations. Consequently, even in the absence of explicit

financial flows between units, it may well be the case that the standards of living of separate benefit units in a given household are quite closely linked. It is interesting to note that considerations such as this have led the DSS to base its new series of low income statistics on the household rather than on the benefit unit as before.

The strength of such arguments in the context of statistical analysis is, however, rather mitigated for more practical purposes. Part of the reason for the DSS finding cited above arises from the way in which a 'household' is defined. For purposes of the Family Expenditure Survey (on which the low income statistics are based) the definition of a household requires common catering and housekeeping. Where an interviewer is able to enter a home on more than one occasion and spend time talking to the residents, such a distinction may be drawn without too much difficulty. To require a DSS officer to make such a distinction for all benefit claimants would almost certainly be unworkable. As a result, a less precise definition of a household would be required, and would almost certainly involve the grouping together of far more heterogeneous collections of benefit units than is the case in carefully prepared statistical surveys.

Already then we see that a goal of poverty alleviation need not unambiguously imply the choice of one particular assessment unit. Rather it is the case that a range of other considerations become relevant. We consider some of these below, beginning with the effects of the choice of assessment unit on the decisions, economic and otherwise, of the claimant concerned.

Possible Disincentives/Distortions arising from Choice of Base

In choosing a unit of assessment for social security purposes, a second aim must be to minimise the distortions which arise from that choice. Such distortions may take many forms. Labour supply decisions may be affected, the pattern of household formation may be altered, the arrangement of personal financial assets may be changed, all as direct consequences of the choice of assessment unit. It is important to consider then the way in which the choice of unit impinges on decisions such as these, and to see which alternative produces least distortion of this kind.

One rather well-documented instance of the implications of a

family-unit-based system of assessment concerns the labour supply behaviour of married women. It has been shown that women married to unemployed men are far less likely to participate in the labour market than the wives of employed husbands, even holding constant other explanatory factors such as numbers of children, region, level of education and so forth.³ The explanation given for this phenomenon is intimately related to the family unit basis of the benefit system.

When a married man becomes unemployed he will typically be entitled to either unemployment benefit or income support (or both). Where the husband is receiving unemployment benefit he may receive an addition to his benefit in respect of his wife as long as she is not earning more than the amount of the addition. As soon as she earns a penny more than this amount, the whole addition is withdrawn. This rather rough-and-ready notion of dependency means that it makes little sense for the wife to earn any amount in a range of incomes above this cut-off point.

It is not just the notion of dependency inherent in the National Insurance benefit system which gives rise to such problems, however. If the husband is receiving income support then even more problems of this nature may arise. If the wife earns more than a small disregarded amount (currently just £5 per week) then every pound she takes home results in a reduction of £1 in her husband's benefit until it is completely exhausted. Once again, the labour supply decisions of the wife are strongly affected by the benefit position of her husband. It becomes the case that a wide range of (possibly attractive) employment opportunities become economically unviable, solely because the basis of assessment of the social security system is the family unit. It goes almost without saying that the problem would be magnified in the case of a household-based assessment.

It would be fair to note, however, that an individual-based system, although free from the sorts of interactions described above, might also have adverse labour supply effects though in a rather different and more indirect way. In this case the problem arises from the way in which a (necessarily) more expensive individual-based scheme might be financed. One way that has been proposed would involve the virtual abolition of all income tax allowances.⁴ Such a change could not be introduced without itself having considerable labour supply effects. One likely effect would be to discourage

participation among secondary earners. Such people, traditionally the group with the most responsive labour supply behaviour, would begin to pay tax on the first pound that they earned, rather than enjoying a tax-free allowance of around £50 per week as at present. This would clearly make a range of part-time jobs currently held by such workers far less attractive financially.

Although it is clear then that the present family unit basis of assessment has given rise to considerable labour supply distortions, it is by no means certain that an individual-based scheme, requiring finance through lower tax allowances or higher tax rates, would fare any better.

Apart from purely economic decisions, however, it is also possible that the pattern of household formation could itself be affected by the structure of the benefit system. One attraction of an individual basis of assessment is that it is neutral with respect to marriage. The present system, based on a (narrow) family unit, gives greater weight to two single people than to a married couple and so generates a financial disincentive to marriage.⁵ The trend in recent years has been to remove some such features from the tax system,⁶ but joint assessment for benefit purposes works against these changes.

A further possible distortion arising from the choice of income unit relates to the incentives for the readjustment of the claimant's financial affairs in order to maximise benefit receipt. An individual-based assessment seems to provide some limited scope for 'creative claiming' of this sort.

Where ownership of a source of income cannot be pinned down, or is easily transferred, then there may be scope for a benefit claimant to reduce his or her recorded income by claiming that particular sources of income belong to other members of the family or household. There would, however, be some check on this behaviour, since the move to independent taxation in 1990 will in fact provide a *disincentive* for poorer individuals to transfer ownership of sources of unearned income to richer members of the family. This is most clearly the case for women whose husbands are working, since after 1990 they will for the first time have an allowance which can be set against unearned income. Any transfer of assets to the husband in order to reduce income for benefit purposes would at the same time increase his tax liability and so the financial incentive to do so would be reduced.

In these three areas we see then how the choice of assessment unit can have a considerable impact on the subsequent behaviour of claimants. Once again, a choice of unit will in part reflect a value-judgement as to which of these side-effects is regarded as being most undesirable.

This discussion of the attribution of ownership of assets also brings us on to the wider question of the informational requirements of alternative bases for social security assessment, and this is the issue that we consider next.

Informational Requirements

A third criterion by which any proposed unit of assessment should be evaluated is the information requirements that it imposes on claimants and administrators. As well as being an important issue in its own right, this consideration will have an impact on other objectives. Thus the amount of information that has to be gathered will affect the overall cost of the scheme (and hence its potential for poverty alleviation). Similarly a scheme where claimants have to provide a great deal of documentary evidence of incomes etc. may produce lower take-up and again limit the effectiveness of even the most well-structured system of income maintenance.

Furthermore, where initial assessment of entitlement is an administratively complex process, there will be an incentive for awards of benefit to be made for longer periods than would otherwise be necessary, and in this way it becomes increasingly likely that benefit will continue to be paid to those who are no longer in need. An example of this is the old family income supplement where awards were made for one year, and were not varied in respect of changing circumstances during the year. Had the process of claiming and assessment been a simpler one, then there would have been no need for such an unresponsive structure of payment.⁷ With such considerations in mind, we now examine the competing claims of the alternative assessment units.

One of the most complex areas of the present benefit system, arising from the family unit basis of assessment, is determining whether an unmarried claimant who is part of a 'couple' should be treated as married. With continued increases both in the divorce rate and in the proportion of children born outside marriage, this issue is likely to remain an important one. Currently, factors to be

taken into account include whether the relationship is 'stable', what financial arrangements exist between the couple and (if the claimant wishes to volunteer the information) whether there is any sexual relationship. Such a process raises issues of privacy as well as of administrative cost and complexity, and may of itself deter some individuals from claiming at all. A system of assessment based on a unit wider than the individual must, however, either contain rules of this sort or be prepared to accept what on its own terms would be claims from those not genuinely entitled.

A second issue regarding information costs which affects income-related benefits is the need to provide documentary evidence of income information for the specified unit. Clearly, the more narrowly drawn the income unit, the easier it is to assemble and verify the income data which are provided. One consequence of this is that there would then be more incentive to design a system where the amount of benefit paid would respond more flexibly to changes in personal circumstances. In the case of a family unit and especially a household unit, collection and verification of income data could be complex and might additionally lessen the financial privacy of other members of the family/household.

Perhaps the only area where informational considerations would work against the selection of a narrowly defined income unit is where defining ownership of income would be a problem. This might particularly be so in the case of unearned income, where members of a couple could adjust ownership of investments (for example) so as to minimise income for benefit purposes. As noted earlier, however, the move towards a system of independent taxation will reduce the financial incentives for such behaviour.

Consistency with Other Elements of the Tax/Benefit System

A further factor to be taken into account in assessing the merits of alternative units of assessment is the interaction of any decision with other elements of the tax and benefit system. At present, the general drift of taxation policy is towards the individual as the basis of assessment. Although the income tax system retains (somewhat anomalously) a 'married person's allowance', the post-April-1990 regime will certainly give members of couples significantly more independence for tax purposes. Similarly the Community Charge is levied on the individual, although again there is some possibility of liability being transferred to other members of the family in the

event of non-payment. Finally, National Insurance contributions continue to be levied on an individual basis, and have in recent years become an increasingly important source of government revenue.

If a longer-term objective of overall income maintenance and redistribution policy were to be a greater integration of the tax and benefit system, then the present family-based system might be seen as a potential obstacle to such a reform.

Wider Objectives of the Social Security System

One of the main themes of writers in the 'basic income' tradition is that social security programmes should have wider objectives than merely the alleviation of poverty.⁸ Such objectives have included the fostering of a sense of individual dignity and of value in the eyes of society. One merit of a system of assessment based on the individual, it is claimed, is that no one is dependent on 'hand-outs' from other members of the family or household unit. Although income-sharing may actually take place under the present system, the fact that one member of the family (often the husband) receives the money and then decides how much to pass on may reduce the dignity of the other person. This will always be a potential problem where employment income is concerned, but, it is argued, where the state is the main provider of the income, it should not reinforce this pattern.

Similar arguments apply to the notion of the impact of the benefit system on a person's status as a citizen of a particular society. Where an individual is entitled to certain state payments in his or her own right, rather than merely as a member of some broader unit, then a feeling of belonging to that society and of sharing in any prosperity enjoyed by the employed population may be enhanced.

Such views would not, however, sit comfortably with the present emphasis on avoiding the creation of a 'dependency culture'. Here, the argument is that any receipt of state benefits may lead to an undesirable decline in personal motivation and to increased reliance on state support. In this spirit, recent reforms such as the ending of the householder's rate for supplementary benefit/income support and the lower rate of income support/housing benefit for under-25s have had the clear effect of

encouraging young people not to leave home until they are financially independent.⁹

The thrust of recent policy in this area has thus been motivated by the wider objective of eliminating the so-called 'dependency culture'. In this context an important distinction is, however, drawn between dependence on the state and dependence on other family members, charities etc. Whilst dependence on the state is seen as undesirable, a reliance on other family members is viewed as being acceptable and as part of the natural function of the family. This approach would imply very strongly that assessment for income-related benefits should be based on the incomes of the family unit, if not the wider household.

2.4 Policy Implications

We have discussed a wide range of factors which should affect the choice of assessment unit for income-related benefits. We now consider what policy implications might follow from this discussion.

In the first place, it will be clear that the choice of assessment unit is not a straightforward matter. Concern must focus on not only the impact of any particular base for poverty alleviation, but also its impact on the structure of incentives, on informational costs, and on wider objectives such as closer integration of the tax and benefit system or the dangers of long-term dependency on state support.

In the case of many of these objectives, it appears that an individual-based scheme (as distinct from our present family-based scheme) fares rather well. Labour supply disincentives arising from a partner's benefit status are eliminated, and information requirements are minimised. In particular the need for potentially intrusive questions about personal relationships and about the incomes of other members of the family/household is removed. To move to an individual-based system would also seem to be consistent with changes occurring in the direct tax system. Furthermore, it has been argued that personal dignity and sense of belonging in society are enhanced when entitlement to benefit is assessed on an individual basis.

There are, however, two main stumbling-blocks to such a move. A first objection, outlined towards the end of our discussion, is that

an individually-assessed system would reduce the extent to which financial support is provided by the family and would instead shift the onus back onto the state. In the present climate such a change would seem unlikely.

There is a second and more fundamental problem which has led governments of both major parties to continue with a family-based system despite extensive ideological differences on other issues. This problem is simply that of cost. An individual-based scheme will inevitably cost far more than one based on a family unit, since it effectively assumes that there is no significant income-sharing between individuals. Thus the spouse of a high earner who had no independent income would be entitled to a full income maintenance payment under an individual-based scheme.

The assumption of successive governments appears to have been that despite the attractions of an individual-based scheme, the cost of an adequate payment to all individuals would be prohibitive. The choice then becomes one of a below-subsistence payment made to all individuals (with perhaps some limited family-based 'top-up' scheme) or the present system where what is seen officially as at least a subsistence level is available to all family units. However, one of the key elements in the defence of the existing system is that income-sharing within the family unit is sufficiently extensive to remove worries about *within*-family poverty, or at least to justify the conclusion that this approach is the most feasible one for the purposes of poverty alleviation.

It is at this point that evidence about income-sharing within families and households becomes of crucial importance. The longest-standing argument for the present system has been that it is the most cost-effective way of relieving poverty. Were it to be shown that there are serious inequalities in the extent to which income is shared within families, then two strong policy implications would follow. In the first place, the weight of argument in favour of an individual-based assessment of income for social security purposes might become irresistible, given the advantages of that base in many of the other areas we have considered. Secondly it might also be concluded that the scale and structure of the present social security system are themselves inadequate to meet its professed aims. Changes both to the balance between various types of benefit and to the overall size of the social security budget might well be implied by better information on the

distribution of incomes within families. It is clear that this is an issue which has been neglected for too long.

NOTES TO CHAPTER 2

1. Source: Public Expenditure White Papers, successive years (e.g. 1989, vol. 15, Social Security, p. 4).
2. This amount does not vary with family size.
3. See, e.g., Kell and Wright (1990).
4. See, e.g., Parker (1989), various schemes.
5. For example, the ratio between the income support rates for two single people and that for a married couple is around 6:5.
6. Measures which have been taken recently with this in mind have included the ending of double mortgage tax relief for cohabiting couples, and the restriction of the married man's allowance to only one parent in a broken marriage.
7. It is interesting to note that awards of the new family credit are payable only for six months at a time, although the new benefit is not conspicuously easier to claim or administer.
8. See, e.g., Walter (1989) and Torry (1988).
9. See Dilnot and Webb (1988) for a discussion of the impact of the 'Fowler' reforms on young single people.

CHAPTER 3

THE INCOME TAX TREATMENT OF MARRIED COUPLES

The personal tax system is an area where the structure of policy clearly reflects basic assumptions about the patterns of financial responsibility and resource-sharing within households. Over the course of recent years, as views have changed, the existing treatment of married couples by the personal tax system has begun to look increasingly anachronistic. In this chapter we set out the evolution of the system, and the way in which pressure for change has accumulated. We describe the way in which the new system of independent taxation introduced this year has changed the tax treatment of married couples, and try to evaluate the extent to which it represents a solution to the various problems that had been identified.

3.1 Evolution of the System

The view of the economic relationship between husband and wife embodied in the income tax system at the start of the last decade dates right back to the introduction of income tax during the Napoleonic Wars. At that time, only the very rich were subject to the income tax. The system aggregated incomes of both partners from all sources, and made the husband liable for all tax affairs, including tax payments.

Subsequently, two further important features were added to the system: married men received an additional tax allowance, and child tax allowances were introduced. The effect of these changes was to differentiate the amount of untaxed income according to family size: for a given level of family income, a family with more members would have a lower level of taxable income, and hence of tax.¹

By the start of the 20th century, objections to the lack of individual privacy involved in the system had led to the introduction of a system of 'separate election', under which married women could choose to be sent their own tax returns. This system involved no change, however, in the tax liability of married couples, and merely introduced a superficial element of privacy in the income declarations made by married women. Because the tax liability of married couples was still a function of their joint incomes, it would

in fact normally have been possible for an inquisitive husband to deduce his wife's income from his own tax bill.

Most of the remaining components of the system in operation during the 1970s and 1980s had come into place before the end of the Second World War. Falling tax allowances relative to wages had meant that the scope of income tax was greatly extended. Not only did this greatly increase the administrative burden of operating the income tax, but it also brought the system into contact with a new set of issues, involving the relationships between income tax, labour supply and poverty.

Married women were given their own tax allowance, the wife's earned income allowance (WEIA), in 1920. In order to encourage women to enter paid employment during the war, and to ease administration by taking those women with small earnings out of the system, the value of the WEIA was increased to the level of the single person's allowance in 1942. Unlike the other principal allowances, only earnings could be offset against the WEIA. Any excess of earned income above the allowance, and all investment income, were still added to the husband's taxable income.

The introduction of the wife's earned income allowance illustrates one of the main trade-offs in this area. By reducing the marginal rate of tax on small amounts of earned income, it may encourage greater labour force participation by married women; but, by offering a tax allowance only to women who are working, it will tend to reduce the tax burden of two-earner couples relative to single-earner couples, despite the fact that two-earner couples may, in general, be more prosperous. The WEIA has a further, more curious, consequence. A single-earner couple will have a higher net income if it is the wife who works rather than the husband: because her earnings above the WEIA are still charged to her husband, who can offset the married man's allowance against them, they receive both allowances even though only she is earning.

Alongside these changes, the Pay-As-You-Earn (PAYE) administrative system was introduced in 1944. PAYE enabled the tax authorities to collect income tax through direct deductions from pay in such a way that no tax return need be sent to the majority of taxpayers.

A restricted form of independent taxation was introduced in 1971, the 'wife's earnings election'. Under this arrangement the husband could elect to give up the married man's allowance, and his wife had her earnings taxed separately. For couples whose joint incomes pushed them into high tax brackets, the wife's earnings election could reduce their joint tax bill, if the reduced tax paid at higher rates was enough to compensate for the fall in allowances.

The tax system which resulted from this long process of evolution was thus one in which the main features were those of a joint tax system. Except for the small minority of couples who had chosen the wife's earnings election, all incomes were aggregated, and the husband was liable for any tax due. Also, as in a pure joint taxation system, the husband received a larger tax allowance than a single person.

Nevertheless, there were aspects of the system which made its operation and effects similar in some respects to systems of independent taxation. In particular, because of the long basic rate band, dictated by the practical requirements of PAYE, the practice of aggregating husband's and wife's earnings had no effect on the marginal tax rate which most couples faced. Also, the presence of the wife's earned income allowance meant that, as with a system of independent taxation, two-earner couples benefited from greater tax allowances than a single-earner couple with the same gross income.

Pressure for change accumulated during the 1960s and 1970s, as the assumptions underlying the system came to seem increasingly out of place in the modern world. The first attempt at a wholesale reform of the taxation of husband and wife was by the 1974–79 Labour Government. Part of its package, the replacement of child tax allowances by child benefit, was brought in between 1977 and 1979, and work on a Green Paper on the reform of personal taxation itself was underway at the time of the 1979 election.

The incoming Conservative Government published its own Green Paper in 1980.² This made no strong recommendations, concluding that the existing system was broadly acceptable.

The Green Paper prompted a large number of submissions, and it was at this point that the lines of the present debates become clear. Few of the respondents felt that the present system was defensible. As Kay and Sandler (1982) describe, the debate over the Green

Paper involved almost complete agreement that the married man's allowance should be abolished. The key question was how the resources released by the abolition of the married man's allowance should be used. On the one hand, there were those who favoured the retention of some form of family-based tax unit, in the form of a fully — or partially — transferable tax allowance. On the other hand, there were those who favoured an entirely individual system of taxing earnings, accompanied by increased cash benefits for those with children and other dependants. These two positions, noted Kay and Sandler, represented alternative ways of resolving an 'underlying tension between two widely-accepted but conflicting aims: the principle of equal treatment of all individuals regardless of sex and marital status on the one hand, and on the other the practical necessity of taking into account a household's overall financial circumstances when taxing husband and wife' (Kay and Sandler, 1982, p. 174).

3.2 The 1986 Green Paper

Matters rested here until 1986, when the Government published its second Green Paper on the subject, *The Reform of Personal Taxation*. This proposed a system of independent taxation with fully transferable allowances. Husbands and wives would be taxed separately and each would be given their own, equal, allowance, which would initially be set half-way between the single person's and married man's allowance. If one spouse was unable to use his or her full allowance, then the excess could be used by the partner.

Such a system of transferable allowances, in the view of Kay and Sandler (1982), is one in which husband and wife are taxed as a unit, with allowances in common, and in which the financial relationships between them are explicitly recognised. It is clear that it is not a system which is neutral to marriage (one of the criteria occasionally suggested for an acceptable tax system for married couples).

In terms of its redistributive effects, the reform proposed in the Green Paper would, in practice, have been a relatively egalitarian tax reform. Most couples with two earners would have found the total tax allowances available to them unaffected by the change, whilst couples with one earner (and, other things being equal, lower incomes) would have the same allowances as two-earner couples, since the unused allowances of the non-working member could be transferred to the working spouse.

From the Government's point of view, there were three main advantages of the scheme. Firstly, (although this was not explicitly stated) it was appealing since it was possible to set the new allowance so that there would be few losers from the change. This would be costly, costing around £4½ billion per annum, but revenue from other sources was buoyant and seemed set to remain so. Secondly, it would remove sex discrimination, since each partner would have an equal allowance and would be responsible for his or her own income. Thirdly, large tax cuts for single-earner couples would remove some low-paid families from income tax altogether and hence would alleviate one aspect of the poverty trap.

Most respondents to the Green Paper welcomed the ending of the aggregation of incomes, but the response to transferability was less enthusiastic. Three main objections were raised. Firstly, the scheme was held to discourage married women from working, especially part-time, because they would have to reclaim allowances from their husbands.³ Secondly, and related to this, the scheme would have been administratively complex, because more tax offices than at present would have had to know about the incomes of both spouses and because the PAYE system is not well suited to making mid-year corrections to the amount of allowances a taxpayer is due. Thirdly, it was argued that the revenue forgone could have been better targeted. One popular counter-proposal was therefore for the new allowance to be made non-transferable and for any available revenue to be spent on benefit increases, particularly child benefit (Morris and Stark, 1986).

3.3 Independent Taxation

Following the rebuff the Government received to its proposals for transferable allowances, a new set of proposals were announced in the 1988 Budget. These retained the provisions for the independent taxation of incomes, but the proposals for allowances were less ambitious. The scheme was introduced in the 1990/91 tax year.

Under the new arrangements, couples' incomes are no longer aggregated. The wife's tax bill will now depend on her income alone. She will have her own personal allowance which, unlike the old wife's earned income allowance, can be offset against income from any source, including investment income. She will now have the right to complete her own tax returns.

The new system involves giving everybody their own single allowance, offsettable against any income, earned or unearned, and the introduction of a married couple's allowance (MCA). The MCA goes in the first instance to the husband, but if he is unable to use it because he does not earn enough then it can be transferred to his wife. The new system was designed to remove the sexism inherent in the old system of joint taxation, with as little change as possible to people's actual tax payments, and the system introduced in April will achieve this to a large extent. As can be seen from Table 3.1, the vast majority of families will receive the same allowances as under the old system with the only major changes being for single-earner couples where the wife is working, and for two-earner couples who used to elect to be taxed separately under the old system in order to reduce the amount of tax paid at the higher rate.

TABLE 3.1

The Impact of Independent Taxation

Family type	Old system		New system	
	Allowances received	Index (SA = 1)	Allowances received	Index (SA = 1)
Single person	SA	1	SA	1
Single-earner couple (husband working)	MMA	1.6	SA + MCA	1.6
Single-earner couple (wife working)	MMA + WEIA	2.6	SA + MCA	1.6
Two-earner couple	MMA + WEIA	2.6	2 × SA + MCA	2.6
Two-earner couple (separately elected)	SA + WEIA	2	2 × SA + MCA	2.6

Note: SA = single allowance; MMA = married man's allowance; MCA = married couple's allowance; WEIA = wife's earned income allowance.

As can be seen from Table 3.1, the main group to lose will be single-earner couples where the wife is working, because under the old system she would have received both the married man's allowance (MMA) and the wife's earned income allowance (WEIA), compared with just the single allowance (SA) and married couple's allowance under the new system. The main gainers will be two-earner couples who paid any higher rate tax under the old system, including those who used to elect to be taxed separately and lost the difference between the MMA and the SA (equivalent to the new MCA) in doing so.

This pattern is confirmed in Table 3.2, which shows average gains

TABLE 3.2

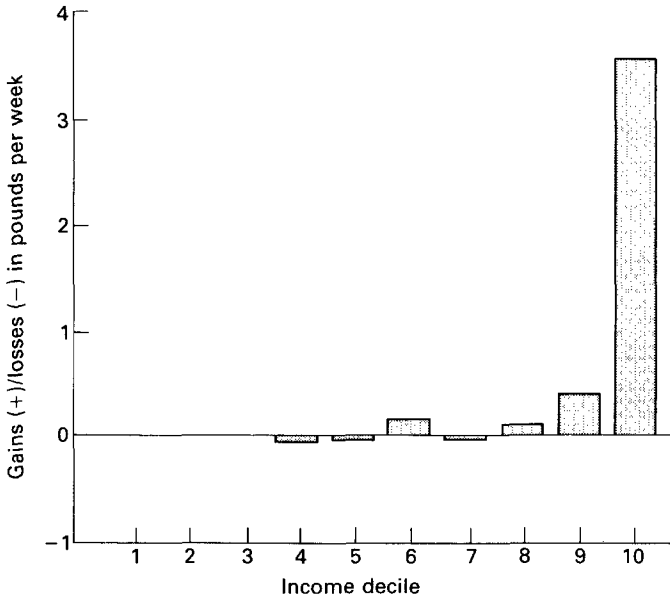
Gains from the Introduction of Independent Taxation, by Family Type

Family type	Average gain (£ per week)
Single-earner couple	0.14
Two-earner couple	1.27
Unemployed couple	0.09
Pensioner couple	1.46

from the introduction of independent taxation, by family type. Single-earner couples are gaining on average, because the wife's unearned income can now be offset against her own single allowance, which it could not be against the old WEIA; this outweighs the losses among the few bread-winner wives. The large gains for pensioner couples arise for the same reason.

The pattern of gains by income range is shown in Figure 3.1. Large gains are concentrated at high incomes, partly because of the gains among the high income two-earner couples and partly because the largest amounts of investment income, particularly investment

FIGURE 3.1
Distributional Effect of Independent Taxation



income not taxed at source, are concentrated at high incomes. Those on lower incomes are affected little on average. Indeed, it is important to stress that the huge majority of taxpayers are not affected by the introduction of independent taxation; the gains and losses shown here are concentrated among a small group of people.

The introduction of independent taxation has two other important practical consequences. One is for government revenues. The Government's latest estimates of the cost of the new system is £0.5 billion in 1990/91 and £1.3 billion in 1991/92. Secondly, the fact that married women can now offset investment income against their own personal allowance means that more than a million women have been taken out of the income tax system altogether. This in turn has stimulated the Government to abolish the 'composite rate' system of taking bank and building society interest (under which non-taxpayers had ended up paying tax because these institutions were required to pay interest net of tax, regardless of the tax status of the investor).

NOTES TO CHAPTER 3

1. Note that the benefit conferred by tax allowances will vary depending on the marginal tax rate the family faces. Only where all families face the same tax rate will the benefit of equal allowances be the same to all taxpayers. Tax allowances of any form are, as negative income tax schemes recognise, of no value to non-taxpayers.
2. HM Treasury (1980). See Kay and Sandler (1982) for a discussion.
3. Whose tax liability would, in turn, have risen. In effect, as Symons and Walker (1986) demonstrate, the system would have made most married women subject to their husband's marginal rate of income tax on their first pound of income.

CHAPTER 4

THE 'COMMUNITY CHARGE'

The most substantial reform in the British tax system as it affects families and family relationships has occurred in the area of local government finance. From the budget year 1990/91, and a year earlier in Scotland, domestic rates have been replaced by a flat-rate, locally-determined poll tax (or 'Community Charge'). As a result, the system is moving from one where an amount of local tax is payable per household, irrespective of composition, to one where local tax bills are related directly to the number of adults in the household. The individual basis of the new system is further emphasised by the method of collecting the tax: each adult receives an individual Community Charge bill, rather than the single rates bill per household.

The introduction of the poll tax has coincided with widespread reforms to all aspects of the local finance system, including local tax rebates, local business taxation, and the system of financial transfers from central to local government. Evaluating the impact of the new local tax can, in principle, only be done in the context of the concurrent reforms to other aspects of local public finances. In the first section below, therefore, we describe the place of the poll tax within the package of reform measures introduced, and seek to assess its contribution to the achievement of the Government's objectives. We argue that, in relation to the central objective of 'accountability', set out in the 1986 Green Paper *Paying for Local Government* (Department of the Environment, 1986), the poll tax itself plays a rather unimportant role; its principal impact is, in fact, limited to the consequences of the shift from a household to an individual basis for taxation. Indeed, even this conclusion is modified by the interaction between the Community Charge and the social security system. Rebates for local taxes, like other aspects of the social security system, will continue to reflect a concept of 'dependency' within the family.

4.1 The Reform of Local Government Finance

The Government's programme of reforms to local government finance culminated in the 1988 Local Government Finance Act, which contains the Community Charge and other related legislation. The reforms have three principal elements:

- (1) the replacement of domestic rates by the 'Community Charge', payable by all adult residents of a local authority area;
- (2) restriction of local authorities' control over business tax revenue; a uniform business rate poundage is set nationally, and applies in all local authority areas;
- (3) changes to the system of central government grants to local authorities. Revenue from the uniform business rate is distributed between local authorities in proportion to their adult population, and the basis for compensating local authorities for differences in spending 'needs' has been changed and, to an extent, simplified. No element in the grant system is related to the local authority's total spending level.

The basic structure of the reforms was, however, set out two years earlier in the 1986 Green Paper *Paying for Local Government*, which described the Government's view of the deficiencies of the existing system of local government finance, and the contribution the proposed reforms were to make to correcting them. The analysis of the Green Paper was set out in terms of the need for greater 'accountability' in local government. Although the concept of accountability was nowhere defined in the Green Paper, the way the term was used can provide a clear indication of the meaning it was intended to convey. In the Foreword to the Green Paper, the problem of 'accountability' was set out in the following terms:

Effective local accountability must be the cornerstone of successful local government. All too often this accountability is blurred and weakened by the complexities of the national grant system and by the fact that differences arise among those who vote for, those who pay for, and those who receive local government services. (p. vii)

The problem was therefore set out in terms of deficiencies of two sorts, firstly of *incentives*, in that those taking decisions about local authority spending were not necessarily the same people who had to bear the financial consequences of their decisions, and secondly of *information*, in that the system of local finance was complex and poorly understood by voters.

The achievement of greater accountability which was sought by the Government had two broad components.

- (1) *Local household taxation should cover the full marginal cost of extra*

local spending. Neither businesses nor non-residents of a local authority area have the power to determine the spending decisions of the authority, but under the rating system both could have been required to contribute to the costs of local spending at the margin, because the business rate poundage was determined in a fixed relationship to the domestic poundage and because the grant contribution of central government varied with the level of local spending.

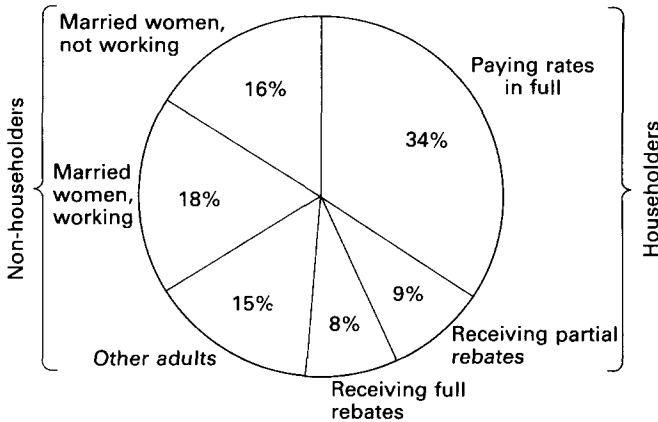
In the Green Paper it is suggested that this state of affairs was undesirable for two reasons, firstly because it was inequitable (businesses and non-residents should not be required to contribute to decisions over which they had no control), and secondly because it reduced the marginal cost of local spending borne by those who *were* responsible for making local spending decisions, and hence meant that their decisions would not be made in the light of the 'true' costs of local spending.

- (2) *The distribution of local taxes across households and across individuals should be wider.* This had two aspects. Firstly, all households should be required to pay at least something towards the cost of local spending at the margin. Secondly, all individual adult residents should be made to *perceive* the local taxes that they pay. Much was made in the Green Paper of a distinction between individuals who 'pay rates' and individuals who 'do not pay rates at all'. Of the 35 million electors in England, the Green Paper observed, about 18 million 'are liable to pay rates', and 'only about 12 million actually pay their rates in full'.

Liability to pay domestic rates rested with the 'occupier' of domestic premises, rather than with the owner. As Hepworth (1984) describes, the definition of 'occupier' had been evolved in case-law, and had resulted in a number of general principles. The person to be rated as occupier should have exclusive possession and control; thus, a lodger was not rateable, because of the control exercised by the landlord, and, in the case of husband and wife, 'the accepted view is that the husband has exclusive control of the house' (Hepworth, 1984, p. 73). The implication of this is that within any household a single individual, the husband in the case of a married couple, was deemed to be the occupier and was liable to pay domestic rates.

As a result, only about half the electorate counted as 'occupiers' of domestic property, liable to pay domestic rates. Within this group, about one-third were eligible for full or partial rebates of domestic rates in 1984/85; about half of those eligible for rebates were entitled to a full rebate of local taxes (Figure 4.1).

FIGURE 4.1
Percentages of the Electorate Liable for Rates (1984/85)



Source: Department of the Environment (1986) and own calculations based on 1984 Family Expenditure Survey.

The achievement of a wider coverage of local tax payment was to be achieved in two ways. Firstly, whilst the rebate scheme would continue to cover about the same proportion of households, the maximum rebate that could be claimed would be restricted, so that no one could receive a rebate of more than 80 per cent of the local tax. Secondly, the replacement of domestic rates by the Community Charge would ensure that all individuals would receive their own local tax bill, and would be individually liable for payment.¹

4.2 The Unimportance of the Poll Tax

It may be surprising how incidental the Community Charge itself is to the achievement of the Government's objective of greater 'accountability' in local taxation. Of the two broad elements of accountability set out above, the achievement of the first is completely unaffected by the introduction of the Community Charge: the requirement that local household taxation should

cover the full marginal cost of extra local spending does not depend on the form of the local tax employed. The key changes to the local finance system that relate to this requirement are the introduction of the uniform business rate and reforms to the grant system to eliminate any marginal contribution to local spending. Both of these could have been achieved whilst retaining domestic rates as the local household tax, or with any other local tax paid by households or their members.

The second element of accountability, relating to the distribution of local taxes across households and individuals, is also partly achievable by reforms consistent with the retention of domestic rates. Indeed, the abolition of 100 per cent rebates was actually achieved as a result of legislation in the 1986 Social Security Act, and came into force in Spring 1989, a year *before* the abolition of domestic rates.²

There remains the extension of formal liability to pay local taxes to all individuals. Roughly half the electorate receive a bill for local taxes under the Community Charge but were not designated as the occupier for domestic rating purposes. About two-thirds of these individuals are the spouses of persons who were liable for domestic rates as the occupier, and the remainder are other adults, mainly adult children living with their parents.

Whether the extension of formal liability for local taxes to these individuals has any impact on voters' perceptions of the cost of local spending depends, firstly, on how the household 'occupier's' liability to pay domestic rates affected other household members, and, secondly, on the way that individuals' poll tax payments are accommodated within household budgeting arrangements. We discuss these issues further later in this chapter.

With the exception of the possible effects of intra-household redistribution, the Government's central objective of 'accountability' set out in the 1986 Green Paper was therefore largely achieved by measures unrelated to the introduction of the poll tax. The introduction of the poll tax nevertheless has a number of further effects unrelated to the issue of accountability, which may from this perspective be regarded as 'by-products' of the achievement of greater accountability. We may briefly note the following as the more important effects in this category.

Redistribution of Tax Payments between Households

The move from a tax based on rateable value to a tax based on the number of adult household members leads to a redistribution of tax payments between households. Obviously, single-adult households will tend to gain at the expense of multiple-adult households (two-adult households roughly break even), and households with high rateable value tend to gain at the expense of households paying rates on a lower rateable value. Within the latter redistribution there are two main effects. Firstly, there is an income-related redistribution since, on average, wealthier households tend to live in more valuable houses. Secondly, there is a shift in liability for tax payments from the south of the country (where property values are higher) to the north. Under the rating system, a household with a given level of income in the South-East would have paid substantially more in local tax at a given level of local spending than a household with the same income level in the North; under the poll tax this difference would end.³

It should be clear that this redistribution of tax payments between households arising from the change in the tax base has nothing to do with the objective of 'accountability'. It has frequently been suggested, both in the Green Paper and subsequently by government Ministers, that payment of a uniform tax per adult relates local tax payments to the benefits received from local services in a way that closely resembles the price or charge for any other service purchased by individuals, and that the uniformity of the tax thus, in itself, helps to ensure that voters take appropriate account of the costs of local services, as well as the benefits. There is, however, no empirical nor theoretical support for this contention. The distribution of the benefits of local spending is clearly not uniform across the adult population. About half of local authorities' spending is on education, from which the benefits may perhaps be proportional to the number of children, but not to the number of adults, in a household.⁴ The benefits of local social services, too, are very unevenly distributed across the adult population. Even amongst non-redistributive local services, such as roads, planning, local amenities and the police, fire and refuse disposal services, it is not obvious that the distribution of spending benefits is better indicated by the number of adults than by household rateable value.⁵

In any event, even if local services were evenly distributed across

the population, levying a uniform tax to pay for them does not put matters on the same footing as if the services had been offered at the same price in a market transaction.⁶ One of the distinguishing features of a market transaction, the ability to decline to purchase the goods or services on offer, is absent where the payment is levied in the form of a tax. If the underlying demands for local services or for different standards of local services vary across the population, perhaps in relation to income, some individuals will find themselves constrained to 'purchase' less than they would in a genuine market transaction, and others more. Indeed, if a tax base can be found that matches the pattern of underlying demands more closely than does a uniform tax, the pattern of tax payments could be brought more closely into line with the individual 'willingness to pay' that would be reflected in a genuine market transaction. From this perspective, a weakly income-related tax, such as domestic rates, could actually relate perceived benefits more closely to tax payments than the poll tax does.

Changes in Property Values

Whilst most attention has focused on the distribution of tax payments between households, the substitution of a poll tax in place of domestic rates will also affect domestic property values. In purchasing a house, the purchaser takes on the liability to pay the future stream of taxes associated with it. To the extent that tax differences between otherwise identical properties are not exactly matched by differences in the perceived benefits of local authority spending, they constitute a cost of ownership which would be expected to affect the price that a potential purchaser was willing to pay. The abolition of such a tax would then lead to a reassessment of the costs of property ownership and changes both in the average level of domestic property values and in relative values in different local authority areas. These effects on property values constitute 'windfall' gains and losses to the current owners of domestic property, which may, in quantitative terms, be far more significant than the changes in individual households' annual property tax payments.

The effect of the substitution of the poll tax for domestic rates on average property values has been the subject of two recent studies. Both argued that the average rise in prices would be likely to vary in different parts of the country, reflecting regional differences in the average rate of property taxation and in the supply and demand

elasticities of domestic properties. Hughes (1987) estimates that average house prices would rise over the medium term by between 11 and 23 per cent in different regions of the UK, as a result of the abolition of domestic rates. Muellbauer (1987) argues that the rise in house prices in the South-East would exacerbate existing problems in the efficient working of the labour market.

In urban areas, where there may be a substantial degree of substitutability between housing in one local area and another, there may also be substantial changes in relative property values, reflecting the extent to which rate differentials had been capitalised into property prices. Full capitalisation of domestic rate differences would imply very large price differences. For example, in the London area, the annual tax payment on an average house in the highest-tax borough was some £430 higher in 1985 than on an identical house in the lowest-tax borough. If these tax differences were expected to persist indefinitely, and were fully capitalised into house prices at a 5 per cent real rate of discount, they would imply a difference of some 17 per cent between the prices of identical properties in the two areas.

Thus, over and above the average increase in house prices resulting from the reduction in the average level of taxation on domestic property, the 'unwinding' of tax capitalisation would imply that the abolition of rates would have different effects on price in different areas. Some partial offset may be expected if borough differences in poll tax levels become capitalised into house prices, although the extent of such capitalisation is likely to be considerably less than with domestic rates.

Administrative Cost Differences

As regards the cost of administration, the new system of local taxation will be less attractive than the present one. The low cost of administration of domestic rates has been one of their great virtues. The 1981 Green Paper *Alternatives to Domestic Rates* (Department of the Environment, 1981) estimated that the cost of administering domestic rates, including the costs of rate rebate administration and valuation costs, amounted to about 2½ per cent of the yield — roughly the same ratio of cost to yield as with income tax (Board of Inland Revenue, 1984). A property tax has the great advantage for local taxation that the tax base can be easily and unambiguously allocated to a particular local authority area, and

is immobile. Neither of these advantages is possessed by the Community Charge (Kay and Smith, 1988). The cost of identifying local residents so as to compile the Community Charge register and keep it up-to-date will be substantial. There will, in addition, be higher collection costs as a direct consequence of the choice of an individual rather than a household basis for the new tax, and the resultant doubling of the number of individual local tax bills to be processed. Both advance forecasts (Price Waterhouse, 1988) and recent survey evidence (Ridge and Smith, 1990) suggest that the administrative costs of the new system of local taxation may be at least double those of the old.

4.3 Household Budgeting and the Poll Tax

We have argued that, as far as the Government's central stated objective in the reform of local government finance, namely 'accountability', is concerned, the poll tax plays a relatively minor role in the package of reforms. To the extent that the poll tax would make any contribution to the achievement of greater accountability, this would arise from the extension of formal liability to pay local taxes to all individual adults, rather than just one, the 'occupier'. This change in the formal incidence may affect accountability through two channels, changes in *perception* and changes in *effective incidence*. Put more crudely, the Government hoped that people would change their attitudes to local authority spending once they realised how much it cost, or once it began to affect their standard of living.

Perception

Perception of local tax levels is clearly likely to be improved by sending an individual bill to all individuals, rather than by sending a bill to only one household member. The fact that it is a bill that is sent, rather than merely a notification, may be important; people are likely to take more notice of something that requires them to take action (paying the bill), rather than of an individual letter that merely informs them of how much local tax their household is paying.

If this aspect of the poll tax is regarded as important, it carries some implications for the ways in which payment should be permitted. Payment by direct debit arrangements might reduce perceptibility. Similarly, perceptibility would be undermined if local authorities

encouraged one household member to agree to take on responsibility for paying the poll tax bills of other household members. Such an arrangement would yield obvious economies in payment-handling for local authorities, but would tend to reduce the impact of the poll tax bill received by other household members to that of a mere notification.

Changes in perception of local tax levels may be important in encouraging a better awareness of the cost of additional local spending in terms of taxation. The effects have mainly to do with improving the *accuracy* of individual perceptions, rather than a change in perception in any particular direction. It is not obvious, for example, that individual perceptions of the cost of local authority spending will be systematically higher if individual residents receive their information in the form of a poll tax bill than if they rely on hearsay evidence about the level of domestic rates.

Effective Incidence

The second way in which accountability may be affected by individual billing for local tax payments is through the effect that it has — or is believed to have — on individual standards of living. Depending on how households make their budgeting decisions, the effective incidence of local taxes may be changed by the change in the formal incidence; in other words, the effect of local taxes on the living standards of individual household members may be affected by who receives the tax bill.

Drawing on our earlier discussion of co-operative and non-co-operative models of household decision-making, we may distinguish various possibilities regarding the extent to which household members share resources, and consequently are affected by the incomes and tax liabilities of other household members. Households where the resources of one household member affect the living standards of other household members include, as we have seen, not merely those households that operate as a single unit, pooling incomes and making joint decisions about all expenditures. They also include those households where individual members make separate decisions about the allocation of their 'own' income, but where household members have a degree of concern about each other's living standards, or sometimes even where there is merely a range of 'shared' goods

used in the household (household public goods), about which all household members care.

At one extreme we could consider a household where local tax bills are regarded as purely the financial responsibility of the individual who receives them; the tax bill 'sticks' with the person named on it. In such a household, the rates bill would be regarded as the financial responsibility of the household member designated as the 'occupier' and no other household members would have any responsibility for rates payments. Poll tax bills would be regarded as the financial responsibility of the person receiving them.

At the other extreme we might consider a household where resources, financial obligations, and decisions were fully shared — the model of household decision-making underlying much of economic theory. In such a household, the change in formal incidence of local tax payments would have no effect; with both rates and the poll tax, individuals perceive themselves as members of a household which is responsible for paying the local taxes.

It appears that the view of household finances reflected in the Green Paper conforms to the first of these two models; household members other than the 'occupier' are people 'who do not pay rates' and whose behaviour will be affected when they do pay the Community Charge. It is clear, however, that in the form this model is set out here, it is a model which cannot apply to certain groups of households. Households where one household member has no income are households where, inevitably, resources are shared, and where the poll tax liability of incomeless household members cannot be expected to remain their own, individual, liability. Out of the 49 per cent of individual voters who, according to the Green Paper, are 'non-householders paying no rates', more than a third are non-working spouses of people counted as 'householders', and a further one-sixth are other household members with incomes below £5 per week.

In practice, of course, the ways in which households arrange their financial affairs are likely to be more complex than the two extreme models outlined above, and there are a range of intermediate possibilities with regard both to the objectives of household members and to household decision-making processes.

Thus, for example, even in the non-co-operative models of

household behaviour analysed by Ulph (1988) and others, we find that the incomes to household members, and, by extension, the taxes paid by household members out of their income, may have effects on the living standards of other household members, through effects on the contributions that individuals are prepared to make to the purchase of shared goods. Then, even though household members do not co-operate in making spending decisions, their standards of living are affected by what other household members decide to do. This interdependence may be substantial. Over certain ranges of the intra-household distribution of income, Ulph's results suggest that a reallocation of after-tax income between household members might have no effect on the pattern of household spending. Then, even though household members might not regard incomes and taxes as shared, the replacement of a tax paid by one household member by individual taxes at an equivalent level would leave individual living standards unchanged.

In addition, household decision-making processes, and in particular budgeting arrangements, may influence the way the poll tax impacts on individual standards of living. As we have seen in Chapter 1, a number of different patterns of money management can be observed, which allocate incomes and the responsibility for particular types of expenditure in different ways amongst family members. The location of responsibility for local tax payments within these budgeting schemes constitutes a 'second layer' of incidence, at an intermediate level between the formal incidence (who receives the bill) and the effective incidence (the impact of local taxes on the living standards of individual household members). Pahl (1990) reports that responsibility for paying domestic rates was closely related to the system of money management that the family employed. Under the 'whole wage' (or 'wife management') system, responsibility for paying rates usually rested with the wife, and under 'allowance' and 'independent management' systems, rates were mainly the responsibility of the husband. In households operating 'pooling' (shared management) systems, responsibility was evenly divided between husband and wife. Pahl observed that there was a marked correlation between household income and the allocation of responsibility for paying domestic rates; the wife was more often responsible in poorer households. Pahl concluded that 'in households where it will be hardest to find the money to pay the poll tax, it will be women who will be faced with finding that money'.

However, the importance of the system of budgeting used by household members can be overstated. As we argued earlier in Chapter 1, the budgeting arrangements chosen, and the allocation of responsibilities and incomes within them, are likely to be themselves a function of individuals' incomes and the levels of expenditures. Radical changes in either incomes or expenditures might be expected to prompt a reassessment or renegotiation of financial allocations and spending responsibilities; budgeting arrangements may then play no role in determining individual living standards, but may merely be the mechanism by which household decisions are translated into action. Nevertheless, it may be reasonable to suppose that renegotiation of intra-household allocations is infrequent, perhaps because it has time or psychic costs, and the budgeting procedures operated by households may mean that the poll tax affects individual living standards in the short term at least.

4.4 Effects on the 'Tax Price' of Local Spending

What are the implications of these various resource-sharing assumptions for the 'tax price' of local spending experienced by different groups of the electorate? The perceived 'tax price' of local spending at the margin — in other words, the increased cost in terms of taxation of an increase in local spending — will be a function both of the total increase in taxes required to cover a rise in local spending and of the distribution of the increase in taxes across individual voters. The former aspect is determined, as argued above, by the terms on which central government grant is paid to local authorities and the availability of other sources of tax revenue; in the 1990 system, all of the cost of additional spending is intended to be borne by local domestic taxpayers as a whole. The distribution of the increase across local taxpayers, however, will be a function both of the distribution of the tax base across taxpayers and of the extent to which the burden of taxes is shared between individual family members. Some general possibilities are set out schematically in Table 4.1.

The top half of the table shows the distribution of tax prices under the extreme 'non-sharing' assumption. Under this assumption, the introduction of the Community Charge means that individuals other than the head of household face a non-zero tax price for local spending, whereas previously they had faced a tax price of zero. For the head of household, the replacement of domestic rates by the Community Charge will usually result in a reduction in the tax

TABLE 4.1

Tax Price of Local Spending under Alternative Sharing Assumptions

	Head of household	Other household members
<i>Non-sharing assumption</i>		
Rates	Poundage \times Rateable value	Nil
Poll tax	One adult charge	One adult charge
Change (rates to poll tax)	Tax price usually falls	Tax price rises
<i>Sharing assumption</i>		
Rates	(Poundage \times Rateable value) / n	(Poundage \times Rateable value) / n
Poll tax	One adult charge	One adult charge
Change (rates to poll tax)	Tax price may rise or fall*	Tax price may rise or fall*

* Depending on whether the household's rateable value is less than or greater than the national average rateable value.

price of local spending; only where the household's rateable value was very low would the level of one person's Community Charge be higher than the rate bill for the whole household. In practice, households in this position will tend to be regionally concentrated; as noted earlier, the operation of the equalisation provisions within the grant system ensured that areas, such as the North, where rateable values were low also had correspondingly low rate bills.

The implications of the opposite extreme assumption, that local tax bills are fully shared amongst household members, are shown in the bottom half of Table 4.1. Under this assumption, all household members would have perceived themselves as bearing $1/n$ of the rates bill, where n is the number of household members. Whether the tax price rises or falls after the introduction of the Community Charge depends on the rates of tax set, and on the household's tax base. Where the same level of revenue is raised under each tax, the household's per capita rates bill will be higher or lower than one individual's Community Charge bill, according to whether the household's rateable value is greater than or less than the national average rateable value.

The net impact of these changes in tax price on local spending decisions will depend on how the direction and magnitude of individual changes in tax price affect individual voting behaviour. Given that under either extreme assumption about resource-sharing within the household a mixture of positive and negative changes in tax price are to be encountered, the overall

impact of the Community Charge on local voting behaviour cannot immediately be predicted. It is not, at any event, unambiguous that the reform will reduce spending levels. Nevertheless, the differences in the direction and size of the changes in tax price between household members, between households and between localities give rise to a series of potentially testable propositions about differences in voting effects. Such empirical tests may, in due course, shed light not only on the impact of the Community Charge, but also on the way that household tax burdens are shared.

NOTES TO CHAPTER 4

1. The Government chose to make married couples jointly and severally liable for each other's Community Charge, so that in the event of non-payment by one partner the tax could be recovered from the other.
2. It will be noted that requiring people on social security income support to pay 20 per cent of their local tax bill may be less satisfactory where the amount of local tax varies sharply between households or areas, since the amount notionally included in income support levels for local tax payments will in some cases be insufficient and in other cases more than is needed. Local taxes can vary between individuals either because the rate of tax charged by different authorities is different or, under the rating system, because of differences in the tax base (rateable value) for different households.
3. The issues involved are rather more complex than either this brief description or the Green Paper implies. Households with the same level of income in different parts of the country may have different standards of living because housing costs and other costs differ across regions. There was some recognition of this argument in the way the Block Grant treated rateable values in Greater London compared with the rest of the country.
4. That adults were, themselves, once children and therefore benefited from past local spending is irrelevant to the issue, since this concerns the benefits of current spending, possibly in a different authority.
5. See Bramley, Le Grand and Low (1989).
6. The discussion here assumes that the goods in question are not 'public goods'. Where they are, there are additional reasons why charging a uniform share of the costs could induce inefficiency.

CHAPTER 5

MAINTENANCE SUPPORT DURING EDUCATION

There is an intimate relationship between the education decisions that young people make and the extent to which the state expects them to be financially dependent on their parents. For as long as children remain at school, their parents are entitled to continue receiving child benefit, and, whilst some local authorities have schemes for paying means-tested educational maintenance allowances for children over 16 at school, these schemes generally have limited coverage, provide only small payments and are in most cases paid to parents rather than their children. Similarly, those continuing into higher education at polytechnics or universities are expected to remain at least partially financially dependent on their parents: local authority grants for higher education are means-tested on *parental* income, and the deficiency in the amount paid is explicitly referred to as the 'parental contribution'.

Given the current reliance on parental support for their children's education, it is clearly important to understand the implications of economic relationships within the household for the educational decisions made after compulsory schooling ends. In particular, individual decisions may reflect not only the circumstances of the family, but also the way in which the situation of the individual relates to that of the family. The next section sets up a very simple theoretical model which will focus discussion on how financial relationships within the family may affect education decisions. The following two sections discuss the range of influences, including family factors, on the decision whether to leave school at the age of 16, and the decision whether to enter higher education.

5.1 Education as an Investment

The framework in which we analyse education choices in this chapter is one in which education has the formal structure of an investment decision. Education can be seen as an investment decision in the sense that it involves students, their families and the state in current costs, in the expectation of future benefits. The current costs include not just the obvious expenses of paying for tuition, often in fact provided free at the point of use by the state, but also the forgone earnings which would have been received had the pupil or student entered the labour force. The future benefits may be financial in the form of higher subsequent earnings, but

may also include non-financial benefits to the individual and, perhaps, to others.

We can formalise education investment decisions within the framework of a simple equation, in which the various costs of education and valuations of the benefits of education are expressed in 'present value' terms. By discounting future costs and future benefits so as to reflect the decision-maker's preferences between present and future consumption, we can compare costs and benefits at different dates, and thus obtain a measure of the 'net present value' of the particular education decisions. Where this is positive, we can regard the benefits as exceeding the costs, and where it is negative, the opposite.

$$NPV = \sum_{t=0}^N \frac{B_t}{(1+r)^t} - C$$

where B_t are the benefits from education in year t ;

$(1+r)$ is the discounting factor;

and C is the initial costs of continuing in education.

It must be stressed that just because the decision to continue in education can be analysed in the same way as a company would examine a financial investment does *not* mean that education is a purely financial decision. The future benefits of university education, for example, are not merely financial — job satisfaction is likely to be higher in the careers that graduates follow than in non-graduate employment, and benefits may also arise if education makes one a better person, or more appreciative of literature etc. Similarly, the costs of university education are reduced if there are non-financial benefits — many people think the life of a student has non-pecuniary advantages. The decision-making framework described allows us to weigh up all the costs and benefits of additional education; *financial* benefits and costs are only one aspect of the decision.

Social and Private Costs and Benefits

The value of education to society may differ substantially from the private value, be it to the family, students or parents. Firstly, and most obviously, government funds rather than private funds usually meet the costs of tuition. Private decisions about whether education is worth while may therefore ignore tuition costs,

whereas when weighing up the benefits of expanding access to education, society should not ignore them.

Secondly, there are ‘externalities’ — the benefits from education that may be felt even by those who do not receive the education — for instance, education may result in a population that takes its social and civic responsibilities more seriously. Social benefits could therefore exceed private benefits.

More controversial is the question of whether education actually makes the educated more productive, or whether education merely ‘screens’ people into categories of productivity. For instance, a degree in classics may not significantly contribute to high individual productivity in most subsequent careers, but it may signal that the individual has the *potential* to be highly productive (Spence, 1973). Taking this view to the extreme, additional education would be privately very desirable, because its recipients may be able to obtain better jobs with higher wages than they would had they not had the education, but socially it may have only limited value.¹

Clearly the question of the value put on education is of key importance for public policy, but for the purposes of the present discussion, it is not of particular relevance. If education does benefit society as well as individuals, there is a case for public support, and so it is reasonable to consider what *form* public support for education should take, even if the *level* of support is a separate issue.

Divergent Opinions between Parents and Children

The central issue that we address in this chapter is whether the decisions that are made about the post-compulsory education of young people are affected by which family members bear the relevant costs and benefits. Using the ‘investment’ framework set out above, it is clear that the relative balance of costs and benefits will look very different if we consider education decisions from the point of view of the costs and benefits borne by the family as a whole, from if we consider them from the point of view of the costs and benefits to particular individual family members.

Considering the family as a whole, education involves the immediate sacrifice of the potential current earnings of the family

member in education plus any tuition costs paid by family members, and the future benefit of higher earnings of the educated individual. Considered purely from the view of the pupil or student, however, the current opportunity cost is reduced by whatever transfers, in terms of maintenance support or pocket-money, are made by the parents. To a purely 'selfish' pupil, therefore, the rate of return to education is higher than to the family as a whole. On the other hand, considered purely from the point of view of other family members, education is mainly costs with few benefits; the pupil must be supported, but receives most of the future benefits.² To purely 'selfish' parents, therefore, the rate of return to education is lower than to the family as a whole. The terms on which parents are prepared to make transfers or provide support in kind to support their children in education will determine how these two different viewpoints are reconciled, and the extent to which the amount of education chosen falls short of, or exceeds, that which would be chosen in a household where resources were fully shared.

Where the pupil's needs for current maintenance support during education are to be provided in kind or through transfers by the pupil's parents, both parents and children must agree that education is worth while for a pupil to continue in education. What happens if parents and the pupil disagree? Such disagreements could arise because of different views about consumption benefits or likely future earnings, or from parents who took what we described above as a purely 'selfish' attitude to education.

Theoretically, in such cases, where the rate of return to education to the family as a whole was positive, it should be possible for the pupil or student to borrow against future earnings to fund the current costs of education. If capital markets enabled such borrowing to take place, the fact that parents rejected education and were not willing to provide maintenance support or transfers should not be important to an individual who still wished to receive education.

Unfortunately capital market imperfections mean that it is difficult to find commercial institutions willing to provide loans to fund education at reasonable rates of interest. In the first place, borrowers can usually offer no collateral. Whereas when companies invest they buy tangible assets which can be repossessed by creditors if repayments cease, in the absence of slavery it is not

possible for banks to have any control over the assets that their loans provide. Banks would face the risk that those who borrow for educational purposes may either 'drop out' or fail, or simply choose not to earn a wage high enough to repay the loan. In response to the possibility of non-repayment, banks may be tempted to increase their interest rates. However, this would increase the incentive to drop out or to avoid repayment still further (Stiglitz and Weiss, 1981). Banks will therefore be loathe to lend to fund education without guarantors of repayment. Such guarantors could be the government (as under the Government's plans for 'top-up loans for students' — Department of Education and Science (1988)) or parents, who sometimes do have assets such as houses which could be used as collateral. However, generally a market in loans for educational purposes is missing, and so the ability of children to continue in education is likely to be very dependent on the willingness of parents to provide financial support. Of course, the problem is reduced if means of support other than those provided by parents or by borrowing can be found. The availability of part-time work opportunities and the entitlement to welfare benefits may be of some importance.

The next two sections discuss the current institutional arrangements concerning post-compulsory education in the United Kingdom: the amount that parents are expected to contribute to their children's education; the amount they do contribute; the responses of the children themselves; and the implications for the demand for education.

5.2 Further Education

Pupil Numbers and Institutional Background

Since 1973 school pupils in the UK have been legally able to leave full-time education sometime around their sixteenth birthday. The proportion who choose to stay on in full-time education after this age rose steadily through the 1970s and early 1980s, to reach a peak of 49 per cent in 1983, and has since stabilised at around 47 per cent.

In comparison with most other developed countries, the proportion of 16-year-olds in full-time education is low; within the European Community, only Greece has a lower proportion in full-time education.³ Moreover, the rate of growth in the numbers

continuing in education in the UK beyond the compulsory minimum has been lower than the average growth in the number of 16-year-olds in education in the EC: between 1970/71 and 1983/84 there was a rise of 11 per cent in the proportion of 16-year-olds in education in the UK, but the average EC rise was 20 per cent.⁴

In general the financial support available in the UK either to pupils in post-compulsory education or to their families is limited, in comparison with the 'opportunity cost' of continuing in education — the income that could have been earned had the 16-year-old chosen to leave at the earliest possible date.

The parents of children in full-time education continue to receive child benefit, whereas if their child had left education, they would not. Child benefit is worth £7.25 per week per child (and has been frozen at that level since 1987). Child benefit therefore acts as a form of non-means-tested grant to the families of those who stay on in education.

A 16-year-old in full-time education may possibly receive an educational maintenance allowance (EMA).⁵ Local education authorities (LEAs) may give a means-tested EMA to disadvantaged children (or their parents) who continue in education in that area.⁶ The coverage of these EMAs is limited. Burghes and Stagles (1983) found that the average *maximum* EMA paid in 1981/82 was less than the then child benefit level of £5.25. The majority of LEAs paid their maximum EMA only to families with an income below the supplementary benefit level. More recent evidence from the Youth Cohort Study (Courtenay, 1988, Table 17) suggests that 6 per cent of those in sixth-form colleges received such grants in 1985 — a somewhat higher figure than that found by Burghes and Stagles.

The opportunity cost of continuing in education depends on the labour market status that could have been achieved had the 16-year-old left. Unemployment no longer results in any entitlement to supplementary benefit for 16- and 17-year-olds (since the introduction of the 'Fowler Reforms' in 1988) but the Government does guarantee a place on the YTS, with a weekly allowance of £28.50 in the first year of the scheme and £35 in the second. Some employers pay an additional sum on top of the standard allowance. In London, just over a fifth of trainees received extra payments of an average £13 per week in early 1987 (MSC

Labour Market Quarterly Report, September 1987). Average wages for people under the age of 18 in full-time work were around £88 per week in April 1988 (New Earnings Survey 1988, Part E).

Remaining at school is not the only type of post-compulsory education available to those over the age of 16. There has been more scope for those attending colleges of further education to receive some maintenance support. According to the Youth Cohort Study (Courtenay, 1988) approximately 22 per cent of those in a college of further education received a maintenance grant. Unfortunately, they were not asked how much they received, nor from which source they received the payment, so it is not possible to verify this figure from official sources.

Another source of income which now is no longer available has been to claim supplementary benefit whilst studying part-time (under 21 hours a week). Currently, only in quite exceptional circumstances will claims to income support whilst in education be accepted.

Financial and Other Factors in Further Education Choices

General evidence of the effect of parental circumstances on the decision to leave school is available from several sources. A key finding has been that social class and the educational background of parents are important determinants of children's educational decisions. Micklewright, Pearson and Smith (1989 and 1990) show that a 16-year-old from a 'professional' family is over 20 per cent less likely to leave full-time education than a child from an otherwise identical family where the father was a manual worker. The effect of the head of household having stayed on beyond the compulsory level of education was even more marked.

These differences between children from different classes and backgrounds persist even in studies that control for measured ability. The econometric study by Micklewright (1988) using detailed data taken from the National Child Development Study (NCDS) found significant class differences in the decision to stay on at school, even allowing for differences in ability. Micklewright was also able to use the number of years of parental education, and found that the more years either parent had been in education, the more likely the pupil was to remain at school.⁷

Fulton and Gordon (1979) tabulated the educational intentions of 16-year-olds by their ability level, and defined as 'unambitious' those in the top 10 per cent by ability who did not wish to enter higher education; those in the next 20 per cent by ability who did not intend to take A levels; and those in the next 40 per cent by ability who intended to leave without taking even part-time education. Twenty per cent of the sample qualified as 'unambitious'. The distribution of the 'unambitious' by social class shows a clear relationship between class and ambition. (See Table 5.1.)

TABLE 5.1

Percentage who are 'Unambitious', by Class and Sex

	Professional	Intermediate	Skilled non-manual	Skilled manual	Semi-skilled	Unskilled	All
Male	6	13	17	22	22	20	18
Female	12	18	24	23	25	19	21

Source: Fulton and Gordon, 1979.

Social and cultural factors may be part of the reason for these marked class differences in staying-on rates and attitudes to further education. A further factor may be differences in the information that parents have about the value of education. Those who have stayed on in education themselves may have a better idea of the degree of difficulty of courses, the probability of failure, and the returns to the eventual qualification. Even those who have not themselves received post-compulsory education but who mix with people who have, are likely to be able to put a more accurate value on extra years of education than those whose occupations do not bring them into contact with people who have received further education.

Consequently, in educational decision-making one of the key conditions in economic theory which is required to ensure that private decisions are optimal — perfect information — seems unlikely to exist for the children of some parents. Continuing in education becomes, if not quite a 'leap in the dark', at least something not totally dissimilar. It is hardly surprising that some reject the costs involved in continuing in education for uncertain reward, in favour of the easier option of leaving school to start earning some money as soon as possible.⁸

In addition to these various explanations for class differences in staying-on rates, financial factors also appear to play an important role. These factors include both effects from the *level* of family or individual incomes, and the effects of the *opportunity cost* of education — in other words, of incomes conditional on particular educational choices.

A common finding of econometric studies (Rice, 1987; Pissarides, 1981; Micklewright, Pearson and Smith, 1990) is that the level of family income has a positive relationship with the decision to stay on at school. The higher the family income, the more likely is a 16-year-old to remain in full-time education. This partly reflects the consumption benefits of education,⁹ but also indicates that the greater are the resources available to the family, the more the family is able to afford the initial costs¹⁰ of education in order to be able to gain the future benefits.¹¹ The reluctance of banks to finance education becomes less of a problem, because the family can finance it from internal resources.

The general finding that increased income itself increases the likelihood of extra education and so leads to a further increase in income does not give any indication as to whether the effect is dependent on which member of the family receives the income and does not tell us anything about the effects on educational decisions of incomes which are conditional on the particular educational choices made. These two issues are linked when we come to consider the impact of state maintenance support for those continuing in education after the age of 16.

In particular, does it matter that pupils who decide to remain at school remain substantially dependent on their parents for maintenance support, but if the pupil leaves school, he or she receives wages or the YTS allowance directly? There have been two notable attempts to answer this question. Gordon (1980) asked the 16-year-olds about their opinions on this subject. Micklewright (1988) did a detailed econometric study on the determinants of educational decisions at age 16, separating out the effects of parental income and pupil income.

Gordon's questionnaire was answered by 100 students in 1978. Those who had left school were asked whether or not they would have stayed on if a grant had been paid to them or to their parents. The results are given in Table 5.2.

TABLE 5.2

Effects of Grants on School-Leaving Decisions

Percentage of respondents

	Grants paid to themselves		Grants paid to parents	
	Boys	Girls	Boys	Girls
Would still have left	49	40	61	41
Might have stayed on	41	46	33	45
Probably have stayed on	10	14	6	15

Source: Gordon, 1980.

School-leavers who thought they at least *might* have stayed on, had they received help, were asked to indicate how much they would have had to have received for their decision to have been reversed (Table 5.3). For boys, direct payment would have more effect than paying parents. However, for girls, payment to parents would require a smaller grant to encourage a higher rate of staying on at school than a direct payment to the child.

TABLE 5.3

Amount of Grant Necessary to Persuade those Pupils who Would Otherwise Leave to Remain in Full-Time Education

Amount of grant (1975 £ per week)	Grants paid to themselves		Grants paid to parents	
	Boys	Girls	Boys	Girls
<1	1	4	3	4
1 – 5	13	12	13	18
6 – 10	9	7	6	8
11 – 15	11	12	6	4
16 – 20	4	8	2	7
Still leave	49	40	61	41
No answer	13	17	9	18

Source: Gordon, 1980.

This latter result suggests that the answers given by some respondents should be interpreted with care. From the point of view of the pupil, receiving the money themselves can never be worse than having it paid to their parents (unless there is 'stigma' attached to transfers from children to parents) because the pupil always has the option to pass on any grant they receive to their parents.

Other aspects of Gordon's survey indicated that, as would be

expected, the impact of a grant is greatest when the family's income is low — reflecting the fact that low-income families are less able to afford the initial costs of extra education in the absence of a well-functioning capital market. In addition, grants would lead to a greater response from manual households than from non-manual households.

As Gordon notes, asking 16-year-olds whether they value money given to their parents as much as money given to themselves may not elicit totally truthful responses — it might be expected that respondents will exaggerate the importance of their parents' well-being. In addition, as with all surveys, asking hypothetical questions such as 'would you have stayed on at school if you had been paid a grant?' may give misleading responses. An approach that overcomes these problems is to use econometric techniques to analyse *actual* decisions made by 16-year-olds, who therefore reveal their true preferences.

Micklewright (1988) takes this approach in a study on the males in the National Child Development Study (NCDS), and concludes that *individual* incomes may have a greater effect than household incomes on the decision to leave school. Micklewright found that the higher were a 16-year-old's part-time earnings and pocket-money before reaching the school-leaving age, the more likely was he or she to remain in education, after controlling for all other relevant factors, such as parents' class and income and child's ability. This implies that 16-year-olds want money, and the more they manage to get, the less likely they are to leave. However, although this finding was statistically significant, it was not a large effect — an increase in income of 16-year-olds in education equal to the level of supplementary benefit level in 1974 would have increased the numbers remaining in education by around 2 per cent of the whole age group.

Both the survey and the econometric evidence thus suggest that education participation decisions after the age of 16 may, for at least some individuals, be affected by changes in their own, individual, incomes if they remain at school.

Policy Responses

These findings that financial factors play a part in individual school-leaving decisions suggest that a system of educational

maintenance allowances (EMAs) might be expected to have an effect on the pattern of early leaving. Proposals for EMAs payable to children who stay on at school, or to their parents, have been put forward at various times over much of the post-war period (see Rice (1987)), and both the Labour and Alliance manifestos at the 1987 General Election contained vague proposals for a scheme of EMAs. The Government appears opposed to the idea, believing they would have little effect on choice at 16 (for example, *Hansard*, 1 April 1987, col. 1102).

What are the issues involved in assessing the costs and benefits of such a scheme? It is likely that increasing the attractiveness of further education by reducing the current sacrifice in income would discourage early school-leaving. Reduced early leaving would, furthermore, be beneficial where the EMA had encouraged children to stay on at school who otherwise would have left because of financial pressures or because they wrongly believed they would gain little from further education.

A system of EMAs would also result in the 'dead weight' of income transfers to 16-year-olds who would have stayed on at school in any case. Weighing up the costs and benefits of EMAs thus requires a comparison of the gains, in terms of both greater efficiency and greater equity, from the additional numbers of children staying on at school against the costs of the dead-weight transfer payments.

The evidence discussed above does, however, suggest that individual incomes may in some cases have a greater effect than household incomes on the decision whether to leave at 16. EMAs paid to the child would then be more likely to encourage post-compulsory education than a similar allowance paid to the parents. This suggests that the payment of child benefit to the parents of 16- to 18-year-olds who remain in full-time education fails to maximise the potential impact of the payments on education decisions; more children might stay on if child benefit after 16 were payable to the individual rather than to his or her parents.

A scheme of EMAs, replacing child benefit for those aged 16 to 18 in full-time education, could be introduced at comparatively modest net cost to the government. Assuming a 50 per cent stay-on rate, a weekly EMA of £12 would cost at present some £200 million per annum, over and above the cost of existing child benefit. Whilst

the cost would rise with the number of children encouraged to stay on at school after 16, there would be corresponding offsets in reduced YTS costs. Demographic factors, too, would lead to a steady fall in the cost over the next decade, given the 15 per cent drop in the numbers of 16- to 19-year-olds that will occur.

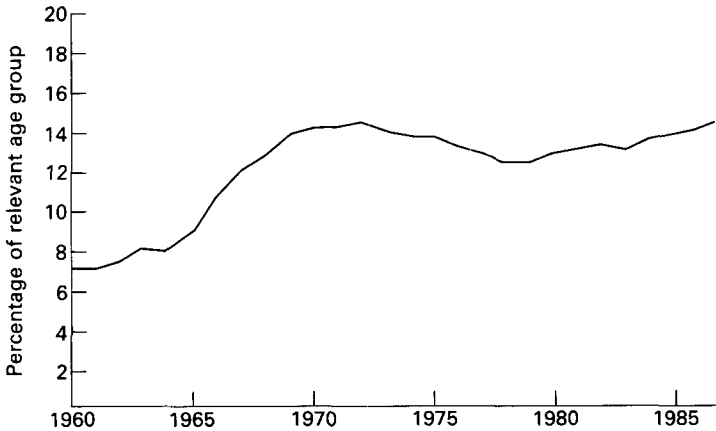
5.3 Higher Education

Student Numbers and Institutional Background

The role of fees and maintenance costs, and the financial relationships between students and their parents, in governing access to higher education (universities, polytechnics, etc.) have been highlighted by the Government's recent proposals for a system of student loans. In this section we examine the evidence for financial factors in higher education decisions, and consider the available policy options.

Following the 1963 Robbins Report, the numbers in UK higher education rose sharply, but the proportion of the age group in higher education has stabilised since the early 1970s (as shown in Figure 5.1). International comparisons are even more difficult than in the education of 16-year-olds; whilst the number of entrants to degree courses in the UK is low (see Table 5.4), completion rates may be rather higher.

FIGURE 5.1
Participation in Higher Education, 1960-87



Source: Department of Education and Science, 1988, Chart 5.

TABLE 5.4

**New Entrants to Degree Level Higher Education
as percentage of the Relevant Age Group, 1984 – 85**

Country	Dk	F	Ire	I ^a	Japan ^a	Nl	Norway ^b	Sp	UK ^c	USA	WG
Percentage	22	20	19	23	25	14	26	17	10	30	15

^a 1986.

^b 1983.

^c Excludes postgraduates overseas and private entrants.

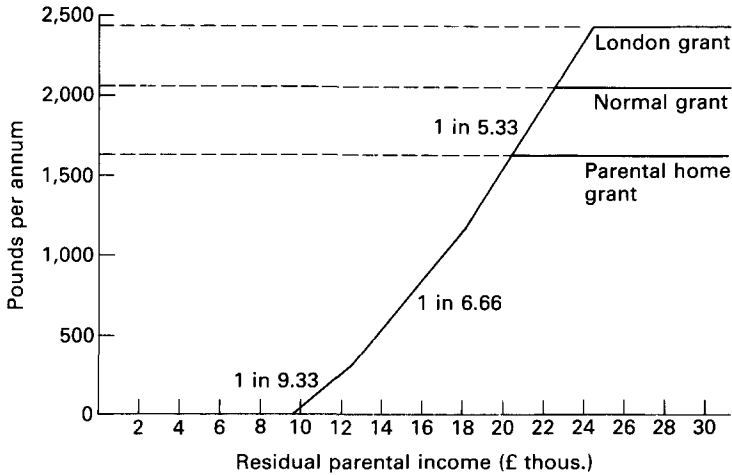
Source: Department of Education and Science, 1988, Chart F.

Both entrance and completion rates may be influenced by the UK's system of student maintenance. Until 1990, this was provided through a means-tested grant and moral pressure on parents of students to provide a 'parental contribution' to make up the difference between the grant received and the maximum possible grant.¹²

Such means-tested grants are given for first degree courses, for the DipHE, HND and teacher-training qualifications, and for certain other courses. The grants are formally known as mandatory awards, because all UK residents undertaking such courses for the first time have the right to have their parents means-tested to see whether they qualify for a maintenance grant. All recipients of a mandatory award have their tuition fees paid for them. In addition, awards *may* be made by a local education authority to students who do not qualify for a mandatory grant, because, for instance, they are entering full-time higher education courses that do not give one of the qualifications referred to above.

In 1988/89, the full maintenance grant was £2,050 (£1,630 for those living at home, £2,425 for those living in London). This full grant was received if residual parental income was less than £9,900.¹³ For every £9.33 of residual parental income above this level, the grant was reduced by £1, and the assessed 'parental contribution' was increased. When residual income exceeded £12,600, the rate of withdrawal was increased to £1 for every £6.66, and above an income of £18,400, the withdrawal rate was again increased, to £1 for every £5.33. The overall parental contribution was limited to £4,900. The relationship between residual income and the parental contribution is given in Figure 5.2 — the grant element is the distance between the appropriate horizontal line and the parental contribution schedule.

FIGURE 5.2
Parental Contributions



International comparisons show that average state support per student in the UK is high — the DES estimates the average level of financial support in the UK in 1984 to have been £750 per student per year (Department of Education and Science, 1988) compared with £360 in the Netherlands, £270 in the USA, £180 in France, £70 in West Germany, £40 in Italy and just £30 in Japan.

Financial and Other Factors in Higher Education Choice

It is perhaps rather surprising that a state payment as ferociously means-tested as the mandatory student grant can be regarded by some as a subsidy to the middle classes, but such is the difference in graduate enrolment by social class that it is a reasonably accurate statement. According to Le Grand (1982), the average public expenditure on children from 'rich' families at the university level is 5½ times the amount spent on children from 'poor' backgrounds. Approximately 22 per cent of university entrants are from unskilled, semi-skilled or skilled manual workers, whereas the proportion of such households in the population as a whole is much higher — nearer 60 per cent.

Most of the 'blockage' of social class mobility appears to occur, in fact, at the previous educational stage — the decision to remain in schooling beyond the compulsory age of 16 (Pissarides, 1982). Indeed, in the major study by Redpath and Harvey (1987), the

social class composition of those in higher education was found to be not radically different from those qualified to enter higher education but who chose not to. (See Table 5.5.) The proportion of potential students from social classes III, IV and V who are not resitting A levels (and who can therefore be assumed to have rejected higher education) but who are qualified for higher education is little different from the sample means (compare the 'not resitting' row with the 'total' row), although there is some indication of universities getting a higher social class intake than other higher education institutions.

TABLE 5.5

Social Class Distribution, by whether or not Resitting, whether Qualified or not, and Sex

All respondents who took A levels (only)

Males

	Number	Percentage of whom are from social class:					
		I	II	III non- manual	III manual	IV+V	Total
Resitting A levels	354	11	45	16	18	10	100
Not resitting, not qualified	256	7	39	15	21	18	100
Not resitting, qualified	440	15	47	14	14	10	100
At university	666	19	49	14	11	6	100
Other higher education	412	14	46	15	13	12	100
Total	2,129	15	46	15	14	10	100

Females

	Number	Percentage of whom are from social class:					
		I	II	III non- manual	III manual	IV+V	Total
Resitting A levels	317	11	49	13	16	11	100
Not resitting, not qualified	387	7	44	18	17	13	100
Not resitting, qualified	484	11	47	18	17	7	100
At university	505	22	48	13	11	6	100
Other higher education	527	13	49	14	14	10	100
Total	2,221	13	47	15	15	9	100

Source: Redpath and Harvey, 1987, Table 9.9.

Nevertheless, the issue of the financial aspects of higher education remains relevant in considering the reasons for the marked class differences in university entry — the key decisions, taken at age 16,

may well be influenced by expectations of the future costs and benefits of higher education, as well as the immediate costs and benefits of one extra year of schooling after the age of 16.

One explanation for class differences in university admissions may be on the 'supply side' — universities may have preferences for students from certain backgrounds. Using the investment framework of costs and discounted benefits described in the first section of this chapter, we can suggest four ways in which the demand for higher education may also vary by class. Firstly, there may be differences in consumption benefits: middle-class students may enjoy student life more than working-class students.

Secondly, the financial returns from higher education may be greater for middle-class than working-class students. This, however, seems unlikely. Even if middle-class graduates earn more than working-class graduates, this does not necessarily lead to the conclusion that they experience a higher rate of return to education. The rate of return would only be higher if the *difference* in earnings between working-class graduates and non-graduates was less than the difference between earnings of middle-class graduates and non-graduates.

Thirdly, class differences may arise because potential working-class students or their parents misperceive the benefits of higher education. Certainly, there does appear to be some general effect of family information and experience on entry into higher education. Redpath and Harvey (1987) examined parental attitudes towards their 18-year-old children entering higher education, cross-tabulated by social class and by parental qualification. Quite separately from a social class effect showing that the higher the social class, the greater the probability of the parents wanting the child to enter higher education (especially university education), they found 'a fairly consistent difference of about 20 percentage points [for all social classes] between the proportion of parents wanting higher education where both parents had degree qualifications and where they did not' (p. 69).

A fourth potential source of class differences in entry into higher education is the availability of financial resources. One aspect of this is the lower ability of families with low incomes to finance educational maintenance support from their own current resources. A second aspect is differential access to credit: families

with higher incomes or with potential collateral assets may be more able to obtain loans or overdrafts to cover educational investments. Thirdly, it is sometimes claimed that working-class parents are more reluctant to borrow money (Gaines and Turner, 1985).

Differences in the availability of financial resources *to the student's family* thus constitute one of a range of potential reasons that could explain class differences in the demand for university education. Some of the other explanations, however, such as differences in expectations about the returns to education, may be experienced *by the student* in the form of financial pressure, if they arise from the willingness of parents to contribute the 'parental contribution' to their children's maintenance in higher education. Evidence on the extent to which parental unwillingness to make the contribution deters otherwise willing students from entering higher education does not appear to exist. However, there is some evidence of the extent to which failure to make such transfers results in poverty amongst those who do go on into higher education.

There are three possible reference points for an assessment of the extent of student poverty: the level of the maximum student grant; the long-run supplementary benefit level; and the minimum expenditure on necessities.

A problem with using the level of grant as a reference point is that it has declined in real terms. It is now worth less than 80 per cent of its 1962 level. Indeed, the DES itself said in 1986 that 'we would no longer maintain that the maintenance element of the mandatory award is sufficient to meet all the essential expenditure of the average student' (as reported in Barnes and Barr (1988)). Yet the Undergraduate Income and Expenditure Survey 1986/87 (Research Services Limited (RSL), 1988) showed that after taking *all* income into account (including part-time earnings, benefits, an imputed income from free parental board and lodgings outside term time, loans and dissavings) fully 17 per cent of students had less income than even this grant level. The average shortfall of these 17 per cent was £280, or 15 per cent of the grant level.

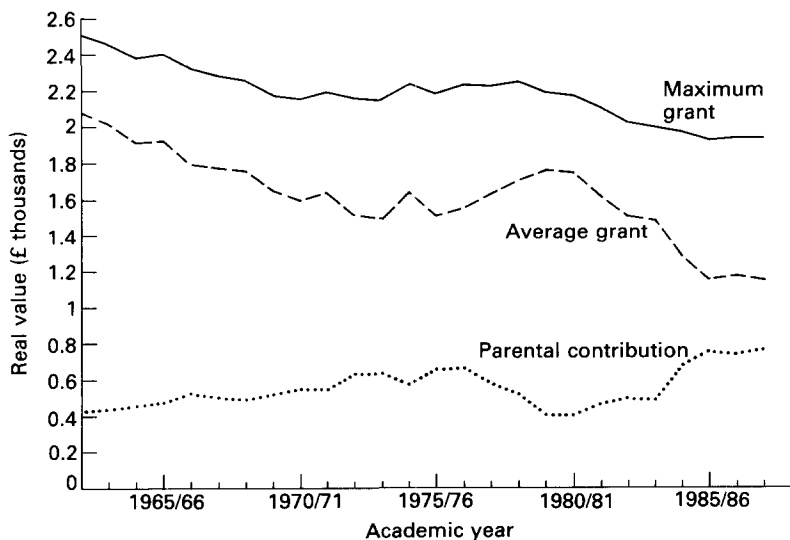
In 1982/83, again after taking all sources of income into account, one student in thirteen was below the long-term supplementary benefit level.

The 1986/87 survey of student income and expenditure broke

expenditure up into 'basic expenditure' and 'other expenditure'. Basic expenditure included accommodation, food and drink consumed in the student's accommodation, essential travel, and necessary course expenses. 'Mean basic expenditure was £1698. Students would need to spend more than this to meet all their living costs' (RSL, 1988, p. 5) (the standard grant at the time was £1,961). For London students, this basic expenditure was £2,223 — or 99 per cent of their maximum standard grant. It might just be possible that on average the standard grant is sufficient to cover basic student expenses. However, the fact that some students do not receive a *total* annual income equal to this grant level (which is only supposed to cover 30 weeks of term, together with the Christmas and Easter vacations) would seem to indicate that some students are on extremely low incomes.

The major cause of such poverty is the failure of parents to contribute the full difference between the standard grant and the level of means-tested grant actually received. Figure 5.3 shows the real value of the maximum grant, the real value of the average grant given, and the real value of the average assessed parental contribution. The key points of interest would seem to be that the parental contribution rose throughout the 1960s and the first half of the 1970s, fell in the second half of the 1970s, but then increased

FIGURE 5.3
Trends in Student Finance
(1987/88 prices)



rapidly through the 1980s (an increase of over 85 per cent between 1980/81 and 1987/88 in real terms).

This rise was not, however, sufficient to maintain the real value of student incomes from grants and the parental contribution combined. Between the late 1960s and late 1970s, real income from these two sources remained broadly constant, but since this period it has declined. The reason for this fall is the substantial fall in the average amount of means-tested grant received by students — a decline of over 40 per cent of the 1962/63 figure by 1987/88. Students have become increasingly dependent on income from their parents and other non-state income because of the rise in the proportion of their income now assumed to be provided in the form of a parental contribution; but also increasingly vulnerable if the assessed parental contribution is not received in full.

Barr and Low (1988) report that in 1982/83 only half of those students who should have received a parental contribution got the full amount. Of the half who did *not* get the full amount, the average parental contribution was just 53 per cent of the assessed amount.

The 1986/87 Undergraduate Income and Expenditure Survey (RSL, 1988) did not directly compare *actual* parental contributions with *assessed* contributions, instead comparing income from grants and employment with all income from parents including gifts in kind. It found that among students with no grants and grants up to £800, one in four received less than the maximum grant.

Interestingly, the income of students in 1986/87 as a function of parental income was found to show a marked 'J curve' distribution, with the children of parents with low incomes receiving the full means-tested grant, and the children of parents with high incomes receiving large transfers from their parents. Some parents on intermediate levels of income could or would not give the full parental contribution to their children.

It is possible that parental desire to fund student education increases as income increases. The other explanation of the shortfall in contributions by middle-income households is that they were financially constrained. This is not implausible — whereas a family on average earnings would be expected to contribute very little to the student's income, roughly £1 in every £5 of *net* increase in parental income beyond mean income is expected to be paid to

the student. Families who would not regard themselves as being well off may find the assessed contribution surprisingly large when compared with previous financial commitments, and feel unable to pay the full amount.

Students do receive income apart from transfers from parents and state grants. Students are currently entitled to welfare benefits, of which housing benefit is the most important (especially in London). On average, each student received £91 in benefits in the year 1986/87 (RSL, 1988). The other sources of income are from working, loans and dissaving, accounting for £119, £99 and £96 respectively on average. Student borrowing, significantly, is rarely by means of 'commercial' loans — under 2 per cent of students have such loans. More common are overdrafts (41.5 per cent of students, with an average of £268 outstanding at the end of the year) and credit cards (13.9 per cent of students, with an average of £174 outstanding). Both these types of loan are essentially short-term. This seems to confirm the theoretical expectation already referred to — capital market failure makes it very difficult for students to redistribute income from the periods in the future when they will on average earn high salaries, to fund the investment that makes the higher wages possible. Hence the 50 per cent of students with loans must make use of short-term high-interest sources for their borrowings.

In sum, it seems clear that the failure of some parents to make up the difference between the amount the children receive from the state in the form of a means-tested grant, and the maximum grant results in some student poverty. This seems all the more likely when it is realised that no one — including the Government — claims the current maximum grant is sufficient to provide a reasonable standard of living. The grant barely covers 'basic' expenditure. It further seems that, as predicted by theoretical considerations of capital market failure, students are unable to borrow on the long-term basis necessary to redistribute their lifetime earnings.

Policy Responses

In the foregoing discussion we have noted the range of reasons for class differences in university admissions. As in the case of school-leaving decisions at age 16, these class differences may be symptomatic of more fundamental market failures in educational decision-making, reflecting in particular poor information about

future returns from education and the way in which short-term financial pressures can deter potentially worthwhile educational investments. As at age 16, the attitudes, preferences and expectations of both the potential student and the student's parents will be important, since in most cases the student will be dependent on a parental contribution to the costs of maintenance support. Given the obstacles to adequate individual borrowing to finance human capital investment, this dependence is likely to be a source of underinvestment in education by students whose parents are unwilling to provide maintenance support.

In contrast to the decision at age 16, however, the issue of student finance for higher education has received considerable policy attention (Barr and Low, 1988; Barr, 1989; Blaug, 1966; Glennester, Merrett and Wilson, 1968; Department of Education and Science, 1988). The policy options available are also rather wider: since students in higher education are in general over the age of 18, the possibility of solutions based on loans to the student becomes available for consideration.

Student loans, indeed, form the centre-piece of the Government's proposals for student finance, set out in the 1988 White Paper and now being legislated. The proposed loans system is intended to supplement existing arrangements for mandatory local authority grants and is, over time, intended to reduce both the role of parental contributions and the role of state grants.

The introduction of a loan basis for student maintenance support raises a series of important issues, about the implications for public expenditure, the pattern of risk for lenders (default rates, government guarantees, moral hazard, etc.) and about the cost of administration, as well as about the effects on rates of participation in higher education. We focus on this latter issue here.

To the extent that the proposed student loans substitute for resources which individual students would have received in the form of transfers, either from parents or as local authority grants, the introduction of the loans scheme would be expected to reduce the incentive to enter higher education. A student taking decisions on the basis of his or her own costs and benefits will find the level of current costs and benefits unchanged, but the future benefits of education will be reduced by the obligation to repay the loan.¹⁴

Of course, such an outcome may not always be undesirable. Education, like other investments, is only worth while when the benefits outweigh the costs. If one takes the view that the social benefits (externalities) from higher education are small, a system where the individual student bore most of the investment costs, as well as receiving most of the ultimate benefits, would be likely to result in efficient education decisions, so long as the student had adequate access to loan finance and was correctly informed about both costs and future benefits from each option.

This final caveat is the main reason for unease about the effects of substituting loan for grant finance. Few students are likely to be well informed about the incomes associated with different educational choices. Those with parents or other relatives who have experienced higher education may be better able to judge future earnings potential than those who do not have the experience of the previous generation to draw on. In general, a plausible case could be made for suggesting that students may understate the incomes they are likely to earn from higher education, relative to the incomes that could be earned from immediate employment, since they are more likely to be aware of starting salaries than average expected lifetime earnings, and a steeper age-earnings profile may frequently be encountered in graduate careers. Even if potential students do not systematically misperceive future income levels, however, they are likely to have greater uncertainty about the incomes that they could expect after higher education; this greater uncertainty is likely to lead to less educational investment than would be efficient.

As a substitute for direct transfers, in the form of local authority grants or parental maintenance support, therefore, student loans would seem likely to lead to lower, possibly inefficiently low, levels of higher education, especially amongst those whose background makes them least able to judge the returns to higher education. However, the policy appears more attractive where it augments the resources available to students, especially those students whose parents have not been prepared to pay the full parental contribution towards the costs of student maintenance.

As the earlier discussion has made clear, there is an inadequate market in commercial loans for educational investment. Students who wish to go into higher education but whose parents (perhaps because of other financial commitments or because of

disagreement over the value of higher education) refuse to provide maintenance support must either forgo higher education or continue with resources below the maintenance grant level. The loans scheme would provide such students with an independent source of maintenance support, effectively removing the capital market constraint that would otherwise have prevented them from continuing into higher education.

What other alternative policy approaches are available to deal with the problem of unpaid parental contributions? Broadly speaking, besides the provision of loans, the two options available would have been to replace the parental contribution with additional grant or to 'force' parents to make the parental contribution over to their children.

The extended grant option would have the drawback of substantial 'dead weight': it would require additional grant to be paid to those students whose parents had provided the parental contribution as well as to those whose parents had not. On the basis of the figures from Barr and Low (1988) quoted earlier, the net financial resources of students would be augmented by only £1 for each £4 of additional public spending, whilst parents would benefit by the remaining £3.

An alternative approach would be to take the voluntary element out of the parental contribution and force a payment by parents to their student children. This is the situation in some other countries, notably West Germany and Austria. As Barr (1989) notes, this makes the parental contribution a tax on the parents of academically successful children, which Barr considers a somewhat bizarre situation. Clearly, if the family has identical opinions and common objectives, such a compulsory solution would be unnecessary. Forcing payment effectively ensures the primacy of the potential student's opinion within the family. However, as noted earlier, any tendencies to pursue the student's goals as opposed to those of the family will result in *more* investment in education than a truly unified family would find optimal, because the opportunity costs to the individual of education are less than they would be to such a family, by the amount of the intra-family payment from parent to student. The effect of the German rule is therefore that it requires parents to accede to their child's preferences, without any corresponding consideration of parental circumstance being required of the children.

NOTES TO CHAPTER 5

1. Not totally without value, because in the absence of educational screening, employers would have to spend resources on finding out who was highly productive and who was not.
2. There may be benefits in the form of gifts from children to their elderly parents (particularly important in developing economies) and there may be some satisfaction derived from having educated children. Nevertheless, in the absence of binding contracts between parents and children, it seems unlikely that parents who did not care for their children's welfare could justify investing in educating them.
3. Even Greece has a higher proportion of 16-year-old *males* in education than the UK.
4. There are obvious difficulties in making international comparisons of education systems, and the low proportion in education at age 16 is not the only relevant indicator of total human capital accumulation. The average British 16-year-old has spent longer in education than his or her European counterpart, and the quality of education may vary between countries. However, as Britain has generally been thought to have insufficient vocational education and training beyond the age of 16 (National Economic Development Office, 1984; Keep and Mayhew, 1988), the tendency of 16-year-olds to leave school at the earliest opportunity might reasonably be seen as part of a general problem of low human capital accumulation.
5. Internationally, few countries pay a general EMA to those beyond the age of compulsory education. However, as in Britain, many continue to pay child support to those beyond the minimum school-leaving age. An exception is Sweden, which does have a general, non-means-tested grant, worth approximately £10 per week, paid to all those children who choose to remain in school beyond the compulsory number of years (Gaines and Turner, 1985).
6. Generally, EMAs are paid to the *parents* of the pupil (52 of the LEAs studied by Burghes and Stagles (1983)) rather than to the pupils themselves (13 LEAs).
7. This is despite the fact that Papanicolou and Psacharopoulos (1979) find a higher rate of return to additional education amongst people from lower social backgrounds than amongst those from higher classes.
8. It should be noted that again this reluctance to continue in education is in part related to imperfect markets elsewhere. Companies face similar decisions all the time, but do invest. The difference is that the costs (and the benefits) can be spread among many people (the shareholders) and it is sometimes possible to hedge risk through the insurance market. However, no insurance market exists to cover the risks of educational investments.
9. Piachaud (1975) claims that the funding of education by parents can be best considered as a consumption decision, given that the returns to their investment are so low.
10. Piachaud (1975) found that the *absolute* cost of children from lower-class households staying on after the age of 16 was indeed higher than it was for higher-class households. However, the major cause of this result was the fact that at that time, child tax allowances were given for those still in education; the value of these was zero if the household had no taxable income, and increased as the marginal tax rate of the parent increased. Replacement of child tax allowances with child benefit will have ended differences in absolute costs according to income.
11. The less certain is family income over the period of education, the more reluctant families will be to commit themselves to funding the education. The fear that a member of the family may become unemployed will tend to depress the demand for education. The effects of unemployment on the demand for education are discussed in greater detail in Micklewright, Pearson and Smith (1990).
12. The UK differs from most other countries in the age at which students are deemed to be financially independent from their parents. In the UK, independence is deemed to have been achieved at the age of 25 — much higher than in Denmark and Canada (age 22), Sweden (20) or generally in the USA where it depends on whether parents declare their children as dependants or not (Gaines and Turner, 1985).
13. Residual income is gross parental income in the previous year, minus deductions for

interest payments and various other deductions for dependent adults and other liabilities.

14. It should, however, always be borne in mind that even if parents or the state provide *all* the income support for the student, it will still be the student who bears most of the costs of education, in the form of the opportunity cost of forgone earnings whilst in education. Even for the student concerned only with his or her welfare, a change to purely self-financed education in the form of loans may not substantially increase the number of discouraged students.

CHAPTER 6

INTERDEPENDENCE IN PENSION ENTITLEMENTS

The pension entitlements of couples accrue as a function of the labour market participation of individuals. Both in the state pensions schemes (the National Insurance basic pension and the State Earnings-Related Pension Scheme) and in occupational and private pension schemes, pension rights are accumulated through individuals' participation in paid work and, generally, in relation to the incomes earned. Individuals who have spent longer in the labour force, or who have had higher incomes from work, will generally accumulate higher pension entitlements than those with interrupted employment histories and lower earnings. Typically, in married couples where the wife spends a period out of the labour force looking after children, this has the effect that the largest part of the couple's pension income will result from the labour force participation of the husband.

None the less, whilst the couple's pension rights accrue as a result of the employment record of each individual member, both partners may derive certain pension entitlements from their individual pensions. Thus in the state pensions system, widows are entitled to continue receiving some of the state pension derived from their husband's employment, and in many occupational schemes, surviving spouses are entitled to receive some continuing pensions benefit.

In this chapter we discuss the pension position of individual partners in a married couple. In the first section we discuss how individual pension rights in a range of pension schemes derive from employment experiences, and the effect of this on the pension rights accrued by men and women. In the second section we examine the extent to which partners are dependent on pension entitlements accrued by their spouse in a number of different pension systems. In the third section we discuss some of the policy problems in ensuring 'equity' of various sorts in pension systems, and some of the difficulties which arise from the present trend towards pension arrangements based almost entirely on individual entitlements.

6.1 Pension Rights and Employment

State Provision

The present state pensions system in the UK is a two-part system, comprising a flat-rate basic state pension and the State Earnings-Related Pension (SERPS). The form of the flat-rate component is similar to that of the National Insurance (NI) pension established in 1948 following the recommendations of the Beveridge Report (1942). SERPS itself is comparatively recent, having been introduced in 1978 following the 1975 Social Security Act, although it was preceded by an earlier graduated pension scheme.

Under both components of this system, pension entitlements accumulate over the course of an individual's working life. Whilst successive modifications to the state pension scheme have changed the basis on which pension entitlements are established, they have tended to leave existing accumulated rights intact. The pension entitlements of individuals when they reach retirement thus have a 'geological' quality reflecting the pension schemes in operation during their working lives. For those currently retiring, and even more for those already retired, the rules of the basic state pension are the most important factor in determining the level of pensions they receive; those currently retiring only have partial SERPS entitlements, based on a maximum of only some 12 years of employment since the scheme was established in 1978.

Entitlements to both the basic state pension and SERPS are secured through National Insurance contributions, which take the form of a tax on employment incomes. National Insurance contributions were originally flat-rate, but as the increasing cost of the new state scheme pushed contribution levels upwards during the 1950s, and the burden of further increases in flat-rate National Insurance contributions on low earners became unacceptable, earnings-related contributions were introduced. The contributions of both employer and employee were proportional to earnings up to a maximum weekly value. No contributions were required on earnings below a 'Lower Earnings Limit' (LEL), although as soon as earnings rose above it a charge of 9 per cent was levied on the whole of earnings, including the £46 LEL, leading to a sharp discontinuity in the relationship between income and National Insurance contributions (NICs), and to problems of

avoidance and ‘income bunching’ (Brown, Levin, Rosa and Ulph, 1984). In the 1985 and 1989 Budgets, attempts were made to alleviate the severity of this ‘jump’ in employees’ NICs. In addition, the Upper Earnings Limit (UEL) has been abolished on employer contributions, although it remains for employees.

It is often suggested that the NI system is a contributory one, and that ‘we get out what we have put in’ over our lifetimes. However, although eligibility for the basic state pension is tied very tightly to the employment record of the claimant, it is related only weakly to the contributions made. Indeed, entitlement depends on contributions only in so far as it is the number of contributions made and not their value which counts.

Entitlement to the full basic state pension requires that contributions to the NI Fund have been paid by employer and employee for nine-tenths of the individual’s working life (44 years for men and 39 years for women). In order to receive a full basic pension, therefore, an individual must have paid contributions on earnings or been credited with having done so for this period of time. (Credits arise during spells of registered unemployment etc.)

Before 1975, married women could opt out of their own basic pension and pay reduced contributions to the NI Fund. Many women did this because they had little hope of accumulating an adequate contribution record to qualify for a full basic pension in their own right. The 1975 Social Security legislation aimed to ensure that women were able to accumulate an adequate entitlement to the basic state pension in their own right by allowing credits for up to 20 years of home responsibility — caring for children or the elderly, for example — against the eligibility criterion for a basic state pension. Thus a woman could claim up to 20 years of home responsibility credits for looking after children or for illness and unemployment, and even with an otherwise inadequate and broken contributions record, might still be eligible for a full state pension. The ‘Married Woman’s Option’ to pay reduced contributions and to ‘opt out’ of the basic state pension was phased out after 1975 when these home responsibility credits were introduced, although those women currently paying reduced rate contributions were allowed to continue doing so, so long as they remained in continuous employment. The number of women paying reduced rate contributions has, however, declined sharply from 4.1 million in 1978 to 1.5 million in 1986.

Joshi and Owen (1983) analysed the extent of the difference between the number of 'pensionable years' that would be likely to be accrued by men and women under the post-1976 pension scheme, based on a comparison of projected lifetime earnings and employment profiles of mothers, childless women and men. Making the assumption that there would be no further growth in female employment after the 1980s, they compared the projected employment experience of women with children with that of those without (to allow for the other reasons, apart from motherhood, that cause women to have career breaks), and then both groups with a 'control' situation in which a woman is assumed to be permanently inactive for no longer than a man. On the basis of these comparisons, they projected that childless women would pay contributions in about four fewer years than in the 'control' situation, and that women with children would, on average, have a further 11 years without paid contributions. The average male record was reckoned to be about 41 pensionable years, with very few male individuals, except the chronically sick, contributing fewer than 20 years. The average female record of paid contributions would be around 24 years (22 for mothers and 33 for those without children). Many of the years without paid contributions would, however, be covered by home responsibility credits, and Joshi and Owen conclude that under the post-1976 scheme, there would be few women without an entitlement to a substantial proportion of a basic state pension in their own right.

The second tier of the state pension system introduced by the 1975 legislation was an earnings-related pension, under which pension entitlements were based on individuals' earnings in the years during which they had contributed to the scheme. Anyone who had not opted out into an approved private occupational scheme — with benefits at least equal to those paid by the state scheme — was eligible for this element in addition to their basic pension.

That part of annual earnings between the upper and lower earnings thresholds for NI contributions is 'reckonable earnings' for the purposes of calculating SERPS pension entitlements. For an individual with a full contribution record, SERPS pension benefits were to be paid at 25 per cent of the average reckonable earnings in the best 20 years revalued by some earnings index. The value of the earnings-related element could not exceed a maximum limit. For individuals who had contributed to the scheme for less than 20 years, benefits were paid at one-eightieth

of average reckonable earnings for each year's contributions. The 'best 20 years' rule was specifically aimed at helping those who had taken time out of paid employment to help others or those who had been in low-paid employment for part of their career. For example, a woman could discard 24 years and a man 29 years of their lowest-paid employment in order to bring their average up.

Legislation which followed in the 1986 Social Security Act aimed to reduce SERPS costs by a number of modifications, including abolition of the 20 best years rule. Instead, benefits were set at 20 per cent of an average of *all* earnings from leaving school to retirement.

Occupational and Personal Pensions

Occupational pension schemes take two forms — those in which the members have 'contracted out' of their state scheme rights to additional earnings-related pensions and those in which the members are still eligible for the full state pension. The 1986 Social Security Act allowed a wide range of pension schemes to contract out of SERPS. Before this, only those schemes that gave 'defined benefits' based on previous earnings were entitled to do so. Figures on the coverage of occupational pension schemes from the Government Actuary's Department (GAD) survey of occupational pension schemes show that in 1983 there were 11.1 million members of some 90,000 current schemes (i.e. those providing benefits in respect of current service). This total was made up of 7.8 million men and 3.3 million women.

Overall, as Table 6.1 shows, slightly more than half of all employees are covered by occupational pension schemes. Of those not covered, 60 per cent were working in jobs where the employer did not operate an occupational pensions scheme, and a further 10 per cent were excluded from their employer's scheme either because they were too young or because their service with the employer was shorter than the minimum required for membership. The remaining 3 million employees not covered by occupational pension schemes were predominantly women (73 per cent). This group includes those who were not members of their employer's schemes through choice or because the scheme did not cover part-time workers.

The problem of the exclusion of part-time workers from

TABLE 6.1

Members of Occupational Pension Schemes, and Reasons for Non-Membership*1983, millions*

	Men	Women	Total
Total number of employees	12.1	9.0	21.1
Total number who are in schemes	7.8	3.3	11.1
Total number not in schemes	4.3	5.7	10.0
<i>Reason for exclusion</i>			
Employer has no scheme	3.0	3.0	6.0
Employer has a scheme but the employee:			
– is too young or has service too short	0.5	0.5	1.0
– has opted not to join, or is ineligible because part-time or for other reasons	0.8	2.2	3.0

Source: Government Actuary, 1986.

occupational pension schemes is one that affects many more women than men. As Table 6.2 shows, women make up nearly 90 per cent of part-time employees, and only 13 per cent of female part-timers are members of occupational schemes. The reasons for this low membership are not specifically identified by the GAD survey, and will include the low availability of schemes in industries where part-time work is concentrated, as well as scheme rules that directly or indirectly exclude part-time workers.

TABLE 6.2

Part-Time Employees and Occupational Pension Scheme Membership*Millions*

	Males	Females	Total
Part-time employees	0.5	3.9	4.4
Members of pension schemes	0.1	0.5	0.6

Source: Government Actuary, 1986.

Contributions to occupational pension schemes may be made by employees, the employer or both. In 1983, about one in ten occupational pension scheme members were in schemes where the employer paid the full cost of contributions, and a similar number in schemes where the employee contributed half of the cost or more. Typically, the proportion of cost contributed by scheme members was in the range of 20 to 40 per cent. In nearly all the schemes, members' contributions took the form of a percentage

of salary; the 1983 GAD survey noted that during the 1970s and 1980s, occupational pension schemes with flat-rate contributions had all but disappeared.

The most usual basis for calculating private sector occupational pensions is the 'final salary' of the contributor — what he or she received in the final few months of employment. This is then multiplied by the length of the member's service. The definition of 'final' salary varies from one scheme to another. As the GAD survey points out, this will lead to 'large variations in the levels of pension provided in periods of inflation, and means that the longer the averaging period used, the more sensitive the benefit received will be to the level of inflation'.

Other schemes base the pension received on some fraction of the salary that an individual has earned throughout his or her working life. The effects of inflation have made these sorts of schemes far less popular, even though many make some revaluation of past salaries to allow for changes in the levels of earnings or price inflation.

Pension schemes have recently had an element of fiscal privilege compared with other sorts of investment. More specifically, the tax treatment of different types of contracted-out pension scheme has been particularly favourable. Contributions are deductible from taxable income up to a maximum proportion of earnings, and some part of the benefits can be commuted into a tax-free sum — a privilege which is not available to those contracted into SERPS.

Whilst 'final salary' occupational pension schemes predominate, there are some that take the form of 'money purchase' schemes where the pension is calculated on the basis of the amount that the employee and employer contributions have 'purchased'. There is no relationship in these schemes between final salary and the level of pension paid. That depends instead on the performance of the assets that are held in the scheme. None the less, this sort of scheme appears recently to have increased in popularity, partly because of changes in fiscal and pensions legislation, and partly because it provides a better basis for ensuring transferability of pension rights for job-movers.

Normal retirement ages in the private sector are generally the same as those in state schemes, with very few men retiring after 65 and

very few women after 60. However, in the public sector more men retire below the age of 65 than in the private sector. These include local government officers who can retire early if they have 25 years service, or members of the Armed Forces etc. who have had particularly stressful or physically demanding jobs.

An occupational pension was all that most married women could expect to have earned in their own right before SERPS. Few women retiring before the end of this century will actually find that they have the right to a full occupational pension as their coverage is not well spread amongst women. In the early 1970s, only half of all non-manual women and a fifth of manual women were eligible for membership (Joshi and Owen, 1989). The rules of final salary schemes tend to penalise job changes, and many schemes do not apply to periods of service under five years, nor at all to part-time work.

The structure of nearly all occupational pension schemes is such that women will tend on average to have lower pension rights. The first reason for this is that schemes relate pensions to the number of years of employment; a scheme that relates simply to the number of pensionable years that a woman has accrued will obviously not compensate her for any years spent in unpaid labour. Secondly, schemes that base pension levels on previous earnings will tend to penalise women in general because women's earnings tend to be below those of even identically qualified men. In particular, women whose careers have been interrupted by child-rearing will be further disadvantaged by schemes that base pension entitlement on final pre-retirement salary.

SERPS was intended to close the gap between male and female pension levels by a number of features including the best 20 years rule. However, SERPS pensions are still related to earnings and thus will continue to give women lower pensions on average than men, for as long as their position in the labour market is weaker than men's. Joshi and Owen (1989) conclude that 'the greater the weight of the basic pension in the total package of pensions the greater the protection of elderly people whose greatest contribution has been unpaid'.

6.2 'Derived' Pension Rights

We have seen how men and women accrue pension rights as individuals under the present system of state, private and personal

pension schemes. Because of the dependence of pension entitlements on labour market participation and earnings levels, women are in general likely to have accumulated lower pension entitlements in their own right than men of equal ability and with equal qualifications. This remains true in the state system even despite the introduction of home responsibility credits to cover the period that women spend out of the paid labour force bringing up a family. On returning to employment, a woman's labour force status is on average lower, and earnings lower, than in the absence of career interruptions. This 'cost' of career interruption is not compensated for by home responsibility credits.

Prior to the state pension reforms of the mid-1970s, the state pension made provision for married women who had not accumulated pension entitlements as a result of their own labour force participation by giving them rights to a pension derived from their husband's employment. In addition to this, in many pension schemes women may have some rights to the continuation of all or part of their spouse's pension on the death of their spouse. We consider the structure and level of these 'derived pension rights' in this section.

State Pension Schemes

Before 1975 the state pension scheme treated wives as their husband's dependants. They could opt out of their own basic rate pension by paying reduced contributions, for example, and there was some incentive for them to choose this option because of their lack of right to short-term benefits and the 'half-test' rule which required full contributions for half of their married life regardless of their contribution record before marriage. Unpaid caring work was implicitly recognised by paying wives a pension worth 60 per cent of their husband's pension, based on his own contributions. This scheme to opt out was phased out post-1975, when provision was made to allow for a wife's unpaid 'home responsibilities' in calculating her pension entitlement, thus increasing the proportion of women able to qualify for a state pension in their own right.

There were of course many women, and perhaps a few men, where the spouse had too low a record of contributions to qualify for a basic state pension of their own. If the 'dependent' spouse was below retirement age then his or her spouse would receive an

addition to their pension in respect of their spouse. Once the dependent spouse exceeded this age then they were eligible for a Category B pension which is dependent on their spouse's contribution record.

Table 6.3 shows the current levels of these benefits. If a spouse has a full contributions record, he or she will receive £43.60 per week plus £26.20 for any adult dependant who is not eligible for their own Category A pension or not yet retired. If the spouse then retires without an adequate contributions record of her own, she becomes eligible for a Category B married woman's pension of £26.20; if her contributions record is adequate then she can get a full pension also.

TABLE 6.3
Standard Rates of State Pensions from 10 April 1989

Retirement pension	<i>Pounds per week</i>		
	Claimant	Adult dependant	Child dependant
Category A	43.60	26.20	8.95
Category B for a married woman	26.20		8.95
Category B for a widow(er)	43.60		8.95
Category C (except for a married woman)	26.20	15.65	8.95
Category C (married woman)	15.45		8.95
Category D	26.20		

Source: Rowland, Kennedy and McMullen, 1989.

The state pension scheme makes provision for both widows and widowers to receive pensions based on the contribution record of their deceased spouse, where the pension they would receive in their own right would be lower. These derived pension rights are rather more extensive for women than for men, in that they provide for widows (but not widowers) to receive a pension, based on their spouse's contributions, before the usual retirement age. This provision reflects the economic vulnerability of older women, especially those who have spent time away from the labour market bringing up children or who are not working at the time of their husband's death.

The 1975 Social Security Pensions Act provides that widows are entitled to their husband's full pension if their spouse satisfied the usual contribution conditions for a state pension or if he died of

an industrial injury or disease. The wife must be over 50 or retired, or of any age if supporting a young family. Other rules have been added so that today the rules state that the widow must not be remarried, cohabiting or receiving the widowed mother's allowance.

Widowers are eligible if their wife satisfied the same contribution conditions as above, if they themselves reached the age of 65 after 5 April 1979, if the wife died when they were both over pensionable age, and if the widower is retired or treated as retired.

Before the 1986 Social Security Act, widows and widowers could inherit the whole of their spouse's State Earnings-Related Pension, subject to the condition that the total pension could not exceed the amount that would have been paid to the deceased spouse. However, after 2000 only 50 per cent of the pension can be inherited.

Occupational Pension Schemes

Derived pension rights in occupational schemes are generally limited to the provision made for widows and widowers, either as a result of death in service, or after retirement.

During the 1970s there was a large increase in the proportion of male members of occupational pension schemes whose schemes provided for some form of widow's pension if they should die before retirement age; the proportion with widows' pensions payable on death in service rose from 56 per cent in 1971 to 94 per cent in 1979. Some, at least, of this rise may have been the result of schemes altering their rules so as to comply with the requirements for contracting-out in the 1975 Social Security Pensions Act (Government Actuary, 1986). Widowers are increasingly catered for in private sector schemes. In 1983 about 80 per cent of women members of private sector schemes were in schemes that made some provision for widowers on death in service, although four-fifths of these schemes provided for dependent widowers only.

Nearly all occupational pension schemes have arrangements for paying a widow's pension on death after retirement, and most also make provision for widowers, although generally only on the same, rather restricted, terms that apply to widowers' pensions for death

in service. The terms on which widows' pensions are provided vary between schemes, although it is increasingly common for the widow's pension to be provided automatically (Table 6.4) and less common for widow's pension provision to be secured by surrender of a part of the member's pension or lump sum at retirement. Normally, the widows' pensions paid reflect the same sorts of factors as the scheme member's own pension — namely, the salary and service of the scheme member.

TABLE 6.4

Numbers of Male Members according to Availability of Widows' Pensions on Death after Retirement

Availability	<i>Private sector, millions</i>		
	1975	1979	1983
Unconditional widow's pension	3.5	4.1	4.1
By surrender of part of pension or lump sum	0.9	0.1	0.1
No widow's pension	0.3	0.4	0.2
Total	4.7	4.6	4.4

Source: Government Actuary, 1986.

Evidence from the Family Expenditure Survey indicates the importance of these derived pension rights in maintaining the living standards of widows. Table 6.5 shows that the number of elderly women receiving occupational pensions as a result of their

TABLE 6.5

Men and Women Receiving Occupational Pensions from their Own and their Spouse's Employment

	<i>Average, 1980 – 84</i>	
	Number (thousands)	As percentage of all over-60s
<i>Men</i>		
Occupational pension from:		
– own employment	2,830	62%
– spouse's employment	6	0.1%
<i>Women</i>		
Occupational pension from:		
– own employment	970	15%
– spouse's employment	775	12%

Source: Own estimates based on tabulations from 1980 – 84 Family Expenditure Surveys.

own employment was less than one-third of the number of men with own-right occupational pensions. However, the number of women receiving income from occupational pensions is almost doubled if those receiving occupational pensions as a result of their *spouse's* employment are also taken into account.

The average levels of occupational pensions received are shown in Table 6.6. Own-right occupational pensions levels for those who have been in public sector employment are substantially higher than the own-right occupational pensions of those who had worked in the private sector, but the average level of derived occupational pensions received by widows is about the same from public and private sector sources, averaging about 40 per cent of public sector and 76 per cent of private sector own-right occupational pensions received by men.

TABLE 6.6

Average Occupational Pension Paid: 'Own-Right' and 'Derived-Right' Pensions

<i>£ per week, average 1980 – 84, 1984 prices</i>		
	Men	Women
<i>Occupational pension from own employment</i>		
Public sector occupation	42.80	34.01
Private sector occupation	25.75	13.19
<i>Occupational pension from spouse's employment</i>		
Public sector occupation	—	17.32
Private sector occupation	—	19.59

Note: — indicates cell size too small for reliable estimates.

Source: Own estimates based on tabulations from 1980 – 84 Family Expenditure Surveys.

6.3 Policy Issues and Pension Interdependence

We have described how pension entitlements after retirement are related to individuals' past employment records, and how various pension schemes provide for 'derived pension rights', relating the pension entitlements of one spouse to the labour force participation of the other. In this section we consider the adequacy of this patchwork of pension arrangements, both in relation to basic criteria for an 'equitable' pensions system and in the face of changing patterns of work and family relationships.

The structure of the pensions schemes described is such that patterns of employment income within the family are reproduced in patterns of pension income after retirement. In the case of private sector schemes, including occupational schemes, and especially personal pension schemes, there are obvious reasons why this should be so. Since schemes are constrained by a requirement of solvency, the *average* pension they can pay out is determined by contributions, investment performance and the actuarial characteristics of scheme members. Moreover, market forces generate pressures for pensions schemes to pay benefits *to individuals* in an actuarially-determined relationship to pension contributions.

To the extent that individuals can choose the pension scheme they are part of, either indirectly through occupational choices or directly by choosing between membership of a number of potential occupational or private pension schemes, they will be able to select the scheme that offers them the most advantageous 'package' of pensions benefits. The exercise of choice in this way will tend to drive the individual pensions paid by the private and occupational pensions sector closer towards the 'actuarial norm', given by the amount and timing of past contributions, investment returns and the actuarial characteristics of the scheme members. We believe that the current trend towards greater competition in the occupational pensions sector, reinforced by legislative changes requiring transferability of pension rights between employers and providing employees with a choice of pensions provider, can be expected to accentuate the link between income and pension entitlements.

Without any restriction, this process of competition would lead to pensions determined only by the amount and timing of contributions, and making no automatic provision for surviving spouses, other than the minimum required by legislation. Pensions schemes offering benefits greater than this to spouses would be at a competitive disadvantage compared with schemes that did not offer such arrangements. As a result of the increased competition between different pensions providers, we expect that the trend observed over the 1970s towards schemes offering automatic widows' pensions is unlikely to continue, and that instead there may be an increasing tendency to make use of 'surrender'

arrangements for spouses, based on their actuarial characteristics. A further implication of a shift towards fully-competitive pensions provision would be that individual pensions of men and women would reflect actuarial characteristics, so that women working in the same occupations for the same pay as men would tend to receive lower pensions *per year* (since they would be expected to live longer).

Some of these features could be inhibited by legislation setting standards that required deviations from the 'actuarial norm', for example by requiring some level of provision for surviving spouses, or that women should receive the same annual pension as equivalent men. But enforcing the standards is likely to be difficult, reflecting the familiar problem of adverse selection.

If the state has objectives for the distribution of pension incomes that differ from the 'actuarial norm', the most effective way of ensuring their attainment is through an effective state pensions scheme, rather than through regulations constraining competitive suppliers to provide benefits in a different pattern from the actuarial norm. Such a state scheme will obviously appear generous to certain groups, in the sense that the pensions it pays will not relate to contributions in an actuarial sense. It is also likely to have an appreciable public expenditure cost, not covered by contributions. In particular, if people can 'opt out' of the state scheme, the state scheme will make a loss, since it will tend to attract a disproportionate membership amongst those for whom schemes that base pensions in an actuarial relationship to individual contributions are unattractive. For example, if its non-actuarial feature is home responsibility credits, its members will be predominantly married women. The public expenditure costs of a state pension scheme are, in this situation, a consequence of the pattern of benefits that is provided, and cannot be avoided without providing less generous non-actuarial benefits.

Derived Pension Entitlements

A second problem of increasing importance is the pension consequences of divorce. Widows' pensions compensate wives for the loss of their assumed economic supporter on the death of their spouse. However, under the current law, if the couple divorce, the wife is no longer able to qualify for a widow's pension and will probably not have access to her husband's retirement pension

(Freedman, Hammond, Masson and Morris, 1988). Whilst divorce law requires the court, when deciding the settlement, to consider any benefit that either party will lose the chance of acquiring because of the divorce, in the vast majority of cases this provision is ignored as far as pensions are concerned. Indeed, pension assets are often part of a fund to which the divorce court has no access anyway. Therefore, the only ways a wife can really make provision for her old age are to make independent provision for her own pension or to remarry.

Historically, a woman's dependence on her husband has always left her in a weak position upon the dissolution of the marriage. Until 1958, a woman who opted out of her own contributions towards a pension would end up with no contributions record for the period of her marriage. Since 1958, a woman has been able to use her husband's contribution records for a pension entitlement during the period of their marriage. Under the new pension scheme introduced in 1978, a newly married woman must continue to make contributions in her own right, with an allowance for home responsibilities. However, as we have discussed above, even this arrangement may still leave women with lower pensions than men, because home responsibility has implications for earning potential in future years as well as the loss of current earnings while the woman is not working.

Despite these changes to the state pensions rules, there have been no corresponding changes in occupational schemes, and a woman still has no claim on her husband's occupational pension. The problem has been considered by the Law Commission, but their discussions have not been followed up with legislative proposals. Freedman et al. (1988) suggest one solution based on the regime of 'community property' which they advocate for married couples. Under their proposals, rights to a pension would accrue with years of marriage. In that way a spouse would be entitled to half of these rights on divorce, and separate widows' pensions would eventually be redundant as everyone would have a right to a co-owned pension. The pension asset would be valued and divided at the date of divorce, with the appropriate fraction remaining for a spouse either in the original fund or transferred to another fund. The partners would not be allowed to contract out of these arrangements as the state should require that all employed people make appropriate provisions for their retirement. Any partner who remarried would then begin a new contract of pension rights which

would be shared with their new spouse, and which would accrue with years of marriage again.

Whilst such an arrangement would represent a substantial improvement on the present situation, it is clear that any solution based on the simple division of the pension entitlements of a married couple is liable to leave both with a lower post-retirement living standard. Due to the economies of scale in joint living, the pension needed for a couple is less than that needed for two single people. It may of course be judged inappropriate for the state to intervene to prevent a fall in living standards on divorce. But, for as long as men retain greater opportunity to rectify any fall in the value of pension entitlements through their greater earnings potential in middle age, it is clear that arrangements based on equal division of pension assets are likely to leave women in a worse economic position on divorce than men.

CHAPTER 7

CONCLUSIONS

There has been growing interest in the effects of the distribution of resources within the household on economic behaviour, and the implications of this for economic policy. Much economic analysis, both of behaviour and of policy, has been able to make the convenient simplification that households or families can be treated as a single unit, within which the individual members have common objectives, make common decisions and experience a common standard of living. Economic analyses of behaviour are beginning to suggest that this simplification ignores important aspects of individual decisions. Although the decisions of family members are interdependent, they cannot always be assumed to reflect some common, 'family' objectives.

Nevertheless, the extent to which family decisions reflect conflicting interests should not be overstated. Evidence from household spending patterns suggests that the extent to which the division of income between husband and wife affects behaviour is perhaps rather limited. Certainly it has an effect on housing expenditures, with households where the wife contributes a higher share of the income spending a smaller proportion on housing than equivalent households where most of the income is contributed by the husband. But one explanation for this would be the credit rationing rules applied by mortgage lenders, rather than differences in the individual priorities of husband and wife. Otherwise, the distribution of income between husband and wife seems to have little clear effect on the pattern of spending, even on goods such as alcohol, or on items that can be identified as being specifically for the benefit of one or other partner. This does not rule out the possibility that in some households, perhaps those with low incomes or close to breakdown, the division of income may influence the uses to which it is put. There is clearly scope for considerable further work in this area, both in the application of more sophisticated econometric procedures, which would make it possible to take appropriate account of possible interactions between labour supply and spending, and in the analysis of data sources combining income and spending data with information about household budgeting processes.

A number of economic policy issues are affected by the way in

which households or families share resources. This report has considered five of the most important aspects of economic policy where the view taken about the sharing of financial resources within the household may be of importance in policy design. These five areas — the treatment of individual family members in the social security system, and of married couples in the income tax system, the case for replacing domestic household rates with an individual-based Community Charge, policy towards the financial support of young people in post-compulsory education, and the design of the state pensions system — show no great coherence or consistency in the assumptions that different areas of policy make about relationships within families. Thus, whilst income tax and local tax policies are moving towards a greater emphasis on individual-based tax liabilities, the social security system continues to treat married couples as a single unit in assessing benefit entitlements. Also, at the same time as policies towards educational support place increasing emphasis on family support for those aged 16 to 18, and in higher education parents are assumed to be prepared to bear responsibility for supporting their children in education until the age of 25, the Government's local tax reforms are, to a large extent, justified by a view that parents and their adult children do not share financial responsibilities and concerns.

Nevertheless, it is easy to overstate the significance of these inconsistencies. It is hard to think of situations where the lack of coherence in policy has any damaging effects; although policies appear to pull in different directions, there are few points of overlap where this gives rise to problems. Individuals may, no less than governments, be inconsistent in how they react to policies; resources may be shared within the household in making education decisions, for example, without all household members fully perceiving the household's liability for domestic rates. What matters, in practice, is not the consistency or otherwise of policy in itself, but whether different areas of policy are making assumptions about *behaviour* which are unrealistic or outdated.

Social Security Policy

Chapter 2 has described the basis on which entitlement to a range of social security benefits is currently assessed, and has set out the main issues — including assumptions about the extent of income-sharing — that are involved in the choice of the basis of assessment for social security benefits.

For the purpose of assessing entitlement to income support, family credit and housing benefit, individuals are grouped into 'benefit assessment units'. The benefit assessment unit is a rather narrower concept than the one commonly understood by the word 'family', and comprises only a single person or a married couple, together with their dependent children (i.e. children under 16, or under 19 and in non-advanced further education). Benefit entitlement is calculated on the basis of the aggregated incomes of the members of the benefit assessment unit, and in general without reference to the incomes of other people living in the same household. An exception to this general rule is encountered in the case of housing benefit, where the presence of other ('non-dependent') individuals and their financial circumstances affect the amount of assistance provided with rent and local tax payments.

As far as payment practices are concerned, a single payment is made per benefit assessment unit, to whichever member claimed assistance. An exception to this can be found in the case of family credit (and, of course, the non-means-tested child benefit) where the payment must normally be made to the woman.

Chapter 2 argues that the choice between an individual basis for benefit assessment, and wider units such as the present unit or the household, is not a straightforward matter. Certainly, the extent of income-sharing within the chosen unit will be important, given that one of the explicit criteria by which the system is assessed is the extent to which it 'provides effective help for the target group, and accurately directs benefits to those most in need'.¹ However, the choice of unit must consider not only the implications of any particular base for poverty alleviation, but also its impact on the structure of incentives, on informational costs, and on wider objectives such as closer integration of the tax and benefit system or the dangers of long-term dependency on state support.

In the case of many of these objectives, it appears that an individual-based scheme (as distinct from our present family-based scheme) fares rather well. Labour supply disincentives arising from a partner's benefit status are eliminated, and information requirements are minimised. In particular, the need for potentially intrusive questions about personal relationships and about the incomes of other members of the family or household is removed. To move to an individual-based system would also seem to be consistent with changes occurring in the direct tax system.

Furthermore, it has been argued that personal dignity and sense of belonging in society are enhanced when entitlement to benefit is assessed on an individual basis.

There are, however, two main stumbling-blocks to such a move. One objection is that an individually assessed system would reduce the extent to which financial support is provided by the family and would instead shift the onus back onto the state. In the present climate, such a change would seem unlikely.

A second and more fundamental problem is simply that of cost. An individual-based scheme would inevitably cost far more than one based on a family unit, since it effectively assumes that there is no significant income-sharing between individuals. Thus the spouse of a high earner who had no independent income would be entitled to a full income maintenance payment under an individual-based scheme.

The assumption of successive governments appears to have been that despite the attractions of an individual-based scheme, the cost of an adequate payment to all individuals would be prohibitive. The choice then becomes one of a below-subsistence payment made to all individuals (with perhaps some limited family-based 'top-up' scheme) or the present system where what is seen officially as at least a subsistence level is available to all family units. One of the key elements in the defence of the existing system is that, in practice, income-sharing within the family unit is sufficiently extensive to remove worries about within-family poverty, or at least to justify the conclusion that this approach is the most feasible one for the purposes of poverty alleviation.

Taxation of Husband and Wife

The income tax treatment of husband and wife is an area where the evolution of policy has clearly reflected basic assumptions about the patterns of financial responsibility and resource-sharing within households. The income tax system that had evolved by the early 1960s was one in which the husband was, in general, assumed to be responsible for all income tax matters, including tax on his wife's income. The system was, in its basic form, a system of joint taxation, although, because of the long basic rate band in the UK, the aggregation of individual incomes generally only affected the overall tax burden of a married couple, and did not, in most cases, have any effect on the marginal tax rates that they faced. One

feature of the system, however, made it rather closer to a system of independent taxation: the wife's earned income allowance meant that two-earner couples benefited from greater tax allowances than a single-earner couple with the same income.

Proposals for change since the mid-1960s have had in common the removal of the difference between husband and wife in their treatment by the income tax system. They have all agreed, in general, that husbands should no longer be solely responsible for tax returns of the incomes of both partners and for the payment of tax on the wife's income. They have generally agreed, as well, that individual or total tax liabilities should not be affected by the sex of the partner who earns particular incomes. However, they have differed, fundamentally, in the ultimate goal of the reform — whether to move towards a system of independent taxation, in which one partner's tax liability would be unaffected by the circumstances of the other, or to retain some form of joint taxation, without the sexism of the old arrangements. Thus, for example, the proposals for transferable allowances made by the Government in 1986 would have retained the principle of joint taxation, in that one partner's tax liability would have reflected the income of the other.

The arguments for and against joint taxation have partly had to do with the equity of particular patterns of tax payments — should married couples be taxed more heavily than two single people with the same aggregate income, to reflect the economies of scale in joint living, or less heavily, to reflect the greater likelihood that they have children? There are also issues to do with the neutrality to marriage of the tax system: if married couples are treated differently from single people then the tax system may have the effect of encouraging or discouraging marriage. In practice, also, an important political consideration has been to minimise the number of gainers and losers from any reform, and this appears, in the end, to have been a decisive factor in the Government's choice of a system including a substantial married couple's allowance.

However, there are also important issues about the effects of joint taxation or individual taxation on behaviour, especially on labour supply. How joint taxation or individual taxation might affect individual decisions depends greatly on the nature of the financial interactions between husband and wife, and the extent to which

they take account of the effects on each other's living standards in their own decisions. There are two important issues.

Firstly, there is the issue discussed at length after the appearance of the 1986 Green Paper, about the effects of a system of transferable allowances on the marginal tax rates likely to be faced by married women. The point was made (for example, by Symons and Walker (1986)) that transferable allowances would increase the household marginal tax rate on small earnings by married women to the marginal tax rate of their partner. It would, of course, have a fully symmetrical effect² on the husband's marginal tax rate at low levels of earnings. However, because in practice women are currently more likely to work part-time and to be the secondary earner in the household, the implications of transferability for 'the incentive to work' would be more likely to be significant for women. It is clear, however, that this conclusion, and the concern for the effects of transferability on married women's labour force participation, turn on the assumption that individual labour supplies are affected by the *household* marginal tax rate. If, in practice, resources were not shared and married women took no account of the effects of their decisions on their husband's tax liability, the implications of transferable allowances would be very different.

The second issue is the effect of different systems on the 'terms of trade' between marriage partners. As Greenhalgh (1981) discusses, married couples make decisions about both formal and informal labour supply, i.e. about not only who should work and earn money in the formal economy, but also about the allocation of housework, child care, etc. Ideally, choices about the division of labour between marriage partners should not be influenced by the tax system, and the amount of role specialisation chosen should reflect each partner's comparative advantage in each activity. From this point of view, independent taxation may be inefficient compared with a system of transferable allowances, in that it may discourage efficient specialisation. A system of joint taxation would, by contrast, have the desirable property that it equalised the marginal tax rate on formal economy income for both partners, eliminating the fiscal incentive for both partners to do at least some work in the formal economy. There is a danger, however, that this view could reinforce conventional 'gender stereotyping' of certain occupations such as housework, and that whilst the choices about the allocation of formal and informal work could reflect individuals' perceived

comparative advantages, these might be based on inaccurate views about actual individual comparative advantage and would not ensure the most efficient utilisation of the resources of the economy as a whole. This argument, of course, would lead in the direction of some form of tax *incentive* for married women to work.

The Community Charge

The introduction of the Community Charge (a poll tax) in place of domestic rates as part of the recent reforms to local government finance is a policy measure that explicitly reflects a particular view about the effects of financial relationships within the household on behaviour. The principal objective of the package of reforms to local government finance was, according to the 1986 Green Paper *Paying for Local Government*, an improvement in the 'accountability' of local government. The various measures proposed were to promote greater accountability in two main ways. Firstly, they were to ensure that the full marginal cost of extra local spending should be borne by taxes on local households rather than by taxes on business or by increases in government grant. Secondly, they were to ensure that the distribution of local taxes across households and across individual voters should be wider: all households should be required to pay at least something towards the cost of local spending at the margin, and all individual adult residents should be made to *perceive* the local taxes that they pay. Accountability, as the Green Paper saw it, would be improved through these measures, by eliminating the differences between 'those who vote for, those who pay for, and those who receive local government services'.

As Chapter 4 describes, however, the role of the Community Charge in the attainment of the Government's objective of greater accountability has been surprisingly limited. The requirement that local household taxation should cover the full marginal cost of local spending was achieved by the introduction of a nationally-determined 'uniform business rate', and by reforms to the grant system which eliminated any marginal contribution to local spending. In addition, an important step towards widening the distribution of local taxes across households and individuals was taken through the abolition of 100 per cent local tax rebates in the 1986 Social Security Act, which came into force a year before the abolition of domestic rates.

To the extent that the Community Charge contributes to the

Government's objective of greater accountability, it does so through the extension of formal liability to pay local taxes to all individual household members. This could lead to more accurate individual *perceptions* of local tax levels, and could also affect behaviour if it changed the *effective incidence* of local taxes.

Whether individual billing changes the effective incidence of local taxes depends on the nature of the financial relationships within the household. In this sense, a large part of the Government's case for the introduction of the Community Charge reflects a particular view of the way in which financial resources and obligations are shared within the household. Certainly, it is clear that the impact of the new tax on individual preferences for local authority spending and voting behaviour will depend on the nature of intra-household financial relationships. Where resources are fully shared, the new tax is likely to affect individual behaviour only to the extent that particular households had had rateable values above or below the national average. Where, however, resources are incompletely shared, the effects on the individual 'tax price' of public spending could be more varied, with different household members experiencing increases and corresponding decreases in the burden of additional local taxation.

Education Maintenance

In Chapter 5 we discussed how individual decisions about education could be affected by intra-household financial relationships, and the policy issues that these relationships raise. The analytical framework set out in Chapter 5 is one in which education has the characteristics of an investment decision: current costs, in the form of tuition costs and the 'opportunity costs' of forgone earnings, are borne in the expectation of future gains, including higher future earnings. The point of using this investment framework is not, of course, to imply that education is a purely financial matter; there may be many non-pecuniary benefits from education, both at the time and in later life. Rather, the purpose of formulating the decision in this way is to indicate the range and timing of the costs and benefits that may be relevant, and to identify the points at which 'market failures' in education investment decisions may warrant the attention of policy-makers.

One potential source of market failure — the deviation of private from social costs and benefits in education — is a substantial reason for public involvement in education. However, in the context of

the present discussion, it is a second potential source of market failure that is of more interest — the failure of the market to provide sufficient loan finance to ensure that education decisions are not constrained by the current financial resources of the student or the student's family.

This capital market failure can be traced, ultimately, to the fact that borrowers for educational investments are not purchasing assets which can be used as collateral. Whilst expected future earnings may be such that an adequate (financial and non-financial) 'return' could be earned on an educational investment, future earnings cannot be used as collateral, and lenders therefore face greater risk. The risk is increased by the risk of 'adverse selection' if lenders charge higher interest rates to cover their greater exposure to risk; the portfolio of borrowers they attract may include an increasing proportion of those who have no intention of repaying the loan.

The impact of current financial pressures on households appears to be one reason for the substantial class differences in post-compulsory education, evident both in the pattern of early school-leaving at age 16 and in the class composition of students in higher education. However, the problems of current financial pressures are at their acutest where household resources are not fully shared, and where parents are unwilling to transfer resources to their children in the form of maintenance while they are at school or in higher education. Individual students are even less likely to have adequate collateral for borrowing than their parents, and existing public policy towards education maintenance clearly reflects the expectation that parents will provide substantial financial support.

In the case of education after 18, there is evidence that a significant number of students do not receive from their parents the level of financial resources that the grant system assumes. According to Barr and Low (1988), half of all students who should have received a 'parental contribution' to their maintenance grant did not, and amongst these students the average parental contribution was just 53 per cent of the assessed amount. For the over-18s, access to adequate loan finance would appear the most obvious way to address the problem of inadequate parental support, in that it would be targeted directly at the underlying market failure in the capital market. However, in the absence of any tradition of

loan-financed education, there must be a risk that potential students would be intimidated by the prospect of the debt, especially if other members of their family have no experience of higher education and provide no indication of its likely benefits.

For those under 18, amongst whom much of the class difference in educational decisions begins, loan finance is not a realistic option. Proposals for educational maintenance allowances (EMAs) have been put forward at various times over the post-war period, and appeared in the manifestos of both main opposition parties at the 1987 General Election. Child benefit, paid to the parents of over-16s who stay on at school, already constitutes a form of EMA, and a number of local authorities also operate means-tested EMA schemes, although these provide low benefits and have limited coverage. Research on school-leaving decisions, however, suggests that the individual incomes of 16-year-olds are an important influence on leaving decisions, over and above the effects of household income. Because child benefit and the majority of local authority EMAs are paid to parents rather than to their children, they fail to maximise the impact on school-leaving decisions. One possible response would be to replace child benefit for those aged 16 to 18 in full-time education with a scheme of EMAs payable to the pupil rather than their parents. A scheme of this sort could have comparatively modest net cost, and achieve greater neutrality between school and other options at 16 such as YTS, where payments are already made to the individual.

Pension Rights

Chapter 6 discussed the pattern of pension rights of married couples. Both in the state pension schemes (the NI basic pension and SERPS) and in occupational and private pension schemes, pension rights are accumulated through individuals' participation in paid work, and, generally, in relation to the incomes earned. Individuals who have spent longer in the labour force, or who have had higher incomes from work, will generally accumulate higher pension entitlements than those with interrupted employment histories and lower earnings. Typically, in married couples where the wife spends a period out of the labour force looking after children, this has the effect that the largest part of the couple's pension income will result from the labour force participation of the husband.

None the less, whilst the couple's pension rights accrue as a result

of the employment record of each individual member, both partners may derive certain pension entitlements from the individual pensions. Thus in the state pensions system, widows are entitled to continue receiving some of the state pension derived from their husband's employment, and in many occupational schemes, surviving spouses are entitled to receive some continuing pensions benefit. The importance of these 'derived' pension rights was illustrated in Chapter 6 with figures from the UK Family Expenditure Survey. These showed that 62 per cent of men over 60 were receiving an occupational pension from their own past employment, and a negligible proportion from their wife's past employment. Amongst women over 60, however, only 15 per cent were receiving a pension from their own employment, but 12 per cent received one from their husband's past employment.

The importance of derived pension rights for women gives rise to two problems for public policy. The first is that the current trend towards greater competition between pensions schemes is likely to undermine the automatic provision of 'derived' pension entitlements for spouses. Without any restriction on the features that occupational and personal pensions schemes should offer, the unrestricted operation of market forces will tend to drive pensions in the direction of being individual investment funds, in which an individual's pension assets will be determined by the amount and timing of previous contributions and the rate of return earned on them, and the annual pension payable by the annuity that could be purchased from the invested contributions. Schemes offering patterns of benefits to some members that exceed this 'actuarial norm' will, if they are to remain solvent, have to offer other members lower benefits. In a competitive market, the latter group will tend to switch to other pensions providers, leaving the first provider unable to pay the benefits it intended. In a fully-competitive market, pensions providers could only offer widows' benefits through the use of 'surrender' arrangements, reducing the annual pension payable by an amount that reflected the expected cost of widows' benefits.

In Chapter 6, it is suggested that legislative provisions to require automatic widows' payments may be only partially effective in inhibiting this process in a competitive pensions market. If the state has objectives for the distribution of pension incomes that differ from those that market forces would generate, the most effective way of achieving them would be through the state pensions scheme.

Moreover, such a scheme could not provide 'non-actuarial' benefits without requiring some form of subsidy in addition to contributions.

The second problem raised by the importance of derived pension rights is the increasing problem of the position of divorcees, who have no automatic claim on pension rights accumulated by their former partner during the period when they were married. Reforms to the state pension scheme which have increased married women's 'own-right' pension entitlements have gone some way to alleviating this problem, but there have been no corresponding changes to occupational schemes. The pension consequences of divorce are always likely to be unsatisfactory, because two individuals living separately cannot live as cheaply as they could together, and so pensions assets that were adequate while a couple expect to remain married are unlikely to remain adequate once they divorce. Nevertheless, the current position regarding occupational schemes is clearly unsatisfactory and some reform, perhaps along the lines of the 'community property' scheme proposed by Freedman, Hammond, Masson and Morris (1988) in an earlier IFS report, would appear long overdue.

NOTES TO CHAPTER 7

1. Source: 1989 Public Expenditure White Paper, vol. 15, Social Security, p. 4.
2. Although not in relation to the original position, since the original system was particularly generous in its treatment of married women's earnings.

ANNEX

DETAILS OF HOUSEHOLD SPENDING AND THE DIVISION OF INCOME

In this Annex we describe in detail the data used to examine the effect of the intra-household distribution of income on the pattern of household spending.

The data employed in the study are drawn from five years of the United Kingdom Family Expenditure Survey (FES). The FES is an annual survey, conducted by the Office of Population Censuses and Surveys, of the household circumstances, incomes and expenditures of a representative sample of about 10,000 households in the UK. Participation in the survey is voluntary, and households are included only where all adult members co-operate fully, both with survey questions about individual incomes and by keeping a diary record of individual expenditures over a two-week period. Considering the onerous nature of the enquiry and the stringent conditions for inclusion, a high response rate of about 70 per cent is achieved, yielding an annual sample for analysis of some 7,000 households.¹

For this analysis, data have been used from five years of the FES, 1980–84. The decision to pool a number of years of data was taken in order to increase the sample size used in the study; as we describe below, this was particularly important in view of the rather limited variation experienced in individuals' shares of household income, independent of individuals' hours of work. However, pooling more than one year of the survey brings with it both conceptual and data problems.

The conceptual problem is the well-documented tendency for the cross-section relationship between household spending and income to differ from the relationship observed over time. It has been suggested, for example, that individual consumption could be affected by a household's position within the income distribution as well as by its own level of income.

The practical problem raised by pooling is that there have been various changes over the years in survey questions, definitions and coding procedures, which mean that different years' data in a pooled sample will not be based on consistent definitions and

procedures. It is fortunate that the Family Expenditure Survey has, over a considerable period of years, exhibited an unusual degree of stability in basic procedures and the definitions of many key variables, which allows a broadly consistent 'core' of data to be pooled from a number of years. Over the five years that we examine here, there have been only two changes in the survey that are of any great consequence for our analysis. The first was a change introduced in 1982 to the definition of 'self-employment' which excluded from the definition a large number of 'minor' activities, such as baby-sitting, where the individual earned less than £3.50 per week from these activities. From 1982, people whose sole income was of this form were coded as 'unoccupied' rather than 'self-employed'. For this analysis we have adjusted all data, as far as possible, to conform to the post-1982 definition. The second change was in the treatment of housing benefit in both incomes and expenditures. From 1984, certificated housing benefit was no longer included in the definition of total gross household income (although other social security benefits still were), and expenditures on housing were then, for consistency, shown net of housing benefit. Again we have adjusted the data as far as possible to a consistent basis, this time reflecting the pre-1984 definition, in which income includes housing benefit, and housing expenditures are recorded in gross terms.

The five years of FES used contain in total records for 35,951 households, of which five were rejected for technical reasons during tape-processing. The sample of married couple households used in the analysis was selected according to the following criteria:

- (1) Defining 'adults' as people aged 18 or over, together with married people aged 16 or over, select only those households containing two adults.
- (2) Discard households where either adult is aged under 18 or over 59.
- (3) Discard households where the two adults are not married to each other.
- (4) Discard households where gross annual household income (FES variable 344P) is recorded as zero, or where total expenditure (FES variable 378P) is zero.²

The final sample thus contains 14,352 households consisting of a married couple of working age, with or without children under 18. Overall, 29 per cent of the couples have no children living with them, 22 per cent have one child, 33 per cent have two children, and the remainder (15 per cent), three or more children.

Of the husbands, 11 per cent are self-employed, 79 per cent are employees, and 8 per cent are unemployed. The remainder are 'unoccupied' or retired. Of those in employment, nearly all (97 per cent) are working full-time rather than part-time.

There is considerably greater variation in the labour force participation of the wives in the sample. 8,811 of the wives (61 per cent) are recorded as working, of whom 5 per cent are self-employed, 45 per cent are employees working full-time,³ and the remaining 50 per cent working part-time.⁴ Participation in the labour force is closely related to the numbers and ages of children (Joshi and Owen, 1981); the distribution of the numbers of children and labour force participation amongst the wives in our data sample is shown in Table A1. Amongst those without children (living with them) only 20 per cent were not working, whilst 59 per cent were self-employed or working full-time. Amongst those with three or more children, more than twice as many were not working, and only a quarter the number were self-employed or working full-time.

TABLE A1
Wife's Hours Worked, by Number of Children

All 'couple' households, 1980-84, percentages

Number of children	Wife's usual hours (per week)					Wife self-employed	All households
	0	1-9	10-19	20-29	30 or more		
0	20	2	7	11	57	2	100
1	45	5	12	14	20	3	100
2	43	9	17	14	13	4	100
3+	54	6	15	10	12	3	100
All	39	6	13	12	27	3	100

Note: The FES does not record hours of work for individuals classified as self-employed.

Table A2 categorises the incomes of the household by the individual receiving them, and shows the average level of income

from each of six sources by the wife's labour force participation and the number of children. The average weekly income of the husbands in the data set was £129.40 (in 1980 price terms). There was little difference between the average incomes of husbands whose wives were working and those whose wives were not.

TABLE A2
Sources of Husband's and Wife's Income,
by Wife's Employment Status and Number of Children

All 'couple' households, £ per week, 1980 prices

Number of children	Sources of husband's income			Sources of wife's income				
	Earned	Benefits	Other	Total	Earned	Benefits	Other	Total
<i>Households where wife not working</i>								
0	118.87	7.52	9.20	135.59	1.09	2.60	3.44	7.14
1	115.72	5.78	3.73	125.23	0.98	6.51	1.27	8.76
2	127.52	5.13	2.79	135.45	0.50	9.30	1.25	11.05
3+	106.18	13.17	2.22	121.57	0.33	15.51	1.42	17.26
All	118.60	7.38	3.91	129.89	0.68	8.87	1.63	11.18
<i>Households where wife working</i>								
0	116.69	1.86	3.83	122.38	70.01	0.52	1.51	72.04
1	123.96	1.79	2.36	128.11	44.14	5.13	1.16	50.42
2	132.24	1.30	1.88	135.42	38.49	8.86	1.21	48.56
3+	131.00	2.96	2.11	136.06	37.54	14.02	1.70	53.26
All	124.55	1.80	2.74	129.09	51.52	5.54	1.37	58.43
<i>All households</i>	122.25	3.95	3.19	129.40	31.89	6.82	1.47	40.19

The average income from all sources of the wives in the data set was £40.19 per week, less than one-third of the incomes of the husbands. Amongst the wives who were working, average incomes were £58.43 per week, of which 88 per cent was earned income, 9 per cent was social security benefits (mainly child benefit), and the remainder incomes from sources such as investments, pensions, etc. There was a marked difference in the earnings of working women with no children and those with children, reflecting amongst other factors the greater incidence of part-time working amongst those with children. Child benefit provided only a partial offset for these lower earnings. Nevertheless, even among women without children, who were working, earnings and total incomes were substantially lower than the earnings and total incomes of their husbands: on average wives in this position had earnings 40

per cent less, and total incomes 41 per cent less than their husbands.

Amongst the wives who were not working, incomes were much lower. On average, these women had total incomes of £11.18 per week, only one-fifth of the average incomes of working women, and less than one-tenth of the incomes of their husbands. Some of the non-working women had small amounts of earned income⁵ but the majority were dependent on benefit incomes, especially child benefit, for most of their income; on average, nearly 80 per cent of the income of these women came from benefits.

It will be seen, therefore, that the variation in the incomes of the wives in the data set, and in the wives' share of household income, is closely related to their labour force participation. Table A3 shows the distribution of wives' income shares and wives' hours worked amongst the households in the data set. Overall there is a substantial amount of variation in the wife's share of household income, except that there are very few households where the wife's share exceeds 60 per cent. However, most of this variation can be traced to differences in the labour force participation of the wives in the data set. Amongst those households where the wife's usual hours of work were recorded as zero (excluding households where the wife is self-employed, which are shown separately), almost 90

TABLE A3

Wife's Share of Household Income and Wife's Hours Worked

All 'couple' households, 1980-84, percentages

Wife's share of household income (%)	Wife's usual hours (per week)					Wife self-employed	All households
	0	1-9	10-19	20-29	30 or more		
0	11.5	0.4	0.3	0.1	0.6	0	4.7
1-9	56.1	32.8	6.4	2.3	1.7	13.2	25.6
10-19	21.3	48.3	43.4	17.0	3.7	29.3	20.6
20-29	7.3	13.3	33.9	40.3	12.2	14.1	16.6
30-39	2.1	3.7	10.6	24.3	29.8	11.4	13.9
40-59	1.1	1.1	4.1	13.2	43.4	27.3	15.4
60-79	0.3	0.2	0.7	2.1	6.3	3.4	2.3
80-100	0.3	0.2	0.6	0.7	2.3	1.3	1.0
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0
n	5,541	847	1,828	1,754	3,935	447	14,352

per cent had the wife's share of household income below 20 per cent. Amongst those households where wives were working full-time, only 6 per cent of wives had a share of household income below 20 per cent, and three-quarters had between 30 and 59 per cent.

Pooling five years' data increases the sample size and may help us identify effects on household behaviour that arise from the comparatively small variation in partners' income shares that arise from factors other than differences in hours of work. However, it also introduces a degree of change over time which may need to be recognised. In particular, there has been a steady trend towards greater labour force participation by married women, which may be expected to lead to identifiable 'cohort' or 'year' effects in a pooled sample of a number of years of household survey data. In fact, as Table A4 shows, whilst there are year-to-year fluctuations in the hours worked by women in different years of the data set, the trend is not steady; participation fell up until 1982, reflecting the effects of general recession, and subsequently recovered part of the lost ground.

TABLE A4
Wife's Hours Worked

All 'couple' households, 1980 - 84, percentages

	Wife's usual hours (per week)					Wife self-employed	All households
	0	1 - 9	10 - 19	20 - 29	30 or more		
1980	37.1	5.8	10.7	14.1	29.3	3.0	100.0
1981	39.5	5.6	12.0	12.8	27.3	2.7	100.0
1982	41.4	5.7	12.7	11.5	25.8	2.9	100.0
1983	36.6	6.6	13.8	11.5	27.7	3.8	100.0
1984	38.1	6.0	14.8	10.9	26.9	3.3	100.0
All years	39.1	5.9	12.7	12.2	27.4	3.1	100.0

Note: Codings as self-employed in 1980 and 1981 have been adjusted to conform with the definition applied from the 1982 survey, which counts as 'unoccupied' those with part-time earnings of less than £3.50 per week from self-employment.

These changes in women's participation, and the effects of recession on men's unemployment, can be seen in Table A5, which shows the average incomes of husbands and wives from different sources over the years of the survey. Both husbands' and wives' incomes fell between 1980 and 1982, and rose between 1982 and

TABLE A5

Sources of Husband's and Wife's Income, by Year*All 'couple' households, £ per week, 1980 prices*

	Sources of husband's income				Sources of wife's income			
	Earned	Benefits	Other	Total	Earned	Benefits	Other	Total
1980	124.32	2.73	3.15	130.20	32.99	6.10	1.04	40.13
1981	120.83	3.78	3.57	128.18	31.29	6.62	0.96	38.87
1982	119.36	4.48	3.18	127.02	30.18	6.81	1.95	38.93
1983	123.83	4.36	2.88	131.07	30.83	7.23	1.81	39.86
1984	123.22	4.49	3.14	130.85	34.36	7.45	1.66	43.47
All years	122.25	3.95	3.19	129.40	31.89	6.82	1.47	40.19

1984, with a rather steeper recovery in the earnings of women than of men.

The analysis of household spending patterns is based on a classification of expenditures into ten main categories, which, together with a further small group of 'miscellaneous' expenditures, constitute total FES spending on goods and services (FES variable 378P). Table A6 shows for each spending category a cross-tabulation of household budget shares (i.e. spending on good X as a percentage of total spending) for each of the categories studied, by the wife's hours of work and the wife's share of household income.

TABLE A6

Budget Shares, by Wife's Usual Weekly Hours and Share of Household Income**Average Budget Share, Household Spending on Housing***All 'couple' households, 1980 - 84, percentages*

Wife's share of household income (%)	Wife's usual weekly hours					Wife self-employed	All households
	0	1 - 9	10 - 19	20 - 29	30 or more		
0	18.2	—	—	—	16.9	—	18.1
1 - 9	17.4	18.4	18.6	16.3	17.4	16.7	17.5
10 - 19	15.5	17.4	16.5	16.7	16.1	16.8	16.3
20 - 29	14.8	16.5	15.8	15.6	15.2	15.5	15.5
30 - 39	14.5	15.7	16.1	15.4	15.4	15.7	15.4
40 - 59	14.2	—	14.7	15.4	14.9	17.6	15.1
60 - 79	15.5	—	17.5	13.1	15.9	15.6	15.6
80 - 100	18.5	—	12.8	17.2	16.4	—	16.3
All	16.8	17.5	16.2	15.7	15.3	16.6	16.2

Average Budget Share, Household Spending on Fuel, Light and Power

All 'couple' households, 1980-84, percentages

Wife's share of household income (%)	Wife's usual weekly hours					Wife self-employed	All households
	0	1-9	10-19	20-29	30 or more		
0	7.5	—	—	—	7.1	—	7.5
1-9	6.8	6.1	5.8	6.9	5.8	6.2	6.7
10-19	8.3	6.7	6.2	5.5	5.5	6.1	7.0
20-29	8.5	7.4	6.6	5.8	5.5	6.1	6.5
30-39	8.5	7.9	6.8	6.4	5.3	6.8	5.9
40-59	7.8	—	7.1	6.1	5.2	7.1	5.5
60-79	8.4	—	9.1	8.3	5.8	7.5	6.4
80-100	11.5	—	10.3	7.6	7.1	—	8.2
All	7.4	6.7	6.5	6.0	5.4	6.5	6.5

Average Budget Share, Household Spending on Food

All 'couple' households, 1980-84, percentages

Wife's share of household income (%)	Wife's usual weekly hours					Wife self-employed	All households
	0	1-9	10-19	20-29	30 or more		
0	24.0	—	—	—	20.7	—	23.8
1-9	24.5	22.6	22.5	23.6	19.5	21.1	24.1
10-19	28.2	25.7	23.9	22.2	20.4	22.9	25.5
20-29	29.3	27.8	25.7	24.2	21.5	23.0	25.0
30-39	28.7	28.5	26.2	24.5	21.1	24.4	23.0
40-59	25.0	—	25.9	23.2	20.6	27.0	21.6
60-79	23.1	—	30.0	26.2	22.3	29.4	23.4
80-100	27.6	—	27.0	23.9	23.6	—	24.4
All	25.7	25.1	24.8	23.8	21.0	24.2	24.0

Average Budget Share, Household Spending on Alcoholic Drinks

All 'couple' households, 1980-84, percentages

Wife's share of household income (%)	Wife's usual weekly hours					Wife self-employed	All households
	0	1-9	10-19	20-29	30 or more		
0	4.7	—	—	—	4.4	—	4.7
1-9	3.9	4.0	4.9	6.4	4.7	3.9	4.0
10-19	3.8	4.3	4.4	3.9	5.1	4.2	4.1
20-29	3.6	5.0	4.8	5.2	5.2	4.1	4.8
30-39	3.0	4.4	4.9	4.4	5.6	3.9	5.1
40-59	4.3	—	5.1	4.1	5.6	4.1	5.3
60-79	5.6	—	3.3	3.8	5.1	4.9	4.9
80-100	1.0	—	2.6	2.9	5.2	—	4.1
All	3.9	4.3	4.6	4.6	5.5	4.1	4.5

Average Budget Share, Household Spending on Tobacco

All 'couple' households, 1980-84, percentages

Wife's share of household income (%)	Wife's usual weekly hours					Wife self-employed	All households
	0	1-9	10-19	20-29	30 or more		
0	4.8	—	—	—	5.6	—	4.8
1-9	3.0	1.8	2.3	2.9	2.2	1.9	2.8
10-19	4.8	2.6	3.3	2.6	3.2	2.4	3.7
20-29	5.7	2.9	3.8	3.5	3.5	1.6	3.9
30-39	4.1	3.5	3.4	3.5	2.9	2.9	3.2
40-59	5.6	—	4.2	3.0	3.1	2.3	3.1
60-79	5.4	—	4.2	3.4	4.0	1.1	3.8
80-100	3.5	—	2.8	5.4	5.9	—	5.2
All	3.8	2.4	3.5	3.3	3.2	2.2	3.4

Average Budget Share, Household Spending on Clothing

All 'couple' households, 1980-84, percentages

Wife's share of household income (%)	Wife's usual weekly hours					Wife self-employed	All households
	0	1-9	10-19	20-29	30 or more		
0	5.4	—	—	—	6.2	—	5.4
1-9	6.8	6.9	6.5	6.5	6.1	6.8	6.8
10-19	6.3	7.2	7.5	7.6	7.2	7.3	7.0
20-29	6.3	5.9	7.4	7.7	7.2	6.1	7.2
30-39	7.9	6.1	7.9	7.7	7.7	6.8	7.7
40-59	6.1	—	7.2	6.3	7.2	7.4	7.1
60-79	5.9	—	4.5	10.3	6.3	8.4	6.7
80-100	5.2	—	5.6	12.3	6.2	—	6.5
All	6.5	6.8	7.4	7.6	7.3	7.1	7.0

Average Budget Share, Household Spending on Durables

All 'couple' households, 1980-84, percentages

Wife's share of household income (%)	Wife's usual weekly hours					Wife self-employed	All households
	0	1-9	10-19	20-29	30 or more		
0	5.9	—	—	—	8.4	—	6.0
1-9	6.3	5.7	5.5	8.7	11.4	6.8	6.4
10-19	5.3	6.0	6.1	6.7	8.6	6.0	6.0
20-29	5.1	5.4	6.6	6.6	7.9	9.6	6.6
30-39	4.9	6.8	5.5	6.8	7.8	6.4	7.1
40-59	5.8	—	7.0	7.3	7.6	5.4	7.4
60-79	4.1	—	5.7	5.0	7.2	6.6	6.7
80-100	2.8	—	5.2	2.4	5.4	—	4.9
All	5.9	5.8	6.2	6.8	7.7	6.5	6.6

Average Budget Share, Household Spending on Other Goods

All 'couple' households, 1980-84, percentages

Wife's share of household income (%)	Wife's usual weekly hours					Wife self-employed	All households
	0	1-9	10-19	20-29	30 or more		
0	7.8	—	—	—	6.3	—	7.8
1-9	8.4	8.8	7.5	8.3	7.7	10.3	8.4
10-19	7.9	8.1	8.3	8.5	8.1	8.0	8.1
20-29	7.8	8.2	7.7	7.6	7.3	7.3	7.6
30-39	7.6	6.3	7.4	8.1	7.8	9.1	7.8
40-59	8.8	—	7.9	8.0	7.7	7.9	7.8
60-79	9.0	—	7.4	9.1	7.6	7.4	7.8
80-100	8.2	—	8.1	7.7	8.0	—	8.0
All	8.2	8.3	7.9	8.0	7.7	8.3	8.0

Average Budget Share, Household Spending on Transport

All 'couple' households, 1980-84, percentages

Wife's share of household income (%)	Wife's usual weekly hours					Wife self-employed	All households
	0	1-9	10-19	20-29	30 or more		
0	12.7	—	—	—	17.3	—	12.9
1-9	13.9	15.0	14.0	10.5	16.1	14.1	14.0
10-19	11.6	12.6	13.5	14.7	15.7	13.6	12.9
20-29	11.0	11.4	12.0	13.7	15.4	13.6	13.0
30-39	13.3	11.8	12.5	13.7	16.6	13.7	15.2
40-59	13.3	—	11.7	15.2	17.3	10.8	16.4
60-79	14.4	—	10.5	12.9	15.9	5.1	14.8
80-100	11.7	—	16.5	14.7	12.5	—	13.0
All	13.0	13.2	12.8	14.0	16.6	12.6	14.1

Average Budget Share, Household Spending on Services

All 'couple' households, 1980-84, percentages

Wife's share of household income (%)	Wife's usual weekly hours					Wife self-employed	All households
	0	1-9	10-19	20-29	30 or more		
0	9.0	—	—	—	6.8	—	8.9
1-9	8.8	10.3	11.9	9.4	8.9	11.6	9.0
10-19	7.5	8.9	9.6	11.2	9.7	12.1	9.0
20-29	7.4	8.9	8.8	9.2	10.8	11.7	9.2
30-39	6.6	8.2	8.5	9.0	9.4	9.7	9.1
40-59	8.8	—	8.6	10.8	10.4	9.4	10.3
60-79	8.3	—	7.5	7.2	9.8	13.4	9.5
80-100	9.0	—	8.8	5.6	9.4	—	9.1
All	8.4	9.4	9.3	9.6	10.0	11.0	9.2

Note: — indicates cells containing fewer than 10 households.

TABLE A7

Average Household Spending and Spending Frequencies on Broad Commodity Groups

All 'couple' households, 1980 - 84, 1980 prices

	Average expenditure (per week)	Expenditure frequencies (percentages of all households)							
		Negative*	Zero	Up to £1 per week	£1.01 - £2	£2.01 - £5	£5.01 - £10	£10.01 - £50	Over £50
Housing	£20.49	0	1	0.3	0.4	2	12	82	3
Fuel, light, power	£7.41	0.0	0.3	0.3	1	28	52	18	0.1
Food	£28.37	0	0	0.0	0	0.2	2	93	5
Alcoholic drink	£5.77	0	16	10	10	22	22	19	0.1
Tobacco	£3.65	0	42	4	5	17	21	11	0
Clothing and footwear	£9.92	0	11	11	7	17	20	31	2
Durable household goods	£10.93	0	4	21	11	21	18	20	4
Other goods	£10.49	0	0.0	1	3	24	38	33	1
Transport and vehicles	£20.13	0	2	5	4	11	19	51	8
Services	£14.47	0.0	0.1	2	3	23	36	31	4
Miscellaneous	£0.75	0	60	21	8	8	2	1	0.0
Total	£132.39								

* Negative spending may be recorded under the headings fuel, light and power (electricity and gas slot meter rebates), transport and vehicles (refund of road fund tax) and services (TV slot meter rebates).

TABLE A8

Average Household Spending and Spending Frequencies on Five Commodity Sub-Groups

All 'couple' households, 1980-84, 1980 prices

	Average expenditure (per week)	Expenditure frequencies (percentages of all households)							
		Negative	Zero	Up to £1 per week	£1.01 - £2	£2.01 - £5	£5.01 - £10	£10.01 - £50	Over £50
Men's clothing	£2.57	0	64	5	5	10	9	7	0.3
Women's clothing	£4.01	0	34	18	7	15	13	12	0.3
Children's clothing	£2.69	0	51	8	7	15	11	7	0.1
Cosmetics	£0.64	0	44	37	11	6	1	0.3	0
Hairdressing etc.	£0.74	0	66	11	9	11	3	0.2	0
<i>Children's clothing</i>									
Households with children (<i>n</i> = 10,123)	£3.67	0	35	10	9	19	16	10	0.1
Households without children (<i>n</i> = 4,229)	£0.34	0	89	3	3	4	1	1	0

TABLE A9

Means and Standard Deviations of Variables

14,352 households consisting of a married couple, with or without children, taken from the Family Expenditure Survey, 1980 – 84

	Mean	Standard deviation
<i>Budget shares</i>		
Housing	16.22	8.56
Fuel, light and power	6.48	4.17
Food	23.98	8.85
Alcoholic drinks	4.54	5.00
Tobacco	3.41	4.54
Clothing	6.98	7.28
Durables	6.55	9.69
Other goods	7.99	5.59
Transport	14.08	11.80
Services	9.24	9.14
<i>Independent variables</i>		
Log(spending)	4.7687	.4602
Wife's income share	.2324	.1824
Husband's hours	33.27	16.52
Wife's hours	15.17	15.83
Children, age 0 – 2	.2534	.5023
Children, age 3 – 5	.2368	.4811
Children, age 6 – 10	.4093	.6731
Children, age 11 – 18	.5001	.8251
Rateable value	3.953	1.845
Owner-occupiers	.6846	
House has phone	.8273	
Has washing-machine	.9385	
No. of cars and vans	1.036	
Has central heating	.7155	
Husband's age	37.89	9.87
Age husband left school	16.27	2.93
Professional/administrative	.3354	
Clerical	.0658	
HM Forces	.0081	
Unoccupied	.0247	
Self-employed	.1075	
Unemployed	.0534	
Northern region	.2582	
Midlands	.2155	
Greater London	.0921	
Wales and South-West	.1300	
Scotland	.0899	
Northern Ireland	.0182	
First quarter	.2511	
Second quarter	.2453	
Third quarter	.2522	
Year = 1981	.2123	
Year = 1982	.2064	
Year = 1983	.1901	
Year = 1984	.1874	

Factors other than the extent of income-sharing will, however, have important influences on the patterns observed in Table A6; in particular, total household income is likely to be correlated with both the wife's hours of work and the wife's share of household income. The use of regression analysis allows these interrelated effects to be distinguished from each other. However, regression analysis of individual households' spending brings with it new problems, in particular — as the main text describes — the problem of 'zeros' in the diary records of expenditure.

Such 'zeros' may arise for a number of reasons, including purchase infrequency (the diary records are kept for a period of only two weeks) and abstinence (for example, non-smokers). The statistical implications of the various sources of zero observations differ. Where the proportion of 'zeros' is high, the Engel curves reported in the main text, which make no explicit adjustment for the causes of zero observations, may be particularly unreliable. Tables A7 and A8 show the importance of 'zeros' in the spending data used. Only with alcoholic drink, tobacco and clothing do 'zeros' constitute a serious problem for the ten-commodity classification employed. However, further disaggregation to goods that are more exclusively consumed by either men or women may be more seriously inhibited by the frequency of zero observations, as Table A8 shows.

Table A9 reports means and standard deviations for the variables used in the regression analysis.

NOTES TO ANNEX

1. For further discussion of survey methods, see Kemsley, Redpath and Holmes (1980), and for a discussion of response biases see Kemsley (1975) and Redpath (1986).
2. These two criteria are included to allow 'share' variables to be defined; their inclusion accounts for a reduction of less than a dozen in the final sample.
3. Full-time defined as 30 or more hours per week.
4. These definitions, of course, relate only to 'market' work; the FES contains no information on unpaid labour time in household production, etc.
5. As discussed above, individuals in the data are not coded as working if their sole earned income is in the form of small amounts of self-employment income from baby-sitting etc.

REFERENCES

- Apps, P. F. (1981), *A Theory of Inequality and Taxation*, Cambridge: Cambridge University Press.
- and Jones, G. S. (1986), 'Selective taxation of couples', *Zeitschrift für Nationalökonomie*, Suppl. 5, pp. 63–74.
- Arrow, K. J. (1951), *Social Choice and Individual Values*, New York: Wiley.
- Ashworth, J. and Ulph, D. (1981), 'Household models', in C. V. Brown (ed.), *Taxation and Labour Supply*, London: George Allen and Unwin.
- Barnes, J. and Barr, N. (1988), 'Strategies for higher education: the alternative White Paper', David Hume Paper no. 10, Aberdeen University Press.
- Barr, N. (1989), 'Student loans: the next steps', David Hume Paper no. 15, Aberdeen University Press.
- and Low, W. (1988), 'Student grants and student poverty', London School of Economics, STICERD, Welfare State Programme, Discussion Paper no. 28.
- Becker, G. S. (1981), 'Altruism in the family and selfishness in the marketplace', *Economica*, vol. 48, pp. 1–15.
- Beveridge Report (1942), *Social Insurance and Allied Services*, Cmnd 5404, London: HMSO.
- Blaug, M. (1966), 'Loans for students', *New Society*, 6 October.
- Blundell, R. and Meghir, C. (1986), 'Engel curve estimation with individual data', in R. Heijmans and H. Neudecker (eds.), *The Practice of Econometrics: Studies on Demand, Money, Forecasting and Income*, Deventer: Kluwer.
- Board of Inland Revenue (1984), *Report for the Year Ended 31st December 1983*, Cmnd 9305, London: HMSO.

Bramley, G., Le Grand, J. and Low, W. (1989), 'How far is the poll tax a "community charge"? The implications of service usage evidence', London School of Economics, STICERD, Welfare State Programme, paper no. 42.

Brown, C. V., Levin, E. J., Rosa, P. J. and Ulph, D. T. (1984), 'Tax evasion and avoidance on earned income: some survey evidence', *Fiscal Studies*, vol. 5, no. 3, pp. 1–22.

Burghes, C. and Stagles, R. (1983), *No Choice at 16: A Study of Educational Maintenance Allowances*, Poverty Pamphlet no. 57, London: Child Poverty Action Group.

Courtenay, G. (1988), *Youth Cohort Study: Report on Cohort 1 Sweep 1*, Research and Development no. 41, Youth Cohort Series no. 1, Manpower Services Commission.

Deaton, A. S. and Muellbauer, J. (1980), *Economics and Consumer Behaviour*, Cambridge: Cambridge University Press.

Department of Education and Science (1988), *Top-Up Loans for Students*, London: HMSO.

Department of the Environment (1981), *Alternatives to Domestic Rates*, (Green Paper), Cmnd 8449, London: HMSO.

— (1986), *Paying for Local Government*, (Green Paper), Cmnd 9714, London: HMSO.

Department of Health and Social Security (1988), *Low Income Statistics: Report of a Technical Review*.

Dilnot, A. W. and Kell, M. (1987), 'Male unemployment and women's work', *Fiscal Studies*, vol. 8, no. 3, pp. 1–16.

— and Webb, S. J. (1988), 'The 1988 social security reforms', *Fiscal Studies*, vol. 9, no. 3, pp. 26–53.

Edwards, M. (1981), 'Financial arrangements within families', *Social Security Journal*, pp. 1–16.

Freedman, J., Hammond, E. M., Masson, J. and Morris, C. N. (1988), *Property and Marriage: An Integrated Approach*, IFS Report Series no. 29, London: Institute for Fiscal Studies.

Fulton, O. and Gordon, A. (1979), 'The British pool of ability: how deep, and will cash reduce it?', *Educational Studies*, vol. 5, no. 2.

Gaines, A. and Turner, N. (1985), *Student Loans: The Costs and the Consequences. A Review of Student Financial Support in North America and Scandinavia*, London: National Union of Students.

Gershuny, J. (1983), *Social Innovation and the Division of Labour*, Oxford: Oxford University Press.

Glennester, H., Merrett, S. and Wilson, G. (1968), 'A graduate tax', *Higher Education Review*, vol. 1, no. 1.

Gordon, A. (1980), 'Leaving school: a question of money', *Educational Studies*, vol. 6, no. 1.

Government Actuary (1986), *Occupational Pension Schemes 1983*, Seventh Survey by the Government Actuary, London: HMSO.

Greenhalgh, C. (1981), 'The taxation of husband and wife: equity, efficiency and female labour supply', *Fiscal Studies*, vol. 2, no. 2, pp. 18-32.

Hepworth, N. P. (1984), *The Finance of Local Government*, seventh edition, London: George Allen and Unwin.

HM Treasury (1980), *The Taxation of Husband and Wife*, Cmnd 8093, London: HMSO.

Hughes, G. A. (1987), 'Rates reform and the housing market', University of Edinburgh, Department of Economics, Discussion Paper.

Jenkins, S. P. (1989), 'Poverty measurement and the within-household distribution', paper prepared for the ESRC Workshop on Changing Definitions of Poverty, Policy Studies Institute, 2 October.

Joshi, H. and Owen, S. (1981), 'Demographic predictors of women's work participation in post-war Britain', London School of Hygiene, Centre for Population Studies, Working Paper no. 81-3.

— and — (1983), 'How many pensionable years? The lifetime earning history of men and women', Government Economic Service Working Paper no. 65.

— and — (1989), 'Sex equality and the state pension', Birkbeck College Discussion Paper.

Kay, J. A. and Sandler, C. (1982), 'The taxation of husband and wife: a view of the debate in the Green Paper', *Fiscal Studies*, vol. 3, no. 3, pp. 173–87.

— and Smith, S. R. (1988), *Local Income Tax: Options for the Introduction of a Local Income Tax in the United Kingdom*, IFS Report Series no. 31, London: Institute for Fiscal Studies.

Keep, E. and Mayhew, K. (1988), 'Education, training and economic performance', *Oxford Review of Economic Policy*, vol. 4, no. 1.

Kell, M. S. and Wright, J. (1990), 'Benefits and the labour supply of women married to unemployed men', *Economic Journal*, vol. 100, Conference Supplement, pp. 119–26.

Kemsley, W. F. F. (1975), 'A study of differential response based on a comparison of the 1971 sample with the Census', *Statistical News*, no. 31.

—, Redpath, R. U. and Holmes, M. (1980), *Family Expenditure Survey Handbook: Sampling, Fieldwork, Coding Procedures and Related Methodological Experiments*, London: Office of Population Censuses and Surveys, Social Survey Division.

Le Grand, J. (1982), *The Strategy of Equality*, London: George Allen and Unwin.

Leser, C. E. V. (1963), 'Forms of Engel functions', *Econometrica*, vol. 31, pp. 694–703.

Leuthold, J. (1968), 'An empirical study of formula income transfers and the work decisions of the poor', *Journal of Human Resources*, vol. 3, pp. 312–23.

Manser, M. E. and Brown, M. (1980), 'Marriage and household decision-making', *International Economic Review*, vol. 21, pp. 31–44.

Micklewright, J. (1988), 'Schooling choice, educational maintenance allowances and panel attrition', Queen Mary College, Department of Economics, Discussion Paper no. 185.

—, Pearson, M. and Smith, S. R. (1989), 'Has Britain an early school leaving problem?', *Fiscal Studies*, vol. 10, no. 1, pp. 1–16.

—, — and —, (1990), 'Unemployment and early school leaving', *Economic Journal*, vol. 100, Conference Supplement.

Morris, C. N. and Stark, G. K. (1986), *The Reform of Personal Taxation: The Taxation of Husband and Wife*, IFS Commentary no. 2, London: Institute for Fiscal Studies.

Muellbauer, J. (1987), 'The Community Charge, rates and tax reform', Nuffield College Oxford, Discussion Paper in Economics no. 22.

National Economic Development Office (1984), *Competence and Competition*, London: NEDO.

Pahl, J. (1984), 'The allocation of money within the household', in M. Freeman (ed.), *The State, the Law and the Family*, London: Tavistock Publications.

— (1986), 'Personal taxation, social security and financial arrangements within marriage', *Journal of Law and Society*, vol. 13, no. 2.

— (1990), 'Household spending, personal spending and the control of money in marriage', *Sociology*, vol. 24, no. 1, pp. 119–38.

Papanicolou, J. and Psacharopoulos, G. (1979), 'Socioeconomic background and monetary rewards in the United Kingdom', *Economica*, vol. 46.

Parker, H. (1988), 'Are basic incomes feasible?', *BIRG Bulletin*, no. 7, Basic Income Research Group.

— (1989), *Instead of the Dole*, London: Routledge.

- Piachaud, D. (1975), 'The economics of educational opportunity', *Higher Education*, vol. 4, pp. 201–12.
- (1982), 'Patterns of income and expenditure within families', *Journal of Social Policy*, vol. 11, no. 4, pp. 469–82.
- Pissarides, C. A. (1981), 'Staying on at school in England and Wales', *Economica*, vol. 48.
- (1982), 'From school to university: the demand for post-compulsory education in Britain', *Economic Journal*, vol. 92.
- Price Waterhouse (1988), 'Forecast of costs', *Implementation and Collection of the Community Charge*, vol. 1.
- Pudney, S. (1985), 'Frequency of purchase and Engel curve estimation', London School of Economics, ESRC/LSE Econometrics Project Discussion Paper no. A.56.
- Redpath, R. U. (1986), 'A second study of differential response comparing Census characteristics of FES respondents and non-respondents', *Statistical News*, no. 72.
- and Harvey, B. (1987), *Young People's Intentions to Enter Higher Education*, Office of Population Censuses and Surveys, London: HMSO.
- Research Services Limited (1988), *Undergraduate Income and Expenditure Survey, 1986/7*, Wembley: RSL.
- Rice, P. G. (1987), 'The demand for post-compulsory education in the UK and the effects of educational maintenance allowances', *Economica*, vol. 54.
- Ridge, M. and Smith, S. R. (1990), *Local Government Finance: The 1990 Reforms*, IFS Commentary no. 22, London: Institute for Fiscal Studies.
- Robbins Report (1963), *Higher Education*, London: HMSO.
- Rowland, M., Kennedy, C. and McMullen, J. (1989), *Rights Guide to Non-Means-Tested Benefits 1989–90*, London: Child Poverty Action Group.

Spence, M. (1973), 'Job market signalling', *Quarterly Journal of Economics*, vol. 87.

Stiglitz, J. and Weiss, A. (1981), 'Credit rationing in markets with imperfect information', *American Economic Review*, vol. 71, pp. 393–410.

Symons, E. and Walker, I. (1986), 'The reform of personal taxation: a brief analysis', *Fiscal Studies*, vol. 7, no. 2, pp. 38–47.

Torry, M. (1988), *Basic Income: A Christian Social Policy*, Nottingham: Grove Booklets.

Ulph, D. (1988), 'A general non-cooperative Nash model of household consumption behaviour', mimeo, University of Bristol, Department of Economics.

Walter, T. (1989), *Basic Income: Freedom from Poverty, Freedom to Work*, London: Marion Boyars.

Woolley, F. (1988), 'A non-cooperative model of family decision-making', London School of Economics, STICERD, Taxation, Incentives and the Distribution of Income Programme, Discussion Paper no. TIDI/125.

Working, H. (1943), 'Statistical laws of family expenditure', *Journal of the American Statistical Association*, vol. 38, pp. 43–56.

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