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Women, Men and the Redistribution of Income

HOLLY SUTHERLAND*

Abstract

This paper explores the implications of examining the effect of policy changes on individual incomes rather than household incomes. Conceptual problems arise from the treatment of collective resources and responsibilities, particularly children. These are dealt with in a manner that is transparent with the aim of establishing a practical method of analysing policy at the individual (and gender-specific) level. Two policy-related issues are examined in this framework: the impact of a minimum wage and the effect of introducing a minimum pension guarantee. In each case, the implications of choosing the individual as the income unit are examined and an analysis of the issue by gender is presented.

JEL classification: C81, D31, H55, J16.

I. INTRODUCTION

Most analysis of the effect of policy changes on the distribution of personal incomes is carried out at the household level (Giles and Johnson, 1994; Redmond and Sutherland, 1995). This happens for a combination of two reasons. First, in many circumstances it is the household that is the most *appropriate* unit to choose, since groups of people who live in the same dwelling and share some

*Director of the Microsimulation Unit in the Department of Applied Economics at the University of Cambridge.

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domestic arrangements are fairly likely to pool income and share decisions about how to consume it. However, the use of the household is also *convenient*, since the household budget surveys on which these studies usually rely are organised at the household level: defining and computing household income is relatively straightforward.

Ease of application combined with the attraction of conforming to a standard method should not deter us from considering other units of analysis. On some occasions, it may be appropriate to consider units wider than the household. The case for this may be particularly strong in contexts where exchange of goods or services in kind or informal community support is customary. It may also arise out of the official system of taxes and cash transfers, if certain blood relationships are held to imply financial responsibility, as with the current child support arrangements in the UK. Household survey data may not be adequate to capture and take account of the full range of financial and economic ties that households have with each other.

In other situations, it is appropriate to look within the household and consider the incomes of individuals. An interest in the differential impact of policy reforms on men and women requires that we do this since, as Jenkins (1991) points out, household-based measures obscure gender inequalities. Several recent UK studies focus on the welfare or income of women. Webb (1993) analyses women's incomes in the context of their employment patterns and family circumstances. Davies and Joshi (1994) highlight the importance to women of within-family transfers and track how the importance of these has changed over time. The same authors apply similar accounting rules to the relative importance of social security and family sharing to female incomes over the lifetime (Davies and Joshi, 1995).

This paper establishes a framework within which to analyse the impact of public policy measures on the incomes of men and women in a manner that is consistent with household-based measures of the impact of policy. When considering the impact of policy change at the household level, we measure the net effect of the change on the individuals in the household. At the individual level, we are able to observe the impact on each person: one person's gain may be offset by another's loss. Policy changes that are revenue-neutral on a national basis usually involve some households gaining and some losing. There may also be substantial net transfers *within* households. Our approach is designed to illuminate the extent to which these occur and to account for the incomes of all adults within the household, not just the relative incomes of the partners in couples. Although much of the detailed work on within-household financial management focuses on couples (Vogler and Pahl, 1993), households may contain further adults or may consist of a collection of adults none of whom are in couples. Indeed, in the Family Expenditure Survey (FES) data used for the present analysis, only 54 per cent of adults live in couples without additional adults resident in the household. Of the remainder, 17 per cent live on their own or only with children and 29 per cent share households with adults who are not their partners. Less is known about the

financial relationships between, for example, young adults living with their parents or pensioners sharing households with their adult children. In relation to the former group, Jones (1992) describes a 'grey area between childhood dependence and adult independence' and her evidence from Scotland suggests that the variation in financial relationships may be at least as great across generations as it is within couples.

We focus on income *as it is received* by individuals, before any transfer, sharing or spending has taken place. Thus our analysis is removed from any comprehensive measure of welfare by several steps: we neither measure consumption nor take account of any income in kind generated within the household. Cash income as it enters the household is of interest in its own right from two perspectives. First, the distribution of income across household members can have a strong influence on the distribution of consumption (Browning, Bourguignon, Chiappori and Lechene, 1994). Indeed, there is evidence that *changes* in the income shares of household members result in changes in spending patterns. Lundberg, Pollak and Wales (1995) show that there was a significant change in shares of expenditure on clothing towards women's and children's goods following the switch from child tax allowances (received by fathers) to child benefit (received by mothers) in the UK in the late 1970s. The second reason for a focus on individual incomes prior to any sharing is that differences in access to cash are likely to have implications for the economic autonomy of each individual as well as for the distribution of power and influence over decision-making within the household (Jenkins, 1991).

One approach is to split total household income using a set of arbitrary ratios, the only variation between households arising from differences in household composition (see Borooah and McKee (1994), Findlay and Wright (1996) and Harding (1993)). An alternative used here is to adopt a set of uniform rules for all households but to assume that the allocation of income within the household depends on the source of income, introducing some heterogeneity in addition to variations due to differences in household composition. Each element of income is allocated to the person who receives it in the first instance. This extreme but transparent assumption can be seen as a balance to the usual assumption of complete sharing. It should be noted, however, that it is possible that combinations of different sharing behaviour could lead to an income distribution that is more extreme (more equal or more unequal) than either of the distributions generated by the uniform assumptions.

Section II explains the allocation of collective income in the context of the UK in 1995–96 and briefly describes the policy simulation model. In Section III, the distribution of individual incomes is contrasted with the household income distribution. Differences in the relative positions of men and women in the income distributions are explored. Nearly all changes in tax and benefit policy would have implications for the distribution of income within the household and for the relative incomes of men and women. Here, the effects of two illustrative simulated

policy changes are analysed, in each case contrasted with results at the household level. In Section IV, the distribution of gains from the introduction of a minimum wage is examined. This is relevant for two reasons. First, the standard household sharing assumption usually obscures the fact that many of the beneficiaries of a minimum wage have low individual incomes: they share households with people with higher incomes and appear around the middle of the household income distribution. Second, although an increase in earnings implies an increase in individual income, this may be offset by a reduction in entitlement to in-work social security benefits. Depending on how this reduction is allocated within the household, an increase in income for some may imply a reduction in income for others, disturbing any balance of power or influence among the individuals within the household.

The social security system itself embodies assumptions about income sharing and financial dependency within the household. In Section V, the pattern of gain and loss from the introduction of a minimum pension guarantee is analysed. Payment under this scheme depends on an assessment of existing pension income, and whether this assessment takes place on an independent (individual) or joint (couple) basis has a major effect on the cost of the scheme. However, conclusions about the distributional effects of the two alternatives are highly dependent on the income sharing assumptions used in the analysis. The use of individual income as the output measure can be used to expose the effects of the dependency assumptions that are built into the system and to evaluate alternatives. Section VI concludes.

II. SIMULATING INDIVIDUAL INCOMES

We make use of POLIMOD, the Microsimulation Unit's tax and benefit model for the UK. This uses micro-data from the 1991 Family Expenditure Survey (FES) updated to 1995–96 levels. A description of the model is provided in Redmond, Sutherland and Wilson (1996). POLIMOD simulates the effect of policy changes on the distribution of net disposable incomes that is generated using the rules governing tax and transfer policy in 1995–96. At the household level, this definition includes income from earnings, investments, pensions, social security, transfers from other households and student grants *less* income tax (net of tax expenditures for mortgage costs, life insurance premiums and pension contributions), employee and self-employed National Insurance contributions and local tax. This definition is similar to the 'before-housing-costs' measure used in the Households Below Average Income (HBAI) analysis of household incomes for the UK (Department of Social Security, 1996). The method is different in some minor definitional respects, but the major difference is that HBAI uses recorded information in the FES for the year (or years) in question whereas our analysis uses data from one year and updates it to a later year. A major part of this process lies in the simulation of the taxes and many of the social security benefits

according to the rules that apply in 1995–96. The use of simulated rather than recorded tax and social security information is necessary if the existing income distributions are to be calculated in a manner consistent with the calculations made for policy *changes*. The latter must necessarily be simulated. One might expect the simulated distribution to be different from the distribution of recorded incomes, for a number of reasons. Simulations assume that rules are always adhered to.¹ Tax and benefit calculations derived from ‘snapshot’ household survey data cannot take account of time delays that may occur in practice or may be built into the system and which are reflected in the recorded information.

We consider three levels of analysis that are relevant to the units of assessment used in the British tax and social security systems and that are identifiable within UK household data: the household, the family and the individual.² When computing household income, the allocation of the elements of income among the units within the household is of no importance — each element is aggregated together as though it were of equivalent value to each member of the household. However, when computing income at the individual level, the allocation is clearly crucial. Table 1 lists the elements of net household income that can be identified as accruing at each of the three levels in the UK in 1995–96.

The basic allocation assumption used here is that all income — including collective income intended for wider units — is retained by the person who receives it. In general, we are not able to distinguish who actually receives the collective income in the survey data; instead, we make general assumptions according to whom the income is paid in the first instance (or to whom the income is customarily paid). All household elements of net income are allocated to the head of household.³ Of family benefits, child benefit and family credit are allocated to the mother (unless the only adult is the father) because these benefits are paid to the mother in the first instance.⁴ The remainder of the family benefits

¹One exception is that we do not assume complete take-up of means-tested benefits. We assume randomly-applied take-up rates (on a claimant headcount basis) of 91 per cent for housing benefit and council tax benefit, 62 per cent for family credit and 81 per cent for income support. See Redmond and Wilson (1995) for more information.

²The *household* is a collection of people who live at the same address with common housekeeping arrangements (Central Statistical Office, 1992). The *family unit* is the nuclear family: a couple or single person and any dependent children sharing the same household. *Children* are defined as people aged under 16, or under 19 if in full-time secondary education.

³As defined by the Family Expenditure Survey. In the case of couples, this will be the man. Across generations or in households of siblings or unrelated adults, the designation of head of household depends on the ownership of the dwelling or responsibility for the rent (Central Statistical Office, 1992, p. 78).

⁴FES micro-data for 1991 indicate that 27 out of a total 53 family credit recipients in couples were male. This is not consistent with the statement ‘In two-parent families it is the woman who receives the benefit and it is she who must make the claim’ (Department of Social Security, 1992). This suggests that the recorded information in the FES is not necessarily accurate with respect to identification of the individual within the family who is the claimant. We have ignored the recorded information in this regard, as well as in simulating the size of the family entitlement.

TABLE 1
Household, Family and Individual Incomes, UK 1995–96

<i>Household</i>	<i>Family</i>	<i>Individual</i>
Housing benefit Council tax benefit Mortgage interest tax relief <i>less</i> Council tax	Child benefit One parent benefit Family credit Income support	Earnings, including income in kind, <i>less</i> occupational pension contributions Self-employment income Statutory maternity and sick pay Occupational and private pensions Income from investments National Insurance benefits and pensions Disability benefits Maintenance and income from relatives outside the household Student grants <i>less</i> National Insurance contributions <i>less</i> Income tax

are allocated to the man in the case of couples.⁵ Sutherland (1996) considers alternative allocations of collective income.

As well as cash income, another factor calls for special treatment: the responsibility for children. There are three basic alternatives for its allocation. One is to take the view that children should be treated as individuals in their own right, should be allocated their own shares of household income and should take their independent place in the individual income distribution. This is an attractive approach since it is simple to implement. However, it has the inevitable result that children will dominate the bottom quarter of the income distribution. While this may be realistic from some perspectives, it would obscure the issue on which we wish to focus: the impact of policy on the income distribution.

The second option is to ignore children themselves while allocating income paid on their behalf. This is the option taken by Duncan, Giles and Webb (1994) and Webb (1993). Again, it is attractive for its ease of implementation. But ignoring the responsibility for children has serious drawbacks if the resulting income distributions are to be used for the evaluation of policy. As Esam and Berthoud (1991, p. 22) point out with regard to the assumed sharing of responsibility for children between parents, ‘... it would be potentially disastrous to incorporate an assumption that fathers had no responsibility for their children into the tax and benefit systems’.

⁵In May 1995, 9 per cent of all claims made by couples were made by women (calculated from *Social Security Statistics 1996*, Tables A2.11, A2.12, A2.13 and A2.14).

TABLE 2
Individual Income and Child Allocations: An Example

		<i>£ per week</i>			
		<i>Head of household</i>	<i>Wife</i>	<i>Adult daughter</i>	<i>Daughter's partner</i>
1.	Net earnings	150	0	0	0
2.	Income support	0	0	0	88.95
3.	Family credit	0	21.50	0	0
4.	Child benefit	0	18.85	10.40	0
5.	Council tax	20	0	0	0
6.	Household income	$150.00 + 88.95 + 21.50 + 18.85 + 10.40 - 20.00 = 269.70$			
7.	Household equivalence ratio	$1 \text{ (head of household)} + 0.64 \text{ (wife)} + 0.69 \text{ (daughter)} + 0.59 \text{ (partner)}$ $+ 0.44 + 0.38 + 0.15 \text{ (children)} = 3.89$			
8.	Equivalised household income	$269.70 / 3.89 = 69.33$			
9.	Individual income	130	40.35	10.40	88.95
10.	Individual equivalence ratio	1	1.82	1.15	1
11.	Equivalised individual income	130	22.17	9.04	88.95

The third option, which is chosen here, is to allocate the responsibility for children to particular adults in the household and to perform the analysis on the sample of all adult individuals. The allocation of responsibility for children and the income associated with them is achieved by use of an equivalence scale. The income of the individual is scaled down by a factor corresponding to the number of children for whom they are assumed to be responsible.⁶ In this exercise, all children are allocated to the mother (or lone father) and the McClements equivalence scale is used, rebased so that the reference household is a single person (McClements, 1977). Table 2 illustrates the effect of the allocation of income and children for a household consisting of a couple and their two children aged 10 and 13, a grown-up daughter and her unemployed partner both aged 19, and this couple's child aged 1.

Rows 1 to 5 show the receipt (or deduction, in the case of council tax) of elements of income by each adult member of the household. Rows 6 to 8 show the calculation of equivalised income on a household basis⁷ and rows 9 to 11 show parallel calculations on an individual basis. In the calculation of the equivalence

⁶Any individual income that children themselves receive from outside the household is allocated in the same manner as responsibility for the children.

⁷Using the McClements equivalence scale.

ratio for each adult, no economies of scale are assumed to arise from more than one adult sharing a household.⁸

III. HOUSEHOLD AND INDIVIDUAL INCOMES

This section examines the differences between the distributions of household and individual incomes, and the proportions of men and women at different points in the individual income distribution.

The standard method of presenting output from a tax and benefit model ranks households according to the household net income measure described in Section II and adjusted by an equivalence ratio as illustrated in row 8 of Table 2. The ranked

FIGURE 1

Household and Individual Incomes



Note: Household: 0.2% have zero or negative incomes; 2.4% have incomes greater than £480.
Individual: 2.1% have zero or negative incomes; 3.2% have incomes greater than £480.
Source: POLIMOD.

households are divided into income ranges or quantiles of the distribution. Figure 1 shows such a distribution (solid line), counting the percentage of households in £20 weekly income ranges.

⁸Responsibility for children, assumed to fall on mothers, scales down the respective adult incomes in the same proportions as assumed for lone parents in the conventional operation of the scale.

FIGURE 2

The Distribution of Individual Income, by Gender



Note: 2.1% have zero or negative incomes; 3.2% have incomes greater than £480.
(1.9% of men; 2.2% of women) (5.2% of men; 1.4% of women)
Source: POLIMOD.

Figure 1 also plots the individual distribution (dashed line). This is dramatically more unequal than the household income measure.⁹ Much higher proportions of the total are in low income groups, lower proportions are in the middle and the proportions in high income groups are much the same.¹⁰

A picture of the gender composition of the individual income distribution is given in Figure 2, where the same information as in Figure 1 is plotted but decomposed into the proportions who are male and female in each income group. Not only are female individual incomes on average much lower than male incomes, but also the distribution of female incomes is much more heavily skewed towards the low income end, and the upper tail is much less significant.¹¹

The lower end of the individual income distribution is disproportionately populated by women and the top by men. Figure 3 plots the proportion of men in

⁹Gini coefficients for the two distributions are 0.32 (household) and 0.45 (individual). Gini coefficients are calculated using the computer package INEQ, written by Frank Cowell of the London School of Economics.

¹⁰The differences between the household and individual distributions presented here are decomposed and reconciled by Sutherland (1996).

¹¹Gini coefficients for the male and female distributions are 0.38 and 0.44 respectively.

FIGURE 3

Gender Composition of Income Quantiles: Percentage of each Group who are Men

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Source: POLIMOD.

each twentieth (5 per cent group or *vingtile*) of the individual distribution. For comparison, the proportion of adults who are male in each 5 per cent group of the household distribution is plotted as well. The gender composition of each income group is remarkably equal when incomes are ranked on a household basis. Ranking on an individual basis shows that lower income quantiles are substantially made up of women and upper quantiles of men. Women slightly outnumber men in the sample as a whole (1:0.94) but the pattern of composition by gender is quite symmetrical and smooth over the distribution: about 20 per cent of the top few groups are women and a similar proportion of the bottom few groups are men. The middle groups are populated roughly equally by men and women.

The gender composition of the quantiles of the individual income distribution shown in Figure 3 provides a useful introduction to the analysis in the next two sections, which focus on the impact of policy changes on this individual distribution. Changes that disproportionately affect men will be concentrated on the upper end of the distribution. Those that particularly affect women will be concentrated on the bottom end.

IV. A NATIONAL MINIMUM WAGE

Analysis of the distributional impact of the introduction of a minimum wage in the UK typically produces a picture of the cash benefit accruing mainly to the middle sections of the household income distribution (Gosling, 1996; Sutherland, 1991 and 1995). This can be explained by a number of factors. The very poorest households contain few earners. Reductions in means-tested benefit entitlements offset much of the gain for some families. A third explanation lies in the implicit sharing assumption inherent in the household-level analysis. Many of the individuals benefiting from a minimum wage are women living in couples, typically working part-time and on low hourly wage rates. Another group benefiting disproportionately is young people, still living with their parents. Because low-paid individuals are often living with other people on higher incomes, the use of household income as the ranking variable places them towards the middle of the income distribution. Figure 4 illustrates the impact of a £4 hourly minimum wage on the household income distribution (solid line).¹²

Analysing the impact of a minimum wage on individual incomes allows us to investigate three additional aspects of the change: first, the distribution of benefit by individual income group; second, the pattern of gain and loss within households; and third, the impact of the change on men and women separately. These are examined in turn.

1. Impact on Individuals

Figure 4 shows the proportion of the total net benefit from the introduction of a minimum wage that is received by the population of adults ranked into 20 equal-sized groups (or *vingtiles*). The shape of this distribution (dashed line) is quite different from that of the household distribution plotted on the same graph. Nearly all the benefit from a minimum wage (83 per cent) is concentrated in the bottom half of the individual distribution, contrasted with 55 per cent in the household case.

There is a clear bimodal distribution of benefit for individuals, with one peak around the 20–25th percentile and another around the median. Interestingly, the bimodal pattern is not apparent for a lower level of minimum wage. Simulation of a £3 hourly minimum gives rise to a single peak around the 20–25th percentile. A higher minimum wage of £5 reproduces this lower peak but also produces a much stronger second peak around the median. This suggests that this middle-income peak is due to a concentration of people with hourly earnings between £3 and £5 who are mainly working full-time: hence their substantial gain from a modest rise in hourly earnings and their position in the middle of the pre-minimum-wage

¹²The UK currently has no minimum wage. The introduction of an illustrative £4 flat-rate hourly minimum is simulated for UK employees aged 18 to 64. No changes in behaviour on the part of employees or employers are modelled.

FIGURE 4
**The Introduction of a £4 Minimum Wage:
Percentage of Benefit Received, by Household or Individual Income Level**

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Source: POLIMOD.

distribution of all individuals. The peak nearer the bottom of the distribution is due to a concentration of part-time employees on very low hourly wage rates. They benefit from any level of minimum wage (between £3 and £5) but their total gain is relatively small because of the few hours that they work.

2. Losers and Gainers

On a household basis, 3.7 million households (16 per cent) benefit from a minimum wage and there are no households that suffer a substantial loss.¹³ However, on an individual basis, while some people in households gain, others in the same household may bear the loss of benefit withdrawal. Under the income allocation rules adopted here, 4.19 million individuals gain (9.6 per cent of adults) and 0.26 million lose (0.6 per cent).¹⁴

¹³Small net cash losses may occur because of non-linearities in the system of means-tested benefits: there are minimum payments attached to some benefits and some non-tapered thresholds of entitlement (e.g. for the levels of non-dependant deduction in income support and housing benefit).

¹⁴Sutherland (1996) shows that, unlike most of the other results reported here, the estimates of the numbers of losers are sensitive to the choice of income allocation rule. Assumptions that imply a greater degree of within-household or within-family sharing of social security income result in *more* individuals losing (the losses being shared by more people).

Two examples illustrate typical effects. First, a householder finds their housing benefit reduced because their low-paid son's increase in earnings triggers an increase in the amount the authorities assume he contributes to the rent. Since we assume no intra-household transfers, it is the householder who bears the loss. Another example is where a male partner's earnings rise, causing the family's entitlement to family credit to fall. Under the present income allocation assumptions, all the family credit reduction is assumed to fall on the woman.

3. Men and Women

Women are more than twice as likely as men to be direct beneficiaries of a £4 minimum wage: 13 per cent of women benefit compared with 6 per cent of men. Nearly all beneficiaries (90 per cent of both sexes) live in households with other adults present and, in particular, 73 per cent of female and 41 per cent of male beneficiaries live in couples. However, losses due to benefit reductions are equally likely among men and women on the basis of the income allocation rules adopted here (0.6 per cent of each group). Although, in individual cases, women may lose family credit (or other benefits if they are the head of household), the introduction of a minimum wage would shift the share of aggregate household income in women's favour.

The pattern of benefit from a minimum wage across the individual income distribution, as shown in Figure 4, can be decomposed into the proportion that goes to men and that that goes to women. Figure 5 plots these distributions for individuals, and for men and women separately, ranked by their individual incomes. (The height of the dotted line, for women, plus the height of the dashed line, for men, gives the solid line, for all adults.) This shows that it is women who receive most of the benefit in the bottom half of the distribution, and particularly at the very bottom, reflecting the lower average earnings of women and the prevalence of very low earnings among women. Men in the top half of the distribution benefit to a greater degree than women. This reflects not only the fact that there are a higher proportion of men there (see Figure 3), but also that some men on low wage rates work very long hours.

The bimodal shape of the distribution of benefit is evident in both the male and female distributions separately. One might expect the second peak, around the median, to contain a disproportionate number of men, given the concentration of full-time earners among these beneficiaries, as discussed above. Although this is the case, it does not provide a complete explanation for the shape of the distribution. A further factor explaining the dip in the distribution, which applies to both men and women, is the fact that the region of income between the modal points coincides with income support benefit levels. The scope for earning while in receipt of income support is extremely limited, suggesting that this region of the distribution (between the 25th percentile and the median) contains a concentration of people who cannot benefit directly from a minimum wage. Those below this

FIGURE 5
**The Introduction of a £4 Minimum Wage:
Percentage of Benefit Received, by Individual Income Level and by Gender**

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Source: POLIMOD.

region are either living on incomes below social assistance level or, more typically, living in families with individuals who have higher incomes.

V. A MINIMUM PENSION GUARANTEE

As an approach to the problem of low pensioner incomes, without recourse to means testing, Atkinson (1995, ch. 16) put forward the idea of a minimum pension guarantee (MPG). The state would make up each pensioner's retirement income to a guaranteed level, taking fully into account any income from state, occupational and private pensions as well as any state benefits not related to disability. Other income would be disregarded. Part of the aim of the scheme would be to provide a guaranteed income on an individual basis. This is in contrast to the existing state retirement pension, which provides a reduced pension for the dependent wives of male pensioners.¹⁵ The means-tested social assistance benefits that underpin the National Insurance pension system are also assessed on the basis of the couple's joint income and are paid at a lower rate for the couple than for two single people. The relative size of the insurance pension and assistance benefit is such that many

¹⁵Women who have made sufficient contributions in their own right qualify for their own full pension and widows of full pensioners inherit a full derived rights pension.

pensioners, without other sources of income, are subject to means tests and live on the lowest family incomes.¹⁶

Atkinson (1995) showed that a MPG scheme would be substantially cheaper than increasing the state retirement pension to the same level. Even so, it would not be cheap to provide a guarantee at a level that would substantially reduce dependence on social assistance. This is because, paid on an independent basis and subject to a test of the individual's pension income, substantial extra resources are targeted on wives currently in receipt of reduced pensions. The attractions of reducing the cost of a MPG scheme by mirroring the current system, assessing on a joint basis and paying a reduced pension to couples, are evident. An analysis at the household (or family) level suggests that the advantages of a joint guarantee are significant and does not illuminate the disadvantages. Here, we present the household-level picture for an independent guarantee (as suggested by Atkinson) and a joint scheme that costs the same amount. The impacts of the same schemes on the individual income distribution are then examined, and finally we focus on the effect of the two alternative MPG structures on male and female pensioner incomes.

1. Independent and Joint MPGs: Effect on Household Incomes

The introduction of a £90 MPG would have had a net cost of £3.35 billion per year if introduced in 1995–96 on a joint basis for couples.¹⁷ The income paid under the guarantee is treated as taxable income and is counted as income in the calculation for means-tested benefits.¹⁸ The additional guarantee for the wife is calculated at the same rate as the existing Category B ('married women's') pension: 60 per cent. Thus the total level of guarantee for a couple is £144 and is sufficient to bring most pensioners above income support levels.

To compare the effect of a joint guarantee with that of an independent guarantee, we simulate a scheme that has the same net revenue cost (£3.35 billion). This provides for a guarantee to all individuals aged 65 or over at a level of £69.65 per week. Thus single pensioners are less well provided for compared with the joint scheme by £20.35 per week. Couples, too, are less well provided for, by £4.70 per week. The independent scheme is less generous in the level of guarantee it can provide because it covers a larger number of people than the joint scheme. Assessment of pension income on an individual basis means that more pensioners living in couples (and jointly assessed under the joint guarantee) are

¹⁶In 1995–96, the basic insurance pension for a single person was £58.85 per week. The addition for a wife (where she did not have a pension based on her own contributions) was £35.25. The social assistance (income support) levels for a couple and a single person aged 65 (with no extra needs) were £101.05 and £65.10 respectively.

¹⁷We assume that the MPG is introduced for people aged 65 or more, and that take-up of the MPG is complete. Throughout this section, 'pensioners' are defined as people aged 65 or more.

¹⁸The net revenue cost is made up of a gross cost of £6.09 billion, offset by an increase in income tax of £0.28 billion and a reduction in the cost of social assistance of £2.46 billion.

FIGURE 6
**Minimum Pension Guarantee:
Average Household Gain, by Household Income Level**

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Source: POLIMOD.

entitled to receive extra income under the independent guarantee. In particular, married women receiving only the Category B pension under the current system would find that they benefit considerably from independent assessment.

Figure 6 compares the distribution of average cash gain from the two schemes by household income level.¹⁹ The joint guarantee (solid line) is particularly well targeted on low-income households, with 64 per cent of the benefit being received by the bottom 30 per cent of households. The independent guarantee (dashed line) also primarily benefits the lower end of the distribution, but less (47 per cent) is targeted on the bottom 30 per cent.

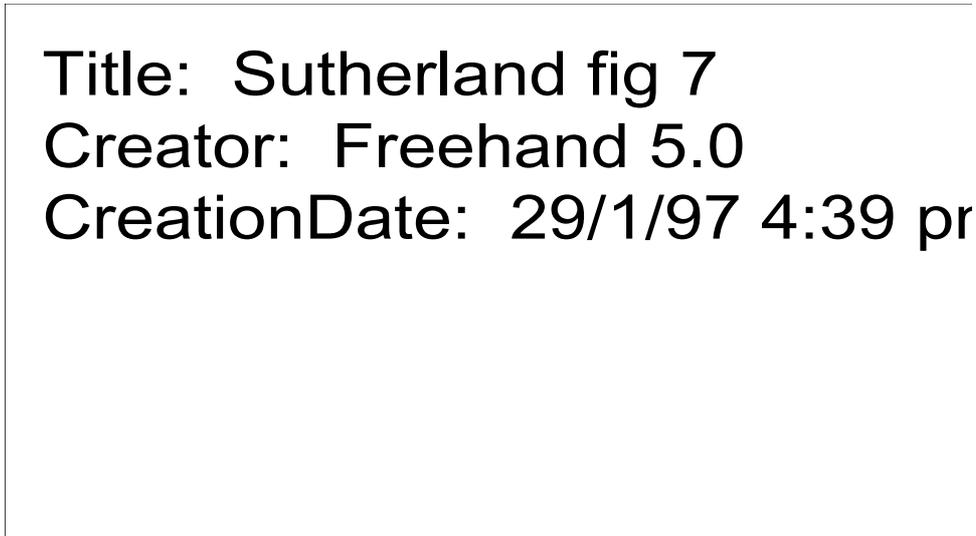
2. Independent and Joint MPGs: Effect on Individual Incomes

In order to investigate whether the apparent distributional advantages of the joint scheme continue to hold at the individual level, we repeat the simulations at that level. The income allocation rule assumes that existing pension income is allocated to the individual who receives it. Thus married women receive their

¹⁹All households are included, not only those containing pensioners.

FIGURE 7

Minimum Pension Guarantee: Average Gain, by Individual Income Level



Source: POLIMOD.

own pension, including their Category B pension. The allocation of the independent guarantee is straightforward: the pension income assessment takes into account the individual's own income only, and the payment of any income under the guarantee is made to each individual. Accounting for a joint guarantee on an individual basis is less straightforward. The level of the joint guarantee is set with reference to the individual's family status. In the case of a couple, the assessment of pension income takes both partners' pension income into account. Here we assume that any resulting joint payment under the guarantee is split equally between the couple.²⁰

Figure 7 compares the distributions of average cash gain from the joint scheme and from the independent scheme by individual income level. In contrast with the household-level picture, the scheme best targeted on the pensioners with lowest incomes is the independent scheme (dashed line). This is quite a striking result, particularly so when one bears in mind the relatively small proportion of all pensioners who are married women (24 per cent) and who stand to benefit particularly from independent assessment and payment.

²⁰Sutherland (1996) explores the effect of splitting the payment in other proportions.

3. Women and Men Pensioners

When carrying out analysis at the individual level, it is straightforward to focus on individual pensioners, excluding younger people. Figure 8 plots the average gain by pensioners in each decile (10 per cent group) of the individual pensioner income distribution. The contrast between the impacts of the joint and of the independent MPG schemes is still apparent: the gain is much more closely targeted on the lowest-income pensioners in the independent case.

Figure 8 also shows the proportion of each pensioner decile that is male (right-hand axis; dotted line). Not only do female pensioners outnumber males overall, but there is a dramatic gradient across income levels: there are virtually no men in the bottom 10 per cent; the top 10 per cent contains 69 per cent men. It is to be expected, therefore, that the main beneficiaries of both joint and independent schemes will be women, and that this will be most clearly the case for the independent guarantee. Figures 9a and 9b show the average gain by decile of male and female pensioners' income respectively, for both the independent and the joint schemes. Under the joint scheme, men and women benefit roughly equally. Although it is the middle of the female distribution and the bottom of the male distribution that benefit most, the actual income levels of these groups are much the same.

FIGURE 8

Minimum Pension Guarantee: Average Gain to Individual Pensioners

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Source: POLIMOD.

FIGURE 9

Minimum Pension Guarantee: Joint and Independent Schemes

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Source: POLIMOD.

Under the independent scheme, almost all the benefit is targeted on women, and particularly on the female pensioners with the lowest incomes. Men in some deciles actually lose slightly on average, although the lowest-income male pensioners also benefit.

The relative effect of independent and joint MPG schemes looks quite different depending on the unit that is considered in the analysis. The independent scheme modelled here is better targeted on the pensioners with the lowest incomes. It almost exclusively benefits women, when considered on an individual basis. The most critical aspect of a MPG scheme, in terms of its cost and its effect on individual incomes, is the unit of assessment for pension income that is chosen. None of these results is apparent from an analysis at the household level.

VI. CONCLUSION

The minimum sharing assumptions that have been employed in this analysis are not intended to be realistic: clearly, most households do share income to some extent. Our analysis itself provides evidence for this, since large numbers of women and some men would be living on resources at a level so low as to be unsustainable, were it not for sharing. For example, Figure 1 shows that 2.1 per cent of adults have zero or negative incomes on an individual basis. Davies and Joshi (1995) come to similar conclusions about the importance of sharing. However, investigations of the implications of minimum sharing and the approach taken in this paper are of value from a number of perspectives.

- We have analysed income as it enters the household, before any sharing, spending or consumption can take place. Policy changes that alter the absolute and relative sizes of the incomes of individual members of households may lead to changes in the extent of sharing. It is of interest to establish, on the one hand, the adjustments that the family or household must accommodate if the *status quo* is to be maintained and, on the other hand, the shift in any balance of power or influence that is implied by a change in the within-household distribution of income, whether or not these adjustments take place. Furthermore, the possibility that some individuals may benefit at the expense of other household members is an aspect of policy design that should be monitored, but is entirely absent from a household analysis.
- Policy analysis by gender illuminates the quite striking differences that continue to exist between the sexes. We find that the bottom of the individual distribution is dominated by women. The analysis of the impact of the minimum wage shows that even a policy measure designed to reach the low-paid in fact benefits women in the middle of the female distribution. Thus even low-paid, part-time workers count as relatively well off when compared with women as a whole.

- An exploration of the effects of the sharing and dependency assumptions built into the benefit system requires that these assumptions are not replicated by the method of analysis. An individual analysis can expose the effects of dependency assumptions.
- Minimum sharing can be seen as a balancing assumption to that of full sharing. For a particular household, reality is somewhere in between the two extremes and would be very difficult to capture and measure. Conclusions about the distributional impact of policy options may be quite different when analysed at the individual and household levels: the analysis of the minimum pension guarantee is a good illustration. Policymakers should have access to both sets of such results when making decisions.

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