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Marital Splits and Income Changes: Evidence for Britain

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Executive Summary

The relationship between marital splits and personal income changes is of great relevance to social policy. Existing British research draws attention to the inauspicious conjunction of the dramatic rise over the last two decades in the incidence of lone parenthood and the high risk which lone parents face of having a low income, not working, and relying on social assistance benefits, and to the continuing importance of marital splits as the principal route into lone parenthood. Rising divorce rates amongst all couples, with or without children, are also a topical social concern. These facts have stimulated the government to mandate child support obligations for non-custodial parents, to change the benefit system, and to reform divorce law. Unfortunately, however, most British evidence about what happens to family members' incomes when families split up is indirect, derived from cross-section surveys of household incomes and comparisons of different groups of people at different points in time. Proper tracking of how personal incomes change with the transition from a marital union to living apart requires longitudinal income data following the same set of people. The aim of this paper is to provide new longitudinal evidence for Britain about the relationship between marital splits and changes in personal economic well-being using data from the first four waves (1991–4) of the British Household Panel Survey.

We find that marital dissolution is associated with significant decreases in real income for separating wives and children of separating couples, and that separating husbands do not fare as badly.

These results are robust to a range of sensitivity checks: we take account of attrition and sampling error, and use a wide range of measures of personal economic well-being. In particular we investigate the implications of a range of assumptions about equivalence scales, about the treatment of taxes, benefits, housing and maintenance payments, and about the observation period over which income changes are observed. Moreover we validate the results based on observed income changes by showing that they are consistent with respondents' subjective assessments of the changes in their financial circumstances.

We show that although that the tax-transfer system mitigates the differentials in outcomes between husbands on the one hand, and wives and children on the other, significant differentials remain. We relate the income change results to changes in the composition of household income packages, documenting changes in receipt of welfare benefits and labour force participation, and of maintenance income receipt. For example we show that divorced and separated mothers have a relatively high reliance on social assistance benefits, relatively low labour participation rates, and a low likelihood of receiving maintenance (reflecting the relatively low incidence of maintenance payments by divorced and separated fathers).

Our conclusions about the different experiences of separating husbands and separating wives and children echo those of earlier studies for the United States, Germany, and Canada. This is interesting because of the diversity of labour markets and welfare states across these countries, and suggests that outcomes may be related to gender-related differences which are common across countries.

Abstract

We provide new evidence about what happens to people's incomes when their or their parents' marital union dissolves, using longitudinal data from waves 1–4 of the British Household Panel Survey. Marital splits are associated with substantial declines in real income for separating wives and children on average, whereas separating husbands' real income on average changes much less. Results are shown to be robust to the choice of income definition and degree of economies of scale built into the household equivalence scale, and are validated with information about respondents' assessments of how their personal financial circumstances changed. In addition we analyse the extent to which the welfare state mitigates the size of the income loss for women and children relative to men, and document the changes in social assistance benefit receipt and paid work, and maintenance income receipt and payment.

Key words: divorce, marital dissolution, income distribution, income mobility, poverty
JEL classifications: D31, I38, J12

1. Introduction

The relationship between marital splits and personal income changes is of great relevance to social policy. Existing British research draws attention to the inauspicious conjunction of the dramatic rise over the last two decades in the incidence of lone parenthood and the high risk which lone parents face of having a low income, not working, and relying on social assistance benefits,[1] and to the continuing importance of marital splits as the principal route into lone parenthood.[2] Rising divorce rates amongst all couples, with or without children, are also a topical social concern.[3] These facts have stimulated the government to mandate child support obligations for non-custodial parents, to change the benefit

[1] For analysis and general discussion of these British lone parent policy issues, see *inter alia* Bradshaw and Millar (1991) and McKay and Marsh (1993). According to Haskey (1993), there were about 1.3 million lone parent families in Britain in 1991 (compared with 0.57 million in 1971), containing about 2.2 million dependent children (one million in 1971). About one in five of all families with dependent children is a lone parent family. Approximately three-quarters of a million lone parents now receive Income Support (Department of Social Security, 1995*b*), Britain's means-tested social assistance benefit (and so are not in full-time work). Only one half of lone mothers are economically active, compared with two thirds of married mothers, and whereas participation rates for married mothers have risen significantly, for lone mothers they have declined or remained static (Bartholomew *et al.*, 1992).

[2] In 1989-91, 58 percent of lone mothers were divorced or separated, compared with 35 percent who were single, and 7 percent widows (Haskey, 1993, Table 2). A not insignificant proportion of single lone mother families are formed by separations from cohabiting unions: Ermisch (1995) estimates about one fifth. McKay and Marsh (1993, Table 1) report that about one half of the single lone mothers in their (cross-section) survey had separated from a cohabitation.

[3] According to Haskey (1996), the number of divorces per year has increased by about one percent per year since 1980 (which is less than the increase during the 1970s), with divorce rates increasing in all age groups but especially for people marrying in their twenties. More than half the families of all divorcing couples contain a child aged under sixteen years.

system, and to reform divorce law.[4] Unfortunately, however, most British evidence about what happens to family members' incomes when families split up is indirect, derived from cross-section surveys of household incomes and comparisons of different groups of people at different points in time. Proper tracking of how personal incomes change with the transition from a marital union to living apart requires longitudinal income data following the same set of people. The aim of this paper is to provide new longitudinal evidence for Britain about the relationship between marital splits and changes in personal economic well-being using data from the first four waves (1991–4) of the British Household Panel Survey.

The most detailed British longitudinal evidence about marital splits and income to date is provided by Gregory and Foster (1990), derived from interviews in 1984–85 with some 2040 men and women who had recently gained final divorce decrees, selected using a random sample of divorce court records. Information was collected about employment status, sources of income (focusing on earnings and state benefits), and total income prior to the separation, post-decree, and at the time of the interview. Gregory and Foster found stark changes, especially for women. For example,

> for women in the period immediately after separation reliance changed to an income mainly dependent on payments from the state or from their former husband, with women who previously had no earned income of their own, or part-time employment, being most affected. ... The data showed that of those women previously in the highest joint income groups only about two fifths had a personal income post-separation of about one third or more of the previous level. (Gregory and Foster, 1990, p. xii.)

Although this study provided valuable new data, its conclusions about income changes have several important limitations. First, the time between separation and decree varied substantially across the sample (ranging from many years to less than one month), so that the reported income changes are measured over substantially different intervals. Second, only broadly banded total income data was collected, and the figures were not indexed to account for the effects of inflation, nor adjusted to take account of differences in household size and composition across the sample at a point in time, or changes in these characteristics over time. Third, the survey refers only to the people dissolving

[4] The new Child Support Agency has statutory responsibility for all aspects of child support, and administers mandatory formulae establishing maintenance payment liabilities for non-custodial parents. (Lone parents claiming benefits must use the Agency to establish their former partner's liabilities; non-claimants have the option to do so.) The definition of full-time work and thence eligibility for in-work benefits such as Family Credit rather than social assistance (Income Support) has been reduced from 24 to 16 hours per week. Maintenance income is now partly disregarded when calculating Family Credit eligibilities (but fully offset against Income Support). Legislation increasing opportunities to petition for divorce was passed in 1969 (effective from 1970) and in 1984 (effective from 1986), but a new Marriage Act is currently passing through Parliament with the goal of reducing divorce rates.

legal marriages. Cohabiting unions are thus ignored, although they are of considerable and growing importance in Britain.[5] Fourth, and more generally, the survey is more than a decade old. Not only is cohabitation now more common, but there have been changes in divorce law and in the labour market for both men and women. By contrast, the British Household Panel Survey (BHPS) which we use is up-to-date, has information about dissolutions of legal marriages and cohabiting unions, and better income data.

The BHPS was also used by M.P. Taylor *et al.* (1994) to look briefly at marital splits and income change. By contrast with that research, our study is based on four waves of data rather than two (and hence analyses a larger number of marital splits), uses more income measures, and analyses income change in much greater detail. Taylor *et al.* provide only one table, comparing decile income group mobility for those experiencing a marital split with average mobility.

We find that marital dissolution is associated with significant decreases in real income for separating wives and children of separating couples, and that separating husbands do not fare as badly. These results are robust to a range of sensitivity checks: we take account of attrition and sampling error, and use a wide range of measures of personal economic well-being. In particular we investigate the implications of a range of assumptions about equivalence scales, about the treatment of taxes, benefits, housing and maintenance payments, and about the observation period over which income changes are observed. Moreover we validate the results based on observed income changes by showing that they are consistent with respondents' subjective assessments of the changes in their financial circumstances. We also show that, although that the tax-transfer system mitigates the differentials in outcomes between husbands on the one hand, and wives and children on the other, significant differentials remain. We relate the income change results to changes in the composition of household income packages, documenting changes in receipt of welfare benefits and labour force participation, and of maintenance income receipt.

Our conclusions about the different experiences of separating husbands and separating wives and children echo those of earlier studies for the United States, Germany, and Canada: see, for example, Bianchi and McArthur (1989), Burkhauser *et al.* (1990, 1991), David and Flory (1989), Duncan and Hoffman (1985), Finnie (1993), and Hoffman (1977). This is interesting because of the diversity of labour markets and welfare states across these countries, and suggests that outcomes may be related to gender-related differences which are common across countries.

[5] For example, between 1981 and 1994-5 the percentage of non-married women aged between 18 and 49 years who were cohabiting rose from 12 percent to 23 percent, and between 1986 and 1994-5 the proportion of non-married men aged 16 to 59 years who were cohabiting increased from 11 percent to 21 percent (United Kingdom, 1996, p. 55).

2. Data, Definitions and Methods

We analyse longitudinal data from the first four waves, 1991–4, of the British Household Panel Survey (BHPS). The first wave of the BHPS was designed as a nationally representative sample of the population of Great Britain living in private households in 1991, and had an achieved sample size of some 5500 households covering some 10,000 persons.[6] All the adults and children in the wave 1 sample are designated as original sample members (OSMs). On-going representativeness of the (non-immigrant) population has been maintained by using a 'following rule' typical of household panel surveys: at the second and subsequent waves, all OSMs are 'followed' (even if they move house, or if the household splits up), and there are interviews, at approximately one year intervals, with all adult members of all households containing either an OSM, or an individual born to an OSM whether or not they were members of the original sample.[7] New panel members who subsequently stop living with an OSM are, however, are not followed and interviewed again. Thus, for example, if a non-OSM married an OSM at wave 2, and the partnership subsequently dissolved, the OSM is followed, but the non-OSM is not.

We define a marital split as a transition from a legal marriage or cohabiting union observed at the wave t interview to living apart from the wave t spouse at the wave $t+1$ interview, where t runs from 1 to 3.[8] Our calculations are based on three subsamples of persons experiencing a marital split: (i) separating husbands, (ii) separating wives, and (iii) the dependent children present at wave t of parents who separated between t and $t+1$.[9] Adults who repartner between wave t and wave $t+1$ are included in the analysis. When selecting the three subsamples we did not require that (i) and (ii) comprise separating spouse pairs. If we had used a joint husband–wife selection rule, it would have introduced bias and reduce sample size

[6] For a detailed discussion of BHPS methodology, representativeness, and the weighting and imputation procedures provided to account for differential unit non-response, attrition, and item non-response, see A. Taylor (1994) and M.F. Taylor (1994).

[7] For further details of following rules and justification of the claim about representativeness, see e.g. Duncan (1992).

[8] Partnership endings due to death of a spouse are excluded. We also excluded a small number of splits where persons were no longer in a partnership at $t+1$ and yet were still co-resident with the person who was their partner at t. (These splits are not necessarily measurement error; more likely they are people who would like to move out but are unable to because they cannot sell the family home.) Partnerships splits arising because one partner moved 'out of scope' (e.g. into an institution) were also excluded from the analysis, as were dissolutions of homosexual unions.

[9] A dependent child is aged less than 16 years, or more than 16 years but under 19 years and unmarried, in full-time non-advanced education and living with their parents. We exclude from the analysis a small number of dependent children at t who (i) are not co-resident with either parent at $t+1$, or (ii) who are co-resident with a parent at $t+1$ but are non-dependent at $t+1$.

because it would be contrary to the BHPS following rules designed to maintain sample representativeness (see above).[10]

For each of the three subsamples of separating husbands, wives, and their children, we document in detail how income changed between waves t and $t+1$. Some information about incomes over a three wave sequence (t, $t+1$, $t+2$) is also presented. Our study thus focuses on the short term impact of a marital split (a constraint forced on us because the BHPS is relatively new). These short-term results are important, nonetheless, since even short poverty spells may have deleterious long-term effects for children, even if they do not for parents.

We use three principal measures of economic status. The first is household *net income*, which is the sum across household members of income from employment and self-employment, investments and savings, private and occupational pensions, other market income and private transfers (including maintenance income), plus cash social security and social assistance receipts from the state, less income tax payments, employee National Insurance contributions, and local taxes.[11] This is the most widely used income measure in the U.K., and the basis of official income distribution statistics (for example Department of Social Security, 1995*a*). The second income measure is *original income*, which is net income prior to the addition of cash benefit income and prior to the deduction of taxes and N.I. contributions, i.e. income from the market, broadly speaking. The third measure is *gross income* which is original income plus cash social security and social assistance receipts from the state. Using North American terminology, our three income measures are post-tax post-transfer income, pre-tax pre-transfer income, and pre-tax post-transfer income, respectively.

In section 5 we use comparisons of the income change estimates from the different income measures to investigate much the welfare state cushions the impact on income of a marital split, and how this effect differs between separating men, women and children. Previous North American studies, such as by Burkhauser *et al.* (1990, 1991), have focused on the rôle of cash benefits, comparing results for original and gross incomes. We also investigate the impact of direct taxation.

The time period over which income components are measured is the month prior to the interview or the most recent relevant period (except for employment earnings which are 'usual earnings'), and we have converted all figures converted to a weekly equivalent basis. The assessment period reflects the focus of BHPS

[10] See Burkhauser *et al.* (1991, pp. 331-2) for a more detailed explanation. As it happens, about sixty percent of our sample belong to splitting couples for whom we have information about both partners at waves t and $t+1$. Nine persons are observed to split, repartner and then split again.

[11] The BHPS does not collect comprehensive information about taxes paid, and so we have estimated liabilities using a micro-simulation model and information about individual and household characteristics. For full details of the methods used, see Jarvis and Jenkins (1995) and Redmond (1996).

income questions (and most other British surveys, such as the Family Expenditure Survey). However it means that there is some variation across the sample in the match between date of the income reference period and the date of the marital split: the marital splits may have occurred at any time between the interviews at t and $t+1$, but the income data summarise living standards round about the time of the two interviews. Also the use of a relatively short income accounting period may increase the chance that observed income changes simply reflect transitory variations. However there are also advantages to using a relatively short income reference period. First, we can be more sure that the household income measure is based on information for the people who are present in the household during the reference period. Second we maximise sample size, requiring fewer wave interviews to measure pre- and post-splt income change.[12]

In order to derive comparable measures of real income across different time periods, taking account of inflation, we index all incomes to January 1995 price levels using an appropriate monthly price deflator (the index of retail prices excluding local taxes).

Our income measures are adjusted to take account of differences in composition and size between households using an equivalence scale to deflate incomes. The main equivalence scale we use is Britain's semi-official one, the so-called 'McClements (before housing costs)' equivalence scale, which has scale rates which depend on the number of adults and the number and age of dependent children. We normalise the scale rates so that the rate is one for single adult households.[13]

Although the McClements scale predominates in Britain, there is no single 'correct' equivalence scale from a conceptual or an empirical point of view (Coulter *et al.*, 1992*a*). Estimates of the size and direction of the income change resulting from a marital split may be sensitive to the particular equivalence scale chosen. When a couple separate, they typically form separate households of a smaller size, and so if there are large economies of scale, the consequences of a marital split for living standards are much more deleterious than were there only minor economies of scale. Moreover changing the scale economies assumption

[12] Previous non-UK studies have used annual income measures but require three waves' data to measure income changes for splits between waves t and $t+1$ (pre-split annual income is derived at wave t, and post-split annual income at wave $t+2$). There are problems for any annual income measure if there are changes in household composition besides the marital split (for example a birth or child leaving home) during the year. What then is the definition of the 'household' for which household income components (and equivalence scale) are derived?

[13] The scale rates are as follows (Department of Social Security, 1995*a*): first adult (household head), 0.61; spouse of head, 0.39, other second adult, 0.46; third adult, 0.42, subsequent adult, 0.36; each dependent child aged 0-1 years, 0.09; aged 2-4, 0.18, aged 5-7, 0.21; 8-10, 0.23; 11-12, 0.25, 13-15, 0.27; 16 or over, 0.36. The scale rate is normalised at unity for a childless married couple household, but we have re-normalised it to equal unity for a childless single adult household to make it consistent with the other scales used in the paper.

will affect income change estimates more for separating husbands than wives (or children) because the change in household size with a marital split is greater for husbands. The average household size prior to a split is much the same for separating husbands and wives, but after a split the average household size for the wives does not fall as much as for the husbands (since children of separating couples typically reside with their mothers after the split).

We investigate the robustness of our results to changes in the equivalence scale by repeating our calculations for each of five members of the Buhmann *et al.* (1988) family of scales. This class is characterised by the formula

$$\text{household equivalence scale rate} = (\text{number of household members})^{\theta},\ 0 \leq \theta \leq 1.$$

The smaller the value of the household size elasticity θ, the greater the economies of scale in the equivalence scale. Although a very simple specification, this parametric scale provides a good approximation to many equivalence scales in use, including the McClements scale for which the corresponding θ value is between 0.6 and 0.7 (Coulter *et al.* 1992*b*; Jenkins and Cowell, 1994). In Section 4 we report income change estimates using equivalence scales for which $\theta = 0$, 0.25, 0.5, 0.75, 1.0. We therefore cover the full range from no adjustment at all to incomes through to a *per capita* adjustment.

We attribute to each person the equivalised real income of the household to which he or she belongs. We are therefore following standard practice and are assuming that household incomes are pooled and the total shared out equally. This assumption may of course provide biased measures of personal economic well-being (and hence changes in it). In particular, women and children may not in reality benefit from the within-household income transfers implicitly assumed by the equal sharing methodology.[14] This could explain why

> a number of studies have found that some lone mothers, typically between a quarter and a third say they feel better-off as lone mothers than they did as married women because being alone means that they have control over their (albeit limited) resources. (Millar, 1992, p. 155.)

The BHPS provides some evidence relevant to the sharing hypothesis through responses to questions about how respondents' household finances are organised. Amongst our marital splits subsample, 50 percent of women and 48 percent of men report that household finances at wave *t* were "equally shared".[15] Respondents are also asked who has 'the last say in big financial decisions', and 64 percent of

[14] Davies and Joshi (1994) document the substantial within-household income transfers implied by the equal sharing methodology. See Jenkins (1991) of critique of the methodology and proposals for alternative strategies to take account of the within-household income distribution.

[15] The other responses categories were: 'respondent looks after the household finances', 'partner looks after them', 'respondent given household allowance', 'partner given household allowance', 'maintained separately', and 'other'.

women and 65 percent of men reported at wave *t* that they and their partner had an "equal say" (rather than themselves or their partner). These assessments provide some support for the standard equal sharing methodology which we apply in this paper, but clearly the support is not unanimous. Hence the earlier caveats about the equal sharing assumption should be kept in mind.

■ *Sample numbers and characteristics*

Table 1 summarises the numbers of separating husbands, wives and children who experienced a marital split in waves 1 to 4 of the BHPS categorised into four subsamples according to the amount of information we have about them. Row 1 shows the number of separating husbands, wives, and children where at least one partner of a splitting couple was traced at the wave after the split. (If both spouses in a partnership attrit, we cannot tell if they also split up.) Subject to this caveat, this subsample tells us about sample numbers had there been no wave-on-wave non-response (attrition) or incomplete response to all relevant interview questions. Attrition is substantial for separating husbands: compare rows 1 and 2. For only 67 percent of separating husbands is any kind of interview achieved. By contrast there are interviews with 90 percent of separating wives. (These figures may be compared with the overall wave-on-wave response rates to the BHPS of around 90 percent for wave 2, and several percentage points higher for each wave thereafter.) Incomplete response reduces sample numbers further, as comparisons with rows 3 and 4 show, but the reduction in numbers is the same for separating husbands and wives (the number of husbands is about 70 percent of the number of wives in each of rows 2–4).[16]

Table 1 raises questions about the possibility of bias from non-random attrition, and the relatively small subsample numbers *per se*. The small subsample numbers are typical for most studies to date based on panel surveys, and we take account of them in two main ways. First, we present standard errors on our main income change statistics, and we use them to derive confidence intervals. Second, to minimise the influence of outlier values we work with medians rather than means. The small numbers do however force us to focus on statistics for each of the three subsamples as a whole with a minimal number of more detailed subgroup breakdowns.

The high attrition rates for separating husbands compared to separating wives is also typical in studies of this kind (see for example Burkhauser *et al.*, 1990), though may have been exascerbated in the BHPS by contemporary publicity about the establishment of the Child Support Agency (see footnote 4). Our principal

[16] The original and gross income data includes values imputed by BHPS staff where there was item non-response. Such imputations are not currently available for net incomes—hence the loss of sample numbers between rows 3 and 4.

Table 1: *Numbers of persons experiencing a marital split between waves t and t+1 (BHPS, waves 1–4)*

Persons experiencing a marital split	Husbands	Wives	Children
1. Original Sample Members at wave *t* eligible to be interviewed at wave *t*+1	216	220	242
2. As (1) and with an interview at wave *t*+1 of any kind (full, proxy or telephone interview)	145	198	197
3. As (2) and has valid original and gross income data at waves *t* and *t*+1	135	194	189
4. As (2) and has valid net income data at waves *t* and *t*+1	105	148	151

For the definitions of an Original Sample Member, a marital split, and original, gross and net income, see text. Children column refers to the children of couples experiencing a marital split (see text). Row 1 excludes cases where neither partner of the splitting partnership provided an interview at *t*+1.

method of accounting for non-random attrition is to use the BHPS longitudinal enumerated individual weights for wave *t*+1 in our calculations.[17] We have also done most of our calculations using unweighted data, and the conclusions we draw are unchanged.

Attrition will produce biased income change estimates if characteristics associated with attrition are also correlated with income change. To get a feel for this we compare the pre-split (wave *t*) characteristics of our analysis subsamples and of the base subsample: compare Table 2 cols. (3)–(8) with cols (1)–(2). For example, the analysis subsamples contain fewer separating husbands with dependent children than in the base sample (which is unsurprising since they are the main target of the Child Support Agency), but the differences are not substantial. The largest differences between the samples are in the age distributions: compared to the base sample (cols. 1, 2), the analysis subsamples (cols. 5–8) comprise notably fewer separating spouses (both husbands and wives) aged 35 years or older. There are also housing tenure differences: the net income analysis subsample in particular appears to under-represent separating husbands from local authority and housing association tenancies at wave *t*.

One might expect these age and tenure differentials to bias the income estimates but, as it happens, the distributions of income in the analysis subsamples are remarkably similar to those in the base subsample. The net income distributions

[17] Using the weights requires 'the fairly strong assumption that ex-husbands who survive in the sample are representative of ex-husbands with identical measurable characteristics who were not succesfully followed and interviewed' (Burkhauser *et al.*, 1990, p. 332).

Table 2: *Comparisons of characteristics at wave t of separating husbands and separating wives for different marital split subsamples and characteristics at wave 1 of all wave 1 husbands and wives (BHPS, waves 1–4)*

Column percentages	All OSMs		OSMs with an interview (of any kind)		OSMs with valid original and gross income at *t*, *t*+1		OSMs with valid net income data at *t*, *t*+1		All wave 1 husbands and wives	
	Husbands (1)	Wives (2)	Husbands (3)	Wives (4)	Husbands (5)	Wives (6)	Husbands (7)	Wives (8)	Husbands (9)	Wives (10)
Marital status at wave t										
married	59	58	52	54	52	54	56	59	90	90
cohabiting	41	42	48	46	48	46	44	41	10	10
Repartnered by wave t+1										
repartnered			14	13	14	13	10	13		
not repartnered			86	87	86	87	90	87		
Age at wave t (years)										
< 26	20	31	24	35	24	36	22	35	6	9
26-34	43	38	44	37	44	37	47	41	20	22
≥ 35	37	31	32	27	32	27	30	24	74	69
Dependent children at wave t										
has children	54	53	48	53	49	52	50	57	57	58
no children	46	47	52	47	51	48	50	43	43	42

Housing tenure at wave t										
owner occupied/owned with mortgage	58	60	60	59	60	59	62	58	77	77
local authority or housing association tenant	29	28	25	28	27	27	21	28	17	17
private tenant	13	12	14	14	14	14	16	14	6	6
Gross income at wave t (as % of wave 1 mean)										
<50	19	20	17	18	18	18	19	20	17	17
50–100	29	29	30	31	31	31	27	30	37	37
> 100	52	51	54	51	51	51	54	50	45	45
Net income at wave t (as % of wave 1 mean)										
< 50					17	17	15	18	13	13
50-100					34	36	33	37	19	19
> 100					48	48	51	45	68	68

OSM: original sample member (see text). Cols. (1) - (8) refer to Table 1 rows 1-4 subsamples, respectively. Wave 1 mean incomes are the means for all persons present at wave 1. Cols. (3)-(8): data weighted using BHPS longitudinal enumerated weights for wave t+1. Cols. (9), (10): data weighted using BHPS cross-section weights for wave 1.

are not quite as similar as the gross incomes: note for example the lower proportion of low income husbands in col 7 compared to col 5 for net income (which is consistent with the results for tenure). However in general the differences are not large and, in sum, it appears that differential attrition is not a major source of biases.

Table 2 also enables comparison of the characteristics of separating husbands and wives with the wave 1 characteristics of all husbands and wives present in BHPS wave 1. We find for example that the incidence of cohabitation is much higher amongst separating spouses than amongst all couples: over 40 percent compared to 10 percent. This is consistent with other U.K. evidence indicating that the risk of marital dissolution is higher for cohabiting unions than legal marriage: see for example Ermisch and Francesconi (1996). (Excluding wave 1 household heads aged over 60 years makes little difference to the proportions.) About one tenth of separating husbands and wives were living with a partner again by the time they were interviewed again (about a year later). The age and housing tenure distributions of separating couples are also distinctly different from those of all couples. Separating couples are much younger and more likely to be a social housing tenant or private renter. This is reflected in the income distributions, especially the net income one, which shows that separating husbands and wives are generally poorer than all husbands and wives.

3. The Income Changes of Those Experiencing a Marital Split

The pre- and post-marital split incomes of separating husbands, wives, and children are summarised in Table 3. Note first that the pre-split incomes of husbands and wives are broadly similar.[18] The incomes of children are somewhat lower because the average income of British households with children is lower than the average income of childless households (Jenkins, 1996) and, unlike adults, children can only belong to the former group.[19]

We draw two main conclusions from Table 3. First, marital splits are associated with substantial declines in real income for wives and children on average,

[18] Even where the point estimates for husbands and wives appear to differ most, the relevant confidence intervals overlap substantially. For example the 95 percent confidence interval for median pre-split net income for husbands is (126,180), and for wives (121,163). This particular difference appears to arise from differential attrition of poorer husbands in the net income subsample: see Table 2 and the earlier discussion.

[19] The post-split median original income estimate for children shown in Table 3 is perhaps surprisingly low. It arises because labour market earnings are very low for most of the mothers with whom the children live (see below).

Table 3: *Comparison of pre- and post-marital split incomes for separating husbands, wives and children (BHPS, waves 1–4)*

	Original income			Gross income			Net income		
	Husbands	Wives	Children	Husbands	Wives	Children	Husbands	Wives	Children
Pre-split median income (£ per week)	180	186	102	192	193	126	161	136	110
	(16)	(14)	(15)	(18)	(13)	(9)	(14)	(11)	(7)
Post-split median income (£ per week)	198	94	17	212	134	95	156	116	92
	(16)	(18)	(7)	(14)	(10)	(5)	(12)	(8)	(4)
Percentage with income decrease	47	72	78	48	67	63	46	65	67
	(5)	(3)	(3)	(5)	(4)	(5)	(5)	(4)	(4)
Percentage change in income									
lower quartile	–41	–91	–108	–28	–44	–44	–31	–37	–35
	(9)	(6)	(7)	(6)	(3)	(3)	(3)	(2)	(2)
median	4	–39	–77	4	–23	–21	2	–18	–14
	(9)	(6)	(6)	(7)	(4)	(4)	(6)	(4)	(3)
upper quartile	56	7	–16	47	15	24	35	22	19
	(15)	(11)	(14)	(7)	(6)	(9)	(9)	(8)	(8)

Original, gross, and net income defined in text. Incomes equivalised using the McClements scale, and indexed to January 1995 price levels. Data weighted using BHPS longitudinal enumerated individual weights for wave $t+1$. Standard errors of estimates shown in parentheses are bootstrapped standard errors (1000 replications) derived assuming random sampling.

whereas the real income for husbands changes little. This is true whichever of the three income measures are used.

To illustrate this, we focus on net income, the most commonly used economic status measure in Britain. (If original or gross income are used instead the same picture is derived.) We find that the median percentage net income change for men is a 2 percent rise. The 95 percent confidence interval for this estimate is (–16,13). In sharp contrast the median percentage change in net income for wives is a decrease of 18 percent. The 95 confidence interval in this case is (–23,–11) which only just overlaps the one for husbands. (The 95 percent confidence intervals do not overlap when original and gross income are used instead.) To put things another way, assuming a negligible covariance between the income changes for husbands and wives, the 't-ratio' of a test that the median percentage net income change differs between husbands and wives equals 2.77, which is 'large'.

The median percentage net income change for children, –14 percent (95 percent confidence interval (–19,–10), is similar to that for wives, reflecting of course the fact that most children live with their mothers rather than their fathers after a marital split.[20] To put these numbers into perspective, note that the median income change for separating couples is lower, especially for wives, than median net income growth between wave 1 and wave 2 for all married and cohabiting couples present at wave 1, 3.5 percent. Thus persons experiencing a marital split, who are disproportionately drawn from the low income population in the first place, fall even further behind.

The finding of differential income change is consistent with similar previous North American studies using longitudinal data sets: see for example, Burkhauser *et al.* (1990, 1991), David and Flory (1989), Duncan and Hoffman (1985), Finnie (1993), and Hoffman (1977). They are consistent too with the earlier British evidence derived from Gregory and Foster's (1990) decade-old sample of persons gaining final divorce decrees (see the Introduction).

Our second main finding is there is much heterogeneity in income change associated with a marital split, regardless of gender, in addition to the clearcut changes on average commented on so far.

Table 3 shows, for instance, that although the median net income decline for separating wives was 18 percent, 35 percent of the subsample experienced an income rise after the marital split, and the upper quartile of the subsample 'percentage change in net income' distribution was 22 percent. Net incomes rose

[20] Our estimates are based on a sample which includes a small number of people who are living with a new partner at wave $t+1$, and it would be interesting to explore whether post-split incomes are higher for this group: some North American studies have shown that repartnering is associated with higher income, especially over the longer term (see for example Duncan and Hoffman, 1985, and Finnie, 1993). When we exclude the persons who repartner from our calculations, we find that the estimates change very little, but in the expected direction. The number of persons in our sample who repartner is too small to provide reliable income change estimates for the group separately: see Table 2.

for 33 percent of children of separating couples. Although on average separating husbands' net income changed little, almost one half of men (46 percent) experienced an income fall, and the decrease was substantial for some. The lower quartile of husbands' 'percentage change in net income' distribution is –31 percent. Of course this figure is not as negative as the corresponding lower quartile for wives or children, and the upper quartile of the husbands' 'percentage change in net income' distribution is much higher than the wive's or children's ones (35 percent rather than 22 percent or 19 percent).

In sum, there is a distribution of income changes amongst each of the subgroups, but the distributions for wives and children are displaced leftwards, in the direction of relative disadvantage, compared to the husbands' distribution.

Who are the gainers and who are the losers amongst separating husbands and wives? See Table 4 for some answers. (The calculations are based on net income, but similar patterns arise with gross income.) It is striking that for wives changes in net income are relatively homogenous, and appear to vary little with marital

Table 4: *Net income changes for husbands and wives experiencing a marital split, by pre-split characteristics (BHPS, waves 1-4)*

Characteristics, wave *t*	Median percentage change in net income, wave *t* to *t*+1		Percentage with net income decrease, wave *t* to *t*+1	
	Husbands	Wives	Husbands	Wives
Marital status				
married	13	–18	40	71
cohabiting	–13	–17	55	57
Age (years)				
< 26	–29	–15	60	60
26–34	7	–15	42	65
≥ 35	10	–21	43	73
Dependent children				
has children	14	–17	41	66
no children	–7	–18	52	64
Net income (as % of wave 1 mean)				
< 50	16	13	34	44
50–75	–13	–37	60	86
> 75	–7	–31	51	76
All	2	–18	46	65

Net income defined in text. Data weighted using BHPS longitudinal enumerated individual weights for wave *t*+1.

status, or age, or presence of dependent children. However there is some association with low income: the wives with the very lowest incomes before the split experience an income increase on average, unlike those in other income groups. This might reflect an increases in eligibility for social assistance not available when previously partnered. Amongst separating husbands, it is easier to characterise the income gainers: they appear more likely to be married, older, have dependent children, or (similarly to wives) to have low pre-split incomes. This raises the question of whether such income gains are more the result of a pure income change, or of a 'needs'-related change. (Married men with children who separate are the subgroup likely to experience the largest decrease in household size between wave t and t+1.) If it is the latter, it is reasonable to ask whether some of the conclusions derived so far are contingent on the use of a particular equivalence scale (the McClements one) to summarise household needs. We investigate the sensitivity of our results to the choice of equivalence scale in the next section.

4. Sensitivity Analysis

■ ***Are conclusions robust to variations in the equivalence scale?***

How the income changes estimates vary with different assumptions about household economies of scale is reported in Table 5. The numbers shown are derived in exactly the same way as their counterparts in Table 3, except that members of the Buhmann *et al.* (1988) equivalence scale class are used to adjust incomes instead of the McClements scale.

We find, as expected, that the greater the household economies of scale which are assumed—the smaller the value of θ—the more likely it is that a marital split is associated with an income fall, regardless of gender. As θ increases from 0 through to 1, the median percentage income change for separating husbands, wives, and children is at first negative and becomes less negative (positive for husbands for all three income measures for $\theta = 0.75$ and 1), and the proportion of persons experiencing an income fall declines. Thus the choice of equivalence scale does indeed have an impact on estimates of the magnitude of the income change associated with a marital split, and in particular whether men's incomes increase or decrease with the event. Estimates of wives' and children's median income changes are always negative and lie in a much smaller range than the figures for men.

The greater sensitivity of the estimates for men arises because a marital split involves a greater decrease in household size on average for men (since any dependent children tend to live with their mother after the split). The average household size for men is 3.10 at t and 1.73 at t+1; for women the change in the

average household size is from 3.32 to 2.60. About 94 percent of the children in separating families whose parents do not repartner live with their mother at wave $t+1$.

With $\theta = 0$ (no adjustment to incomes, i.e. infinite economies of scale), the median percentage net income change for both husbands and wives is at least a one third decrease, but at the other extreme, $\theta = 1$ (the *per capita* scale case), median net income for husbands increases by one quarter, whereas women's decreases by one fifth and children's by one quarter. Although many would agree that such extreme assumptions about scale economies were implausible, there is little consensus about what they should be within such bounds. The McClements scale corresponds to scale with a θ value of between 0.6 and 0.7, and Table 5 shows that relatively small differences in scale economies away from this change the estimate of husbands' median income change from positive to zero or negative (according to all three income measures). In this sense, the results are sensitive to changes in the equivalence scale.

The results can also be interpreted from a different perspective. Observe that if $\theta = 0$ then money incomes are not adjusted for differences in 'needs'. The results for this case therefore indicate that virtually all separating husbands and wives experience a money income fall. The results for the different equivalence scales thus show that for husbands the impact of 'needs'-related changes (typically a relative decline in the number of dependents) tends to offset the money income changes, whereas this is not the case for wives or children.

■ *Are respondents' subjective assessments of changes in financial circumstances consistent with observed income change estimates?*

The BHPS provides a rare opportunity to check whether respondents' subjective assessments of changes in financial circumstances are consistent with observed income change estimates. (We are unaware of any such previous checks in other studies.) From the battery of questions concerning socio-economic attitudes and values at each wave, we make use of the question which asks:

> Would you say that you yourself are better off, worse off, or about the same financially than you were a year ago?

Table 6 shows, for separating husbands and wives separately, the sample proportions in each response category, together with the median percentage change in net income and proportion with a net income decrease, for each response category subgroup. (The patterns are similar if gross income is used instead for the breakdowns.)

The subjective assessments responses are clearly consistent with the income change calculations. After the marital split, the proportion of wives who judge themselves financially worse off relative to a year ago, 61 percent, is more than

Table 5: *How income change estimates vary with changes in the equivalence scale (BHPS, waves 1-4)*

	Original income			Gross income			Net income		
	Husbands	Wives	Children	Husbands	Wives	Children	Husbands	Wives	Children
			θ = 0						
Pre-split median (£ p.w.)	371	368	243	408	396	309	311	293	324
Post-split median (£ p.w.)	267	155	27	307	200	184	201	162	160
% with income decrease	72	77	82	72	77	77	82	83	87
Percentage change									
lower quartile	–62	–93	–104	–52	–62	–60	–58	–58	–53
median	–27	–53	–84	–25	–43	–42	–32	–43	–41
upper quartile	8	–4	–32	6	–3	–3	–11	–8	–9
			θ = 0.25						
Pre-split median (£ p.w.)	294	290	185	307	304	216	242	225	223
Post-split median (£ p.w.)	259	129	22	264	164	124	192	134	118
% with income decrease	72	77	82	64	76	72	77	79	85
Percentage change									
lower quartile	–82	–120	–150	–43	–59	–52	–50	–54	–47
median	–34	–67	–120	–15	–39	–32	–19	–38	–32
upper quartile	11	–6	–44	18	–2	8	–4	–7	–4

			θ = 0.5						
Pre-split median (£ p.w.)	222	222	127	234	232	149	183	168	157
Post-split median (£ p.w.)	227	98	16	238	140	92	166	111	85
% with income decrease	52	75	79	51	76	74	61	78	80
Percentage change									
lower quartile	–43	–92	–105	–32	–54	–52	–36	–47	–47
median	–5	–46	–83	0	–32	–32	–10	–32	–32
upper quartile	50	–2	–18	29	–2	8	17	–4	–4
			θ = 0.75						
Pre-split median (£ p.w.)	164	160	85	173	171	105	137	125	118
Post-split median (£ p.w.)	200	82	11	216	115	65	145	91	67
% with income decrease	46	72	78	44	72	70	49	71	73
Percentage change									
lower quartile	–37	–91	–106	–22	–50	–49	–23	–44	–44
median	5	–42	–82	7	–30	–29	6	–28	–28
upper quartile	72	3	–21	53	7	11	44	6	0
			θ = 1						
Pre-split median (£ p.w.)	126	121	58	130	126	75	101	92	79
Post-split median (£ p.w.)	175	59	9	182	90	48	142	74	49
% with income decrease	38	70	77	35	66	65	36	67	72
Percentage change									
lower quartile	–41	–89	–106	–15	–49	–45	–14	–40	–38
median	22	–41	–80	26	–25	–26	24	–20	–21
upper quartile	105	17	–17	93	20	–25	79	22	10

Definitions and subsample sizes as per Tables 1 and 3, except that incomes are equivalised using members of the Buhmann *et al.* (1988) class of equivalence scales defined in text.

Table 6: *Changes in financial circumstances: comparison of respondents' subjective assess-ments with observed net income changes (BHPS, waves 1-4)*

Respondents' subjective assessments at wave t+1of change in own financial circumstances between waves t and t+1	Subjective assessment (Percentage in response category)		Net income breakdowns by subjective assessment response category			
			Percentage with income decrease		Median percentage change	
	Husbands	Wives	Husbands	Wives	Husbands	Wives
Better off	24	28	41	59	20	–11
About the same	49	11	48	65	0	–11
Worse off	27	61	48	67	1	–22

See text for exact wording of question about subjective assessment of change in financial circumstances.

twice the corresponding proportion for husbands, 27 percent.[21] These figures are of the same order of magnitude as those shown in Table 3: across the three income measures, the proportion of wives with an income decrease ranges from 65 to 72 percent, and the proportion for husbands is between 46 and 48 percent.

There is also a clear gradient in percentage income changes, and the proportions with an income decrease, when one breaks the numbers down by subjective assessment category subgroups. For wives, the median percentage income change ranges from –22 percent for the subgroup who said they were worse off compared to a year ago to –11 percent for the subgroup who felt better off. There is an even sharper gradient for husbands, and for each response category, their median percentage income changes are positive or zero rather than distinctly negative as they are for wives.

In sum, we believe the subjective assessments by respondent validate the conclusions drawn so far from the observed income data.

■ *The impact of deducting maintenance payments from income*

It might be argued that our calculations provide an over-estimate of wives' losses relative to husbands' because, in the definition of the income measures used so far, maintenance payments by husbands have not been deducted from their income, but receipts of maintenance by wives are included. We address this issue using data from waves 2–4 only, since at wave 1 respondents were asked whether they paid maintenance, but not the amount.

Table 7 compares income change estimates for original, gross, and net income measures from which maintenance payments are deducted (top panel) with estimates for income measure from which maintenance payments have not deducted (bottom panel) as in the earlier tables (but now with a smaller sample). It is not only post-split incomes for husbands which are affected by the deduction. Pre-split incomes are affected because some husbands (and wives) were already paying maintenance to previous partners at wave *t* (and this changes the household income at *t* of both spouses). Post-split maintenance payers include some wives.

Comparisons of corresponding estimates in the two panels reveals that deducting maintenance does not change the tenor of our earlier conclusions. Post-split incomes in the top panel are indeed smaller in absolute terms particularly for husbands, but looking at the table as a whole, it is only for the original income statistics that there are any noticeable differences and even these are small. For example, the percentages experiencing an income decrease, or the quantiles of the

[21] The responses differ distinctly from those of all BHPS respondents taken together, of whom about one half answer 'about the same', and one third answer 'worse off'. We found no clear patterns related to responses to the wave *t* household finance questions cited earlier.

Table 7: *Comparison of incomes before and after a marital split: the impact of deducting maintenance payments from income (BHPS, waves 2-4)*

	Original income		Gross income		Net Income	
	Husbands	Wives	Husbands	Wives	Husbands	Wives
	Income after maintenance payments deducted					
Pre-split median income (£ per week)	176	166	179	177	159	133
Post-split median income (£ per week)	194	98	195	142	142	118
% with income decrease	51	70	52	66	46	67
Percentage change in income						
lower quartile	–61	–89	–35	–44	–30	–38
median	0	–37	0	–25	2	–20
upper quartile	48	14	41	15	27	13
	Income before maintenance payments deducted					
Pre-split median income (£ per week)	187	166	192	179	159	133
Post-split median income (£ per week)	216	98	216	142	157	118
% with income decrease	44	71	50	66	44	63
Percentage change in income						
lower quartile	–56	–89	–28	–44	–30	–38
median	–1	–37	0	–25	3	–18
upper quartile	48	4	41	16	27	22
Number of cases	71	99	71	99	71	99

Calculations based on subsample with information about the amount of maintenance received (respondents with a marital split at waves 2 or 3 and who belong to complete respondent households).

distribution of percentage income changes, are virtually the same, particularly for gross and net income.

The explanation for the robustness of the results is straightforward. The amounts of maintenance paid on average are not large (as Table 7 shows) and, in any case, relatively few liable non-custodial parents pay maintenance (as we show explicitly later). Previous studies have shown that this described the situation at the start of the 1990s (Bradshaw and Millar, 1991; McKay and Marsh, 1994); our results suggest that things have not changed much, despite the introduction of the Child Support Agency.

■ *The treatment of housing costs and housing capital*

So far we have measured changes in economic well-being using income definitions which do not take account of accompanying changes in housing costs or housing capital. This might lead to an under-estimate of the post-split well-being of wives and an over-estimate for husbands.[22] A stereotypical example is where a divorcing husband moves out of the jointly-owned family home into rented accommodation, while also transfering ownership of the house to his former spouse, so that his weekly housing costs are higher and he has less capital (and the opposite is true for his former spouse).

We provide evidence about the impact of deducting housing costs from income in Table 8.[23] When the after housing costs net income measure is used, husbands clearly do not do as well as previously estimated. The proportion with an income decrease rises, and the distribution of changes in income shifts downward. Nonetheless the changes are relatively small, and the substantial difference in the experience of husbands and wives remains.

Changes in housing wealth or in the division of other assets are harder to track in the BHPS. When we examined housing tenure, we found that only six wives

Table 8: *Comparison of incomes before and after a marital split: the impact of deducting housing costs from income (BHPS, waves 1-4)*

	Net income before housing costs		Net income after housing costs	
	Husbands	Wives	Husbands	Wives
Pre-split median income (£ per week)	161	136	126	108
Post-split median income (£ per week)	156	116	110	78
% with income decrease	46	65	54	70
Percentage change in income				
lower quartile	–31	–37	–38	–53
median	2	–18	–6	–25
upper quartile	35	22	30	10
Number of cases	103	147	103	147

[22] In some earlier studies, for example Burkhauser *et al.* (1990, 1991), these issues are addressed by using a measure of income which includes the imputed rental value of owner-occupied housing.

[23] Housing costs include rents and mortgage expenditures for owner-occupiers. The latter expenditures are net of mortgage interest tax relief for people who have it deducted at source (the MIRAS scheme), but gross of reliefs for other mortgage holders.

became outright owners in the year following the marital split (five husbands made the same transition). Only a minority of separating couples change tenure between waves t and $t+1$: approximately 58 percent of husbands and 60 percent of wives in the same tenure state. The next most common change for both sexes was from owner-occupier with a mortgage to renter (15 percent of husbands, 10 percent of wives). We also find that almost as many separating wives as husbands move house after a marital split. Even if one adjusts the proportion of residentially mobile husbands (58 percent) upwards to take account of differential attrition, the proportion of residentially mobile wives (56 per cent) is not too dissimilar.

In sum, taking account of housing does not change the broad thrust of our conclusions. The one year observation window we use may be the reason for this result: transfers of housing (and other financial) assets may not have occurred within this interval. Another explanation for the robustness result is that stereotypical example we described above is relatively rare. Recall that separating couples are typically relatively young, and many of them have no children and are in cohabiting unions (Table 2). Finally, the focus on only housing amongst financial assets may be misplaced. Arguably a separating husband's post-split economic well-being is under-estimated because post-split income takes no account of the value of his pension rights (which are not usually shared with former spouses).[24]

■ *What happens to incomes in the second year after a marital split?*

The picture we have drawn of the short-term changes in income associated with a marital split and the differentials between separating husbands and wives may not be an accurate reflection of longer term outcomes. For example, Duncan and Hoffman (1985) examined income sequences for each of the five years following a marital split using U.S. PSID data, and found some recovery in separating wives' incomes over the five-year period, especially for those who re-partnered. Similar analysis is not yet possible with the BHPS. Nonetheless, with some inevitable compromise in terms of sample numbers, we can track incomes for separating couples for two years after the marital split: see Table 9.

We find some evidence of income recovery, albeit small, for separated wives over the second year after the marital split. For example the proportion of wives with a decrease in the second year is below one half (compared to around two-thirds or more in the first year depending which income measure is used). Also the median percentage income change in the second year is close to positive (gross and net income) or only slightly negative (original income). There are also similar positive movements in the lower and upper quartiles of the income change

[24] We are grateful to Heather Joshi for this point.

Table 9: *Comparison of incomes before a marital split and one and two years after a marital split (BHPS, waves 1-4)*

	Original income		Gross income		Net income	
	Husbands	Wives	Husbands	Wives	Husbands	Wives
Pre-split median income, wave *t* (£ per week)	163	180	171	194	133	133
Post-split median income, wave *t*+1 (£ per week)	190	81	192	125	145	112
Post-split median income, wave *t*+2 (£ per week)	167	94	173	129	140	106
% with income decrease, wave *t* to *t*+1	51	75	47	67	42	68
% with income decrease, wave *t*+1 to *t*+2	43	48	46	49	50	48
Percentage change in income						
lower quartile, wave *t* to *t*+1	–61	–93	–27	–37	–31	–37
lower quartile, wave *t*+1 to *t*+2	–31	–37	–23	–26	–23	–29
median, wave *t* to *t*+1	–13	–45	4	–21	8	–21
median, wave *t*+1 to *t*+2	2	–3	2	2	1	2
upper quartile, wave *t* to *t*+1	46	–4	48	14	38	13
upper quartile, wave *t*+1 to *t*+2	32	33	26	31	17	25
Number of cases	86	116	86	116	69	84

Data weighted using BHPS longitudinal enumerated individual weights for wave *t*+2. Calculations based on respondents who separated between waves 1 and 2 and for whom valid income information exists in waves 2 and 3, plus respondents who separated between waves 2 and 3 and for whom valid income information exists for waves 3 & 4.

distribution for wives. A similar story can be told for husbands. However the changes are relatively small for both genders, and so over this extra year wives do not catch up again. The income differential between separating husbands and wives remains.[25]

[25] Duncan and Hoffman's (1985, Fig. 14.2) results for the five post-split waves also show a continuing income differential between separating husbands and separating wives.

5. The Rôle Of The Welfare State in Reducing Differential Income Changes Between Separating Husbands, Wives, and Children

We now turn to consider how the differential impact of a marital split on wives and children relative to husbands is affected by the British welfare state through its cash benefit and direct tax programmes applying methods used by Burkhauser *et al.* (1990, 1991). The basic idea is to compare the results for a measure of pre-tax pre-transfer income (original income) with results for measures of pre-tax post-transfer income (gross income) or post-tax post-transfer income (net income), and to attribute the differences to government policy. Clearly this provides only 'first approximations of the net influence of government. This must be the case since it is implicitly assumed that no behavioral changes would take place in the absence of government intervention' (Burkhauser *et al.*, 1990, p. 322n). However we agree with these authors that the methods are nonetheless informative.

Table 10 recasts information presented in Tables 3 and 5 to focus on the differential income changes of separating wives relative to husbands (first panel) and children relative to husbands (second panel). The first three columns report, for each of the six equivalence scales used earlier and for the three income measures, a basic measure of how much worse off wives (or children) are than husbands after a marital split: the simple arithmetic difference between the median percentage income change for husbands and wives, and husbands and children. For each income measure the gap is positive and increasing in θ.

The impact of the welfare state can be gauged from the numbers in the final three columns of Table 10; these summarise the proportion of the gap relative to husbands which is closed by policy. Column (4) suggests that the size of the income change gap for wives relative to husbands which is reduced by cash transfers is larger the greater the economies of scale, ranging between about one fifth (19 percent if $\theta = 1$) and one third (31 percent if $\theta = 0$), and a bit larger, 37 percent, for the McClements scale. Policy appears to be more successful in reducing the relative gap for children: the 'percentage gap closed' estimates are again a decreasing function of θ, but much larger than for wives, ranging from 70 percent when $\theta = 0$ to 49 percent when $\theta = 1$.

Similar calculations using panel data for Germany (1983–86) and for the U.S.A. (1981–85) are reported by Burkhauser *et al.* (1990, Table 6). Reliable comparisons between our results and theirs are compromised by the differences in definitions used and differences in time period covered, but some broad contrasts can be attempted.

Burkhauser *et al.* drew attention to the fact that 'despite its far more extensive

Table 10: *The impact of government cash benefits and direct taxes on the incomes of separated wives and of children, relative to separated husbands (BHPS, waves 1-4)*

Equivalence scale	Gap between median income changes			Percentage of gap closed by policy		
	Original income	Gross income	Net income	Cash transfers	Cash transfers, direct taxes	Direct taxes
	(1)	(2)	(3)	(4) = 100×[1 – (2)/(1)]	(5) = 100×[1 – (3)/(1)]	(6) = 100×[1 – (3)/(2)]
			Wives relative to husbands			
McClements	43	27	20	37	53	26
Buhmann *et al.*						
θ = 0	26	18	11	31	58	39
0.25	33	24	19	27	42	21
0.5	41	32	22	22	46	31
0.75	47	37	34	22	27	8
1	63	51	44	19	30	14
			Children relative to husbands			
McClements	81	25	16	69	63	36
Buhmann *et al.*						
θ = 0	57	17	9	70	84	47
0.25	86	17	13	80	85	24
0.5	78	32	22	59	72	31
0.75	87	36	34	59	61	6
1	102	52	45	49	56	13

Columns (1)-(3) are derived from Table 3 and 5 and show the arithmetic difference between the median percentage income change for men and the median percentage income change for women (top panel) and children (bottom panel).

tax and transfer system the disparate effect of divorce or separation on wives and children persisted in Germany at a level at least as high as in the United States' (1990, p. 319). For example, applying a U.S. equivalence scale to both U.S. and German data, the proportion of the gap between wives and husbands reduced by cash transfers was 33 percent in the U.S. and 26 percent in Germany. Applying a German equivalence scale to both countries' data, the corresponding figures were 26 percent and 20 percent. The U.S. scale incorporates high economies of scale and the German scale low economies of scale; one might therefore compare them with the Buhmann *et al.* scales for θ equal to 0.25 and 0.75. In this case, the British estimates of the percentage gap for wives closed by cash transfers to compare with the U.S. and German ones are 27 percent and 22 percent. In other words, the estimates of transfer policy impact on the differential between the sexes appear broadly similar for all three countries.[26] By contrast, similar comparisons for children using the same θ values suggest that the percentage of the gap relative to husbands closed by British transfer policy is higher than in either the U.S.A. or Germany. This is perhaps surprising given that there are specific cash benefits for children in both Germany and Britain.

Burkhauser *et al.* (1990, 1991) did not examine the impact of direct taxes (they used only pre-tax income measures). With our net income measure, we can provide some evidence about this policy instrument. Table 10, column (5), shows the net impact of taxes and transfers combined, and column (6) the impact of direct taxes alone (relative to gross income, rather than original income, since most benefits are taxable). It is clear that if one takes a broader definition of the welfare state, including taxation as well as transfers, then policy is more successful in reducing the gap between the sexes: column (5) figures are always larger than their counterparts in column (4) and by 16 percentage points according to the McClements scale. It is also clear that for children, cash transfers play a greater gap reducing rôle than direct taxes (compare cols 6 and 4). For wives, the relative importance of cash transfers and taxes is not so clearcut and depends on the equivalence scale.

In the next section we look at the rôle played by transfers more directly, documenting changes in the receipt of welfare benefits accompanying a marital split.

[26] Also similar across the countries are the estimated proportions of men, women, and children who experience an income decrease between wave t and $t+1$ (comparisons made using $\theta = 0.25, 0.5$). However there are also cross-national differences. For example the gaps for women relative to men which remain after transfers do differ in absolute magnitude across the three countries. Burkhauser *et al.*'s (1990) Tables show that gaps are lower in the U.S. than in Germany. Our post-transfer gap estimates for wives are of much the same size as those reported for the U.S., despite the greater similarities between the European welfare states (though patterns of female labour participation in Britain are more like those of the U.S. than of Germany).

6. Changing Income Sources: the Government, the Labour Market and Former Partners

People get most of their income from three sources: the labour market, the government, or transfers from other members of their family. In this section we show how the pattern of receipt from the different sources changes when partnerships dissolve, contrasting the experience of separating husbands and wives. We first document in turn the changes in the incidence of social assistance benefit receipt, participation in paid work, and the receipt and payments of maintenance income.

The principal social assistance benefit in Britain is Income Support, a cash benefit payable to family heads whose family income falls below a threshold which varies with family needs. It is paid subject to an 'availability for work' test (lone parents and elderly people excepted), and is not time limited. Payments are means-tested, and not available to those in full-time work. Family heads receiving social insurance Unemployment Benefit are also eligible for Income Support if their family income would otherwise be below the relevant Income Support guarantee level. All low income households, not only Income Support recipients, are eligible for assistance with high housing costs through the Housing Benefit programme if their incomes and housing costs fall within the relevant needs-varying bounds. Income Support, Unemployment Benefit and Housing Benefit are all components of gross income.

We document how reliance on social assistance benefits changes with a marital split in Table 11. The first panel refers to Income Support, or joint Unemployment Benefit and Income Support receipt, and the second also adds in Housing Benefit receipt. (Since the family is the unit of assessment, receipt refers to receipt by either spouse.) We find that prior to the marital split the incidence of Income Support receipt is similar for husbands and wives, about one sixth. About one fifth (22 percent) of husbands, and more than one quarter (27 percent) of wives, were in families receiving Income Support or Housing Benefit. After the split there is a clear differential between the sexes: only 18 percent of the husbands are in families receiving Income Support compared to 32 percent of the wives. If Housing Benefit receipt is also counted, the proportions are 22 percent and 45 percent. There is an even greater differential in the proportions moving onto benefit: 23 percent of wives move from non-receipt to receipt after the marital split, which is more than three times greater than the corresponding proportion for husbands (7 percent).

These differences between the sexes are mirrored in the statistics summarising changes in participation in paid work (in employment or self-employment, whether part-time or full-time) in the fourth panel of Table 11. Before the marital split, 74 percent of the husbands worked compared with 59 percent of the wives;

Table 11: *Welfare benefit receipt, participation in paid work, and maintenance before and after a marital split (BHPS, waves 1-4)*

Column percentages	Husbands	Wives
Income Support or Unemployment Benefit with Income Support[a]		
not receiving at *t*, not receiving at *t*+1	76	55
not receiving at *t*, receiving at *t*+1	7	23
receiving at *t*, not receiving at *t*+1	5	6
receiving at *t*, receiving at *t*+1	11	9
Housing Benefit, Income Support or Unemployment Benefit with Income Support[a]		
not receiving at *t*, not receiving at *t*+1	69	50
not receiving at *t*, receiving at *t*+1	8	23
receiving at *t*, not receiving at *t*+1	8	5
receiving at *t*, receiving at *t*+1	14	22
Paid work		
not working at *t*, not working at *t*+1	21	33
not working at *t*, working at *t*+1	4	7
working at *t*, not working at *t*+1	10	15
working at *t*, working at *t*+1	64	44
Receives maintenance at t+1		
yes	1	14
no	99	86
Receives maintenance at t+1 *(husbands and wives with dependent children at t*+1*)*		
yes	5	24
no	95	76
Payment of maintenance		
not paying maintenance at *t* or *t*+1	78	92
not paying maintenance at *t*, paying at *t*+1	17	3
paying maintenance at *t*, not paying at *t*+1	4	3
paying maintenance at *t*, and *t*+1	2	2
Payment of maintenance (husbands and wives with dependent children at t)		
not paying maintenance at *t* or *t*+1	73	95
not paying maintenance at *t*, paying at *t*+1	24	3
paying maintenance at *t*, not paying at *t*+1	3	2
paying maintenance at *t*, and *t*+1	1	0

[a] Benefit receipt refers to receipt by the respondent or respondent's spouse. Data weighted using BHPS longitudinal enumerated individual weights for wave *t*+1.

after the split the proportions are 68 percent and 51 percent.[27] Moreover the proportion of wives who stop working after the marital split, 15 percent, is 50 percent higher than the proportion of husbands who stop (10 per cent).

Receipt of maintenance from a former partner are an important potential source of income for divorced and separated wives, and mothers in particular. As in other U.K. studies, we find that the incidence of maintenance receipt is low. Of the wives who have dependent children after the marital split, only about one quarter receive some maintenance (cf. Bradshaw and Millar (1991) and McKay and Marsh (1994) who report figures of between one quarter and one third.)

The incidence of maintenance payment is summarised in the bottom two panels of Table 11. Observe that not only husbands but also some wives pay maintenance, and that some spouses were already paying maintenance to former partners before the current marital split. We find that 82 percent of the separating husbands and 95 percent of separating wives were not paying any maintenance after the current marital split. Amongst the separating husbands and wives who had dependent children prior to the marital split, the corresponding figures are 76 percent and 97 percent. About one quarter of fathers paid maintenenance after the marital split, which matches the proportion of mothers receiving cited earlier.

In sum, our longitudinal results confirm what many previous cross-section studies have shown: that divorced and separated mothers have a relatively high reliance on social assistance benefits, relatively low labour participation rates, and a low likelihood of receiving maintenance (reflecting the relatively low incidence of maintenance payments by divorced and separated fathers) Against this background, the British government has attempted to increase work incentives, raising the generosity of in-work benefits (such as Family Credit) relative to social assistance benefits, and introducing a mandatory child support payment system administered by the Child Support Agency. Arguably these initiatives have not yet had significant success.

The results suggest that fundamental changes to the Child Support Agency are required to change the conclusions of our analysis for separated parents. This can be seen by considering what would happen if—contrary to fact—payments by non-custodial parents were made according to the mandated formulae. Only the incomes of rich women would be improved, because most of the maintenance is transferred to the government rather than custodial mothers. Separated wives receiving Income Support receive no net gain from higher maintenance as their benefit is reduced pound for pound, whereas gains for those receiving Family Credit are limited to the amount of the maintenance disregard. Separated husbands

[27] Some readers have found the proportion of husbands not working prior to the marital split, 24 percent, to be very high. The figure reflects the relative youth of our sample (see Table 2) who are at relatively high risk of unemployment. Also the period covered by our data (1991-4) spans the bottom of the macro-economic cycle followed by slow recovery.

paying formulae maintenance would of course have a lower income and this would indeed reduce the income differential between husbands and wives after a split. But by leaving one poor group (separated mothers) poor and making an already relatively poor group (separated husbands) poorer. Moreover changes to the Child Support Agency rules have no effect on the incomes of childless separated wives.

Many would agree that the most effective way of substantially raising the income of divorced and separated wives, and lone mothers in particular, would be raise their labour market earnings substantially. Given the baseline is zero earnings in many cases, a fundamental issue is how to increase labour force participation. For lone mothers, child care availability and affordability are also crucial issues.

7. Summary and Concluding Comments

We have provided new evidence for Britain about what happens to people's incomes in the year after their or their parents' marital union dissolves, using a nationally representative longitudinal survey. Marital splits are associated with substantial declines in real income for wives and children on average, whereas husbands' real income on average changes much less. A focus on average income changes disguises variations in fortunes amongst husbands, wives and children—and there are people with income gains in each group—but the distributions for separated wives and children are nonetheless distinctly displaced in the direction of disadvantage relative to the distribution for separated husbands.

These broad conclusions are robust to the choice of income definition and degree of economies of scale built into the household equivalence scale. Moreover we have validated the results by showing that they are consistent with respondents' own assessments of how their personal financial circumstances changed over the year in which the marital split occurred. Although there is significant attrition from the BHPS by separating husbands in particular, and our sample numbers are relatively small, these factors are unlikely to change our conclusion about differential income change between separating husbands and wives.

Our findings of substantial short-term declines in income for British wives and children experiencing a marital dissolution are consistent with those found by Gregory and Foster (1990) for legally divorcing couples in Britain. The results are also consistent with those derived using longitudinal data from panel studies of the U.S.A., Germany, and Canada.

We have also documented how the British welfare state mitigates the differential impact of marital splits on wives' and children's incomes relative to husbands', and there is some preliminary evidence that the policy impact is of the same order as in the U.S.A. and Germany. This is notable given the differences in structure and coverage of the welfare state across the three nations. Explanations

for differential impacts of marital splits on income are therefore probably best seen in terms of gender-related differences which are common across countries. As the review by Holden and Smock (1991), and other authors, have pointed out, there are significant inequalities in the labour market and in the home. These include: the greater career labour market attachment of husbands compared to wives; the greater earnings of working husbands than working wives, wives' primary responsibility for caring for children (especially after the marital split), and the failure of many separated husbands to pay sufficient maintenance to their former spouse to support their children. Our analysis of the differential pattern of receipt of incomes from social assistance benefits, paid work, and former partners emphasises these factors anew.

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