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Do current income and annual income measures provide different pictures of Britain's income distribution?

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DO CURRENT INCOME AND ANNUAL INCOME MEASURES PROVIDE DIFFERENT PICTURES OF BRITAIN'S INCOME DISTRIBUTION?

René Böheim and Stephen P. Jenkins

ISER Working Paper
Number 2000-16

Institute for Social and Economic Research

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- ESRC UK Longitudinal Studies Centre. This national resource centre was established in October 1999 to promote the use of longitudinal data and to develop a strategy for the future of large-scale longitudinal surveys. It was responsible for the British Household Panel Survey (BHPS) and for the ESRC's interest in the National Child Development Study and the 1970 British Cohort Study
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ABSTRACT

Most UK surveys, including those used each year to derive the official UK income distribution statistics ('Households Below Average Income'), provide measures of current household income rather than annual household income, which is the measure used in most other countries. Using British Household Panel Survey data, we examine whether estimates of Britain's income distribution and its trends are sensitive to the choice between current and annual income measures. The main finding is that current and annual income measures provide remarkably similar results. We explore why.

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Abstract

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SUMMARY

A distinctive feature of the Department of Social Security's *Households Below Average Income* (HBAI) household income measures—used to derive the official income distribution statistics—and the household income measures available in all other cross-section British household surveys is that they refer to *current* income (income round about the time of the survey interview). By contrast the income surveys for most other countries provide measures of *annual* household income (income over the previous year). Most researchers argue that annual income provides a better measure of household living standards or access to economic resources than current income does. The reason is that, even though a household's income may fluctuate from one month to the next, these transitory variations may have little impact on households' budgeting and thence consumption: arguably income can be smoothed over the short-term. Thus it is differences in longer-term income which more closely relate to differences in households' welfare than differences in short-term income. This paper documents patterns and trends in the British income distribution between 1991 and 1997, comparing findings for current and annual income measures from the British Household Panel Survey (BHPS). The research aims to reveal how robust existing methods are, in particular those employed in the HBAI statistics, to the choice of reference period for incomes.

The Family Expenditure Survey (FES) and the Family Resources Survey (FRS), the main British cross-sectional income surveys and the basis of the HBAI calculations, focus on measures of current household income, but also contain some retrospective data enabling researchers to create a synthetic annual household income measure. The BHPS collects detailed current income information but, by virtue of its explicitly longitudinal design, has more extensive retrospective data about income receipt and labour market activity of survey respondents over the previous year. Thus arguably the BHPS's synthetic annual income measure is better than the ones which can be derived from the FES or FRS. Also the BHPS measure is routinely provided along with the other BHPS official release variables, rather than having to be specially derived. We therefore use the BHPS for our comparisons of current and annual income distributions. Section 2 explains the definitions of the variables and BHPS sub-samples used in more detail.

Section 3 discusses the differences which one might expect to find between estimates of the extent of inequality and poverty based on current and income distributions. We then turn to the empirical results. Section 4 compares current and annual income estimates of the income distribution during the 1990s (1991-1997). Section 5 turns to consider if current and annual income provide different perspectives on the income distribution when one looks at different subgroups within the population differentiated by, for example, a person's family type and economic status. We also compare some summary statistics of longitudinal income mobility and low income entry and exit rates. Section 6 provides concluding remarks.

The main finding is that current and annual income measures provide remarkably similar pictures about the income distribution for virtually all the statistics we consider. Many of the cases where there are more noticeable differences can be attributed to outlier income

values and so are likely to be unreliable. We explore why the measures provide similar results, referring to theoretical reasons as well as matters of practical definition.

The statistics reported in the main text are based on current and annual *gross* income. Gross income consists of cash income from all sources, i.e. income from employment and self-employment, investments and savings, private and occupational pensions, and other market income, plus cash social security and social assistance receipts. This may be contrasted with *net* income, which is usually defined (in the UK) to be equal to gross income minus income tax payments minus National Insurance Contributions minus local tax payments.

We have also derived current and annual net income measures for this paper, but do not use exactly the same definitions as the HBAI does (because, for example, of the problems of simulating measures of households' annual local tax payments). When we repeated all the calculations using our net income measures, the patterns of differences between current and annual net income were very similar to those for gross income. See the net income commentary, tables and figures in the Appendix to this paper. In this sense our results are robust to the choice of income sources included in the income measure.

Our results suggest that, regardless of the merits of annual income measures over current income measures in principle, in practice the synthetic annual income measures which are available provide very similar estimates of the British income distribution in the 1990s. Whether annual income measures derived directly in a survey (as e.g. in the US PSID) would provide different results, remains an open question.

Note: we have intentionally chosen to summarise the income distributions using a format and with subgroup definitions which closely correspond to those used in the annual HBAI reports. The correspondence between our tables and standard tables reported annually in the HBAI reports is summarised in the table over the page.

The paper's tables and figures are collected together after the main text and before the Appendix.

Correspondence between tables and figures in this paper and standard HBAI tables

<i>Income distribution feature</i>	<i>This paper</i>		<i>HBAI</i>
	<i>Tables and figures</i>	<i>Page number(s)</i>	<i>Tables and figures</i>
Current, normal and annual income estimates of inequality and poverty, UK 1968, 1977, 1983 (Morris and Preston 1986)	1	T-1	—
Decile group medians, mean	2, 3	T-2 to T-4	A1, A2
Decile group income shares	4	T-5	A3
Histograms	Figures 2-8	F-2 to F-8	Chapter 2
Inequality indices	5	T-6	—
Cumulative proportions of population below fractions of average income	6, 7	T-7, T-8	H1, H2
Growth in decile group medians, mean	8	T-9	A1, A2
Shares of population in subgroups defined by family type, economic status of family, and person type	9	T-10	B1-B3
Composition of poorest 10%, 20%,..., etc.	10-12	T-11 to T-13	D1, D2
Proportions of each subgroup with income below various fractions of average income	13-15	T-14 to T-18	E1-E3, F1-F3
Growth in subgroup quintile group medians	16-18	T-19 to T-21	A4, A5
Longitudinal income mobility and low income exit and entry rates.	19	T-22	—
Comparison of current and annual income for subgroups classified by changes in household employment status over the annual reference period prior to the current interview	20	T-23	—
Comparison of current and annual income for subgroups classified by change in household composition since the previous panel interview	21	T-24	—

Note. The tables and figures in this paper cited above are derived using gross income measures. For tables and figures in the same format but derived using net income measures, see the Appendix.

1. INTRODUCTION

A distinctive feature of the Department of Social Security's *Households Below Average Income* (HBAI) income measures—used each year to derive the official income distribution statistics—and the household income measures available in all other cross-section British household surveys is that they refer to *current* income (income round about the time of the survey interview).¹ By contrast the income surveys for most other countries provide measures of *annual* household income (income over the previous year).² Most researchers argue that annual income provides a better measure of household living standards or access to economic resources than current income does. The reason is that, even though a household's income may fluctuate from one month to the next, these transitory variations may have little impact on households' budgeting and thence consumption: arguably income can be smoothed over the short-term. Thus it is differences in longer-term income which more closely relate to differences in households' welfare than differences in short-term income. This paper documents patterns and trends in the British income distribution between 1991 and 1997, comparing findings from current and annual income measures. The research aims to reveal how robust existing methods are, in particular those employed in the HBAI statistics, to the choice of reference period for incomes.

The Family Expenditure Survey (FES) and the Family Resources Survey (FRS), the main British cross-sectional income surveys and the basis of the HBAI calculations, focus on measures of current household income, but also contain some retrospective data enabling researchers to create a synthetic annual household income measure. The BHPS collects detailed current income information but, by virtue of its explicitly longitudinal design, has more extensive retrospective data about income receipt and labour market activity of survey respondents over the previous year. Thus arguably the BHPS's synthetic annual income measure is better than the ones which can be derived from the FES or FRS. Also the BHPS measure is routinely provided along with the other BHPS official release variables, rather than having to be specially derived. We therefore use the BHPS for our comparisons of current and

¹ For a detailed description of the HBAI income definitions, see e.g. Department of Social Security (1999).

² For example, the US Current Population Survey, the Panel Study of Income Dynamics, and the Canadian Survey of Labour and Income Dynamics collect annual income data, but not current income data. The main household income variable provided in the German Socio-economic Panel survey is an annual gross household income. (The current gross household income variable in the data set refers to the household head's estimated value, rather than an aggregation of actual income values.) The principal income variable in the European Community Household Panel Surveys, of which there is a British component, is annual net income. The main

annual income distributions. Section 2 explains the definitions of the variables and BHPS subsamples used in more detail.

Section 3 discusses the differences which one might expect to find between estimates of the extent of inequality and poverty based on current and income distributions. A simple prototypic model is used as a basis for the discussion. Predictions are made more complicated by the definitions of variables used in practice, as we elaborate.

We then turn to the empirical results. Section 4 compares current and annual income estimates of the income distribution during the 1990s (1991-1997). Section 5 turns to consider if current and annual income provide different perspectives on the income distribution when one looks at different subgroups within the population differentiated by e.g. a person's family type and economic status. Section 6 examines the effect of changing the income reference period for selected measures of income mobility and poverty transition rates—a longitudinal perspective, exploiting the panel nature of the BHPS. Section 7 provides concluding remarks.

Our main finding is that current and annual income measures provide remarkably similar pictures about the income distribution for virtually all the statistics we consider. Many of the cases where there are more noticeable differences can be attributed to outlier income values and are likely to be unreliable.

We have intentionally chosen to summarise the income distributions using a structure and with subgroup definitions which closely correspond to those used in the annual HBAI reports. Nonetheless our results about any specific distributional feature are not fully comparable with the corresponding HBAI ones because gross incomes are used rather than net incomes (i.e. incomes after the deduction of direct taxes).

We have also calculated current and annual *net* income measures, but do not use exactly the same definitions as the HBAI does (because, for example, of the problems of simulating households' annual local tax payments). When we repeat all the calculations using our net income measures, the patterns of differences between current and annual net income are very similar to those for gross income. See the net income tables and figures in the Appendix to this paper. In this sense our results are robust to the choice of income sources included in the income measure.

survey which has been used for comparing sub-annual and annual household income is the US Survey of Income and Program Participation, a rotating panel survey with interviews at three-month intervals.

2. DATA AND DEFINITIONS

The British Household Panel Survey (BHPS)

The BHPS is a national survey which has been interviewing the same people each year since 1991. The first wave, undertaken in the Autumn 1991, was designed as a nationally representative sample of the population of Great Britain living in private households in 1991. Original sample respondents have been followed and they, and their co-residents, interviewed at approximately one year intervals subsequently.³ Children in original sample households are also interviewed when they reach the age of 16 years. Thus the sample remains broadly representative of the population of Britain as it changes through the 1990s.

We use data from the first seven waves of the BHPS, covering 1991 through to 1997. Each cross-section of data contains information on more than 5,000 households, covering more than 12,000 individuals (adults and dependent children). All BHPS statistics reported below have been weighted using the relevant BHPS sample weights to account for differential response at wave 1 and subsequent differential attrition.

BHPS gross income variables

The BHPS public-release files contain two types of household income measure: current gross household income in pounds per month, and annual gross household income in pounds per year. For both measures, the household-level aggregate is derived by summing the incomes of all household members within each household. Gross income consists of cash income from all sources, i.e. income from employment and self-employment, investments and savings, private and occupational pensions, and other market income, plus cash social security and social assistance receipts. ('Housing costs' are not deducted from these variables, so they are 'before housing costs' measures in HBAI terminology.) Both measures contain imputed values for the small number of households containing individuals with proxy interviews or telephone interviews, or non-respondent adults.

These income variables differ from those summarised in the HBAI statistics: those ones refer to current net household income. (Net income equals gross income minus direct taxes, i.e. income tax, employee National Insurance Contributions, and local taxes such as the community charge and the council tax.) BHPS researchers have also derived, separately

³ For a detailed discussion of BHPS methodology, representativeness, and weighting and imputation procedures, see Taylor (1994) and Taylor (1999).

from the official BHPS release, a current net income variable modelled on the HBAI definition (Bardasi, Jenkins and Rigg, 1999). Comparisons of a version of this variable (one from which local taxes have not been deducted) and a corresponding annual net income variable have also been undertaken. Details of the construction of the latter variable, plus the tables and figures of current-annual net income comparisons, are presented in the Appendix to this paper.

For the BHPS measure of *current gross income*, the information about each income source refers to the month prior to the annual interview or the most recent relevant period in which the source was received (e.g. last week for incomes received on a weekly basis), with some important exceptions. First, employment earnings refers to the ‘usual’ amount received for the relevant period rather than the amount last received. Second, income from self-employment and income from savings and investments are collected as annual amounts, and later converted to a monthly equivalent values by BHPS staff.

Annual gross income is not derived directly from the survey instrument. With the exception of the British component of the European Community Household Panel Survey, there is no British sample survey which asks respondents what their incomes were over a one year reference period. The BHPS measure is, of necessity, a synthetic measure derived by BHPS staff using a sophisticated simulation model. This combines three types of information for each respondent adult: (i) income (of each type) currently received at this year’s interview, plus the incomes received at 1 September of the year of last year’s interview; (ii) information gathered by retrospective recall at this year’s interview about the types of income received, and (un)employment, in each month between the current interview and 1 September of the previous year, and (iii) external information about benefit values and their uprating, etc. The information is used to derive estimates of the incomes of each type month by month, and these are then summed to produce an annual aggregate.⁴ Total income is derived by summing estimates of annual receipts from each income source. The time period covered by the annual income variables refers to the twelve months up to the 1st of September of the year of the current interview wave (e.g. for someone interviewed in November 1996, annual income refers to the year between 1.9.95 and 31.8.96).

The derivation of annual employment earnings uses information about current usual earnings and about usual earnings on 1 September of the year prior to the current interview.

⁴ The derivation process does not actually calculate month by month values for each intervening month, since e.g. for many people income sources do not change and annual values can be derived directly. Derivation of a full set of month by month household incomes would require a special project.

For those who have remained in the same job throughout this period, earnings in the intermediate months are derived by interpolation. For those who changed jobs, information about their job history since the last interview is used: for each labour market spell, the amount of earnings is taken to be the starting salary in that job. For those with spells of non-employment during the period, information about receipt of unemployment benefits is derived from the retrospective month-by-month income calendar, and then values imputed from national benefit rates. The annual income variable does not take into account earnings from a second job. (By contrast second job earnings are used in the derivation of current labour income.)

Information about receipt of cash benefits over the period back to 1 September of the year prior to the current interview is derived from the retrospective month-by-month income calendar. Where relevant, amounts are updated from the April of each year.

Annual household income is the sum of the annual incomes for all the persons who are present in the household at the time of the annual interview. That is, income received by persons who left the household during the year is not recorded, but income received by new household members is counted. If household current and annual income variables could not be derived because of incomplete response or non-response, values are imputed by BHPS staff using a variety of imputation methods. (See Taylor (1999) for an overview of these methods.)

The distributions of current and annual household money incomes—as just defined—have been adjusted in several ways to bring the definitions closer to those used in the HBAI statistics. First, the unit of analysis is the person (adult or child) rather than the household: each person is attributed the income of the household to which s/he belongs.

Second, all incomes are converted to January 1998 prices using the DSS Before Housing Costs monthly price index. For current incomes we use the price index value corresponding to the month of interview; for annual incomes, we use the 12-month average of the price index values for the relevant reference period.

Third, both current and annual incomes have been expressed in pounds per week. (For annual income, the sum for the year has simply been divided by 52.) This is simply to enhance comparability between the two measures and with the HBAI report which also uses a weekly definition. None of the statistics we use to summarise income distributions are sensitive to this change in the units in any substantive way.

Fourth, in order to account for differences in household size and composition, household incomes have been deflated using the McClements ‘before housing costs’

equivalence scale. For both current and annual measures, equivalence scale rates are based on household size and composition at the time of the current interview.⁵

Other HBAI-type variables

Mimicking the HBAI, we break down our income distribution statistics according to the ‘family type’ and ‘family economic status’ to which individuals belong. The subgroup partitions are defined the same as in the HBAI. (For economic status, we use the ‘old’ FES definition of full-time work with a 30 hours per week cut-off.) We also provide breakdowns by ‘person type’, distinguishing between adult men, adult women, and dependent children (where the latter are defined as in the HBAI statistics).

These variables describe a person’s status at the time of the interview: this is the date for which all the relevant information is available. Even if a person’s status does not change throughout the calendar year over which annual incomes are defined, the status recorded at the interview may differ from the reference year status if it changed in the interval between the end of the reference period (1 September) and the interview date. In any case, changes in status during the annual income reference period are not picked up by these variables. It is precisely these changes in status which one would most expect to be associated with differences between current and annual income distributions.

3. PREDICTED DIFFERENCES BETWEEN ANNUAL AND CURRENT INCOME DISTRIBUTIONS

There is remarkably little evidence available about the differences between sub-annual and annual income distributions. Most commonly studied has been the relationship between the inequality of short-term and long-term income. Shorrocks (1976), for example, showed under quite general conditions that short-term inequality is larger than long-term inequality. (How much larger is an empirical issue: see for example Shorrocks, 1981.) There are no

⁵ For households which change their composition during the previous year, arguably the equivalence scale rate used to adjust annual money incomes should differ from the one used. It is not at all clear how though. (Our method reflects standard practice in all household panels with annual income measures.) In any case, a more important issue concerns the fact that the measure of the household’s annual income refers only to the incomes of the persons present at the time of the interview. Households with new members during the year may therefore have higher money incomes than households who lost members during the year, all other things equal. On the other hand, using an equivalence scale based on household composition at the time of the interview has an offsetting effect on net incomes.

similar theoretical results about the relationship between short-term and long-term poverty however, except in some special cases (see below).

Moreover most empirical studies of these issues have defined short-term income as annual income and long-term income as income averaged over several years. In contrast the issue here concerns comparisons of *sub-annual* income and *annual* incomes. We are aware of only three previous empirical analyses of sub-annual and annual income measures. Given this paucity of evidence, it is useful to begin to think about the potential differences between annual and current income distributions with reference to a simple model of the income distribution. Although the model is unrealistic in several ways, it is the reference point used by many economists. We then discuss some complications which make predictions more difficult. Finally we review the existing evidence about differences between annual and current income estimates.

Predictions from a simple ‘permanent income’ model

Suppose that each person’s current income in period t , y_{it} , is equal to the sum of their ‘permanent’ income, μ_i , which is person-specific and does not vary over time, and a random income component, ε_{it} , uncorrelated with permanent income. In any given period, people have different values of the random component, but these values are drawn from a zero-mean distribution with a common variance (which does not change from period to period). Also suppose that ‘annual’ income is the cross-time average of the current incomes in each period, and that the number of time periods averaged over is ‘large’. Summarising the model, we have:

$$y_{it} = \mu_i + \varepsilon_{it} \tag{1}$$

for each person $i = 1, \dots, n$, and each time period $t = 1, \dots, T$. Letting $m(\cdot)$ represent the mean income and $V(\cdot)$ the variance of income, we have

$$m(y_{it}) = m(\mu_i), \tag{2}$$

since $m(\varepsilon_{it}) = 0$, by assumption, and

$$V(y_{it}) = V(\mu_i) + V(\varepsilon_{it}). \tag{3}$$

With these assumptions, the comparison of current and annual income distributions reduces to a comparison of the distribution of y_{it} with the distribution of the μ_i . Differences between the distributions depend on the distribution of the transitory components ε_{it} . The distributional features we are most interested in—the subjects of the HBAI reports—are income levels (e.g. mean income), income inequality, the incidence of low income, the

composition of the low income population, and how each of these vary within population subgroups and their trends over time. What does the model predict about differences along these dimensions?

First, average levels of current income and annual income (as defined in this section) are equal. Second, the inequality of current income is less than the inequality of annual income: smoothing out the random component over time reduces income dispersion. In this model, it is as if the current income distribution could be derived from the annual income distribution by a ‘mean preserving spread’ in incomes.

The difference in the incidence of low income is a little more difficult to predict but, under plausible assumptions, we should expect the proportion poor in the annual income distribution to be smaller than the corresponding proportion in the current income distribution in most cases, though with some notable exceptions.

Consider first the case in which there is a common (and constant) low income cut-off, z , for both annual and current income distributions. Figure 1 shows in stylised form the relationship between the current and annual distributions which are implied by the model. The graph shows the relative concentration of persons at different income levels—the so-called ‘density function’ for incomes, with a typical hump-backed shape such that the majority of the population concentrated in the income ranges above the poverty line and with a long right-hand tail. Compared to the annual income distribution, the current income distribution has greater concentrations of persons in the highest and the lowest income ranges and has a lower mode (this follows from the mean-preserving spread property). The proportion of persons estimated to be poor is given by the area under the density function to the left of the poverty line.

<Figure 1 near here>

What is the impact on the poverty rate when we move from the annual income distribution to the current income one? There will be some people in the latter distribution who have a positive transitory component (monthly income above annual income), and some who have a negative one (monthly income below annual income). The poverty rate impact will depend on the number of people who move above the poverty line (a subset of the first group) compared with the number of people who move into poverty (a subset of the second group). The net effect depends on the location of the poverty line and the number of people with incomes in the neighbourhood of this cut-off. With the poverty line to the left of the most crowded part of the income range, then the number of people moving downwards below the poverty line dominates. Most people are not poor and even if they experience a negative

transitory component, it will not be sufficient to take them into poverty. This is the case illustrated in Figure 1: the current income poverty rate is greater than the annual income poverty rate (area B + area A is greater than area B + area C).

Observe however that the current income poverty rate may be less than the annual income poverty rate if the poverty line is to the right of the mode of the distribution. In this situation most people are poor, and positive transitory components which take people out of poverty are much likely.⁶

We can apply the same logic to each subgroup of the population separately and so, as long as it is only the annual and current income distributions for a given subgroup which are compared, one would expect the same differences as were outlined above. That is, each subgroup's current income inequality will be greater than its annual income inequality. And the subgroup incidence of low income will be typically be higher according to current income than according to annual income—the exceptional cases likely to be groups with relatively high poverty rates (e.g. lone parents).

But what about differences *across* subgroups? If we wish to predict the subgroups for which the current income-annual income differences in poverty risk or inequality are largest, or the current income-annual income difference in the subgroup composition of the poorest income groups of the population as a whole, then one also has to consider subgroup differences in model parameters explicitly. In terms of the simple model, persons in different subgroups may be characterised in terms of the differences in the level and variance of their 'annual' income μ_i , and the variance of income shocks, σ^2 .

The most obvious real-world counterpart of the income shocks in the model are the income changes associated with movements into and out of employment and—perhaps less frequent—family formation and family break-up. The HBAI subgroup definitions we use depend on status at a point in time and so cannot capture these longitudinal characteristics directly. However one might expect that those people who are currently single or those who are currently unemployed to have relatively low long-term attachment to paid work compared to other groups (the first group for life-cycle reasons and the second because unemployment spells for most people last less than a year), and hence these groups to have relatively large

⁶ Formal proofs of these results have been provided by Ravallion (1988) and Chesher and Schluter (1999) using a similar model but rather different approaches. They also results for distributionally-sensitive poverty indices (not just the headcount ratio, as here). It turns out that when one has also to take account not only of moves across the poverty line but also the location of those who become poor and those who remain poor, current income poverty is almost always greater than annual income poverty (as defined here). Chesher and Schluter

annual-current income differentials in inequality. In contrast, amongst lone parent families or the elderly, groups with relatively high long-term reliance on cash benefits (with little change over time), one might expect the difference between current and annual income inequality to be small. But note that Jarvis and Jenkins (1998) report a surprisingly high level of year-to-year income variability amongst the elderly.

Given our HBAI focus, we look at the composition of the low income population by subgroup and the risks of low income for each subgroup, rather than these predictions about inequality differences. In this case income levels as well as income variances become important.

The work of Jarvis and Jenkins (1998) suggests that the subgroups with the lowest ‘permanent’ income levels are likely to include the elderly and dependent children. Levels of longer-term income are higher for those of working age. But what we are interested in here is the difference between the picture provided between annual and current incomes rather than the proportion poor per se. The difference will also depend on subgroup differences in longitudinal variability of income. Given the higher likelihood of exposure to income variability from job and demographic change within a year, one would expect the current-annual differences in low income propensities to be greater for those of working age (in particular those currently unemployed—see the earlier argument). And maybe for the elderly too given the Jarvis and Jenkins result about mobility.

Matters are a little more complicated when looking at the composition of the low income group of the population as a whole. Consider a change from a current to an annual income measure for a given year. We expect the estimated proportion poor within each subgroup to fall. But these falls will be greater for some groups than others, and these groups will decrease their representation in the low income population. Assuming the total number of poor persons in the population is roughly the same in the current and annual distribution, then groups with relatively small decreases in the poverty rate as the income measure changes from current to annual will form a greater fraction of the low income group according to the annual income measure compared to current income.

One feature of HBAI reports is documentation of growth in real incomes at different income ranges and for different population subgroups. On this dimension, the simple model provides no guide about the difference between annual and current income growth: it is a

(1999) also consider the situation when the poverty line is distributionally dependent, e.g. a fraction of median income.

stationary model. Of course even where we do have clear predictions, e.g. that inequality in current income is larger than inequality of annual income, it is still of interest to know whether the differential is large in any substantive sense.

What about predicted differences in estimates of longitudinal income mobility and poverty entry and exit rates? One straightforward measure of income immobility is the correlation coefficient of this year's and last year's incomes, $R(y_{it}, y_{it-1})$. It is easy to show that in the prototypic model

$$R(y_{it}, y_{it-1}) = V(\mu_i) / [V(\mu_i) + V(\varepsilon_{it})] < 1 = R(\mu_i, \mu_i). \quad (4)$$

which suggests that income immobility is less (mobility is greater) for current income than for annual income. Individuals' income fluctuations translate directly into longitudinal flux at the aggregate level.

The situation for poverty transition rates is more complicated. Consider the poverty exit rate, defined as the number of persons who were poor last year but are not poor this year, divided by the total number of persons who were poor last year. Normalising the numerator and denominator by last year's population size, the poverty exit rate can be written as the normalised fraction of poverty leavers, divided by last year's poverty rate. The earlier arguments suggest that current income measures will typically provide larger estimates not only of the fraction who move out of poverty (the numerator of the exit rate calculation), but larger estimates of poverty rates at a point in time (the denominator). Hence it is not obvious that a current income estimate of the poverty exit rate will necessarily be larger—or smaller—than the corresponding annual income estimate. It is an empirical matter.

Some real-world complications to making predictions

Although the prototypic model provides a heuristic guide about differences between annual and current incomes, its very simplicity limits the robustness of its predictions. A focus on aspects of the way in which annual and current income are actually measured in the BHPS provides some further caveats.

Perhaps the most important point is that BHPS current income is not fully 'current' because it already includes some income components which are measured over a longer period. As mentioned earlier, the employment earnings component refers to usual earnings rather than the last amount received.⁷ Also, respondents are asked about income from investments and from self-employment over the last year. Some income smoothing relative

⁷ At each BHPS wave, about 20% of those in employment report that their usual pay differs from their last pay.

to a ‘totally current’ income definition is thus already built in to our current income definition, and this will moderate differences between this measure and our annual income one. Some of these effects may be revealed in the breakdowns by employment status (since ‘one or more working full-time self-employed’ is one of the subgroups) and in the breakdowns by family type (since the share of investment income in total income is relatively high for the elderly). On the other hand, these income sources are often said to be the ones most subject to measurement error. This will muddy conclusions.

A second feature is that information about the amount of employment earnings on 1 September of the previous year is derived by retrospective recall: the question asked is “Thinking back to September 1st last year, at that time how much were you usually paid?” Similarly, those who began a job after 1 September, are asked about their usual pay when they started working in their current position. Arguably if people have difficulty remembering an exact amount in the past, their estimates may be biased towards the current amount received. To the extent to which this is empirically important—and we know of no evidence about it—it will reduce differences between current and annual income.

A third feature is that the period over which annual income is measured does not overlap in calendar time with the period over which current income is measured: interviews occur in October of each year or later, whereas annual income refers to the year to the end of September. The principal impact this is likely to have is on estimates of income levels, and the mean in particular. Incomes have generally been rising for most of the period covered by the data (1991-1997), and presumably within each year as well as between years. Thus we would expect that, for any given year, average annual income will be less than average current income (once converted to comparable units).⁸

This has an implication for comparisons of estimates of the incidence of low income, since we follow the HBAI and use low income thresholds defined in terms of fractions of average income. (The mean used for current incomes is the current income mean; the mean for annual incomes is the annual income mean.) If the overall shape of the annual and current income distributions are the same, then a difference in scale will not matter, but this shape similarity cannot be assumed with confidence a priori. One factor which may lead to differences in shape, associated with differences in income assessment period, is differential

⁸ Seasonal factors might have an impact in the opposite direction. BHPS interviews typically occur in the Autumn of each year and current incomes therefore mostly refer to this period. If more people lose their jobs at this time of the year than at others, then other things equal, this would reduce incomes relative to, say, incomes in Spring and Summer. We do not have the data to check this (the FES might be used to investigate patterns).

income growth during the year for high and low income people. Given the change in shape (and mean income), estimates of the proportion poor will also be affected. We suspect the size of this problem may not be large however (it may be more relevant were the income assessment period much longer).

We have established that the predicted relationship between income distribution estimates based on annual and current income is not clear cut. What then does the existing empirical evidence suggest?

Three previous empirical studies comparing current and annual income

The most extensive set of estimates comparing current and annual income measures is that provided by Morris and Preston (1986) as a by-product of their analysis of the UK distribution and its trends using *Family Expenditure Survey* data for 1968, 1977, and 1983. They examine the extent of inequality, poverty (and tax progressivity) using a large number of summary indices, and for three income measures. Their ‘normal net income’ measure (NNY) is net income (as described earlier) but after the deduction of housing costs, and equivalised using Supplementary Benefit scale rates (rather than the McClements equivalence scale). Current net income (CNY) has the same definition as NNY except that labour income is the last amount received rather than the ‘usual’ amount. Annualized net income (Annual) ‘attempts to approximate income over the last 52 weeks by using on the employment and benefit receipt history of each individual’ (Morris and Preston, 1986, p. 288). Unfortunately no further details about variable construction were provided.⁹ A representative selection of their inequality and poverty estimates is summarised in Table 1.

<Table 1 near here>

The first point to note is that the estimates of the Gini coefficient, coefficient of variation, and the poverty rate all fall as one moves from CNY to NNY. Thus the use of usual rather than current earnings in income has a marked smoothing effect. However, second, the annual income measure does not lead to still lower inequality and poverty, as one might expect. In many cases the Annual estimate lies between the CNY and NNY ones, but in 1983 the Annual measure yields inequality and poverty rate estimates markedly larger than for the other two measures. How can this be? Morris and Preston comment that ‘those who

⁹ Moreover copies of the two IFS working papers cited for further details are no longer available. It seems (from Morris and Preston, 1986, p. 289) that the main adjustment made is that, for individuals who were working at the time of the FES interview but who had recently become unemployed, annualized income includes information about the former benefit income.

are currently working but who have become recently unemployed will have lower annualized income than current net income; as such people are likely to be less well off than average even in the current net income distribution, inequality will be increased' (1986, p. 289). The problem with this argument is that one would also expect there to be an offsetting effect coming about from those who were currently unemployed but who recently had a job. These results underline again the fact that empirical definitional considerations can have a substantial and potentially surprising impact on estimates.

Nolan (1987) compared the inequality of distributions of current (monthly) income and annual income using 1977 UK *Family Expenditure Survey* data, both for income defined as 'original' (pre-tax pre-transfer) income and also for income defined as gross income (pre-tax post-transfer income—as in our analysis here). He derived the annual income measure using retrospective recall data about employment and receipt of major social security benefits—the same sources as used by Morris and Preston, though Nolan provides much more information about the derivation methods.¹⁰ Nolan found that the Lorenz curve for annual gross household income lay everywhere inside the Lorenz curve for current gross household income (so that inequality was smaller in the former case—as predicted). However, the differences between the curves were relatively small. For example the share of total household gross income received by the poorest tenth of households was 2.19 percent if a current gross income definition was used but 2.28 percent according to gross annual income. For the richest tenth, the corresponding income shares were 24.04 and 23.56 (Nolan, 1987, Table 5.1). These findings of small differences are confirmed when he summarised inequality amongst household heads using the coefficient of variation: its value was 0.7294 for current gross household income and 0.7001 for annual gross household income.

The third empirical study comparing current and annual income is by Ruggles (1990), who focused on poverty. She used the US Survey of Income and Program Participation, a rotating panel survey with interviews each quarter for up to eight quarters, from which one can derive measures of monthly income and annual income. Using data for 1984, Ruggles found, for example, that the poverty rate for 'all persons' was 11.0% according to annual income, and the average of the monthly poverty rates was 13.7% (Ruggles 1990, Table 5.1, p.94). The differential between the current and annual income poverty estimates is rather larger than the current-annual inequality differential reported by Nolan.

¹⁰ See Nolan (1987, Chapter 5 and Appendix 4) for extensive elaboration. His income measures include income from imputed rents for owner-occupiers, unlike all the other measures reviewed in this paper.

In sum, existing evidence comparing estimates derived from annual and sub-annual income measures provides a mixture of expected and unexpected results. It appears that the annual income measures which can be derived in available data sets do not necessarily lead to higher estimates of inequality or poverty rates, in part because of the way the annual income measures are (by necessity) derived. Consider now the new evidence from the British Household Panel Survey.

4. RESULTS: THE INCOME DISTRIBUTION AMONG ALL PERSONS

We compare the distributions of current and annual income for all persons in this section. Information is presented for all seven waves (years) of data for 1991-1997, and under three subheadings. First we compare differences revealed by the current and annual income estimates of distributional shape and income inequality. Second, we compare differences in the estimates of the incidence of low income. We use low income thresholds which are defined as fractions of contemporary average income and fractions of wave 1 (1991) average income. Third, we compare estimates of income growth between 1991 and 1997.

Our sample sizes each year range between 12,267 and 13,824 persons (adults and dependent children) living in more than 5000 households. See Table 2. There is a small number of zero current and annual incomes in each year (20 is the maximum), and these have been included in all statistics and graphs which we present. Although we have made no systematic data adjustments or deletions to account for high income outliers, we have checked the impact of their inclusion or exclusion where this is likely to be important. (The number of outliers is relatively small for all years and for both income definitions.) More likely to be a problem is measurement error per se in incomes at the top (and bottom) of the income distribution, and we comment on this at several points later.

<Table 2 near here>

At wave 1 (1991), mean current income is £352 pounds per week and, as predicted, mean annual income is smaller, £343 pounds per week. The corresponding figures for wave 7 (1997) are £380 and £367, in each case about 4% higher than their 1991 counterparts.

The shape of the income distribution and inequality

Table 3 shows in its top panel, for each year and each income definition, the values of the median incomes for each of the ten decile groups (the groups formed by ranking all

persons in the sample in ascending order of income, and splitting them into ten equal-sized groups). Put another way, these show ten percentiles ranging from the fifth ($p5$) to the ninety-fifth ($p95$). Also shown is the median income ($p50$) and the mean income. Given the (small) difference in average incomes for the annual and current income measures, we focus on the bottom panel of Table 3, which shows the decile group medians expressed as a percentage of the overall median income for the relevant distribution.

<Table 3 near here>

There is virtually no difference at all between the shape of the two distributions (especially once one recognises that some small differences may be due to sampling error), whether one looks at wave 1 (1991) or any later years. Perhaps the most perceptible differences between the shape of the current and annual distributions are for wave 5 (1995) and wave 7 (1997). In the former case, $p95$ for the current income distribution is 267% of the median, but in the annual income distribution it is 276% of the median. For wave 7, it is also for $p95$ where the differences are, but the other way round: the ratios to the median are 262% and 257% for current income and annual income respectively. Table 2a, which gives the ratios of the deciles ($p10$ to $p90$) to the median, shows that the $p90/p50$ ratio is rather more similar however (a maximum of two percentage points difference between the annual and current income distributions).

<Table 3a near here>

It seems fair to say from these data that the shape of the annual and current income distributions are very similar. What differences there are may be at the very top of the income distribution, but the fact that incomes are probably less reliably measured in this range anyway, leads one to be cautious about this statement too. It is clear nonetheless that, according to either income measure, the income distribution shape hardly changed over the seven years from 1991-1997. This is consistent with the results published in the HBAI reports (and also by the CSO in their annual 'Effects of Taxes and Benefits on Household Income' article in *Economic Trends*).

We have also compared the annual and current income distributions for all persons using histograms to contrast the relative concentration of persons at different points along the income range. For convenience we have only looked at incomes up to £1000, i.e. excluding those with the very highest incomes (at most two to three percent of each sample). The income range between £0 and £1000 has been split into 100 'bins', each with a width of £10. We calculate the proportion of the sample who have incomes within each bin, and summarise the results using a histogram in which the height of the bar for each bin is proportional to the

sample proportion. Figures 2a and 2b through 8a and 8b depict the current and annual income histograms for waves 1 to 7 (1991 to 1997).

< Figures 2a and 2b through 8a and 8b near here >

For each and every year, the differences between the concentration of persons at different points along the income range in the current and annual income distributions are remarkably small, especially when one makes appropriate allowance for the under-smoothing of the data introduced by the use of discrete bins and the small difference in mean incomes. Of course part of the similarity arises because we have excluded from the analysis the most ‘troublesome’ incomes—those at the very top—but, as argued earlier, these may be less reliable.

The shares in total income held by different income groups are shown in Table 4. The top panel shows the income shares for each of the decile groups separately, and the bottom panel shows the cumulative income shares, i.e. the Lorenz ordinates. Once again, the similarity of the corresponding figures for current and annual incomes is striking, whichever year’s data one looks at. This is true even for the very richest group (cf. earlier), though this partly due to the use of only ten groups.

<Table 4 near here>

Does our impression of similarity change if we make comparisons based on specific summary inequality indices? To answer this question we have restricted ourselves to commonly-used inequality indices which are also defined for income values equal to zero, namely the Gini Coefficient, half the squared coefficient of variation (GE(2), a member of the Generalised Entropy class of inequality measures), and the $p90/p10$ ratio. The Gini coefficient is most sensitive to income differences in the middle of a distribution and GE(2) is particularly sensitive to income differences at the top of a distribution.

Differences between the current and annual income distribution are now more perceptible: see Table 5. The differences are virtually always in the expected direction—annual income inequality is less than current income inequality—but the size of the effect varies according to the index chosen. According to the middle-sensitive Gini-coefficient, the difference is only a matter of one percentage point, but slightly more according to the $p90/p10$ ratio, for which there is a maximum difference of some five percent in wave 7 (1997).

Differences between corresponding GE(2) measures are also fairly small, except at wave 7 (1997), but there are some results for this index which are surprising at first glance. Specifically, annual income inequality is greater than current income inequality in both wave

2 (1992) and wave 5 (1995). However all these oddities can be easily traced back to the presence of a small number of high incomes (outliers) in the relevant distributions and the high-income sensitivity of GE(2). To illustrate this we redid the calculations excluding all incomes over £8000. As it happens, only one or two incomes, and only at wave 2 and wave 7, were excluded by this (cf. Table 2), but it has a marked effect in these cases: see Table 5a. Now the inequality ranking for wave 2 is in the expected direction, and the differential at wave 7 is more in line with the other years. The wave 5 estimate is unchanged, but earlier tables suggest that it is the presence of a few high incomes which is producing the odd result nonetheless. Recall from Table 3 that p_{95} in the annual income distribution for wave 5 was unusually high.

<Tables 5 and 5a near here>

In sum, the evidence from the inequality indices leads us to conclude again that the annual and current income distributions are very similar in shape, especially once one takes account of potential measurement problems for the very highest incomes.

Proportions of the population with incomes below specified fractions of average income

We now compare the proportions of the sample with incomes below specified fractions of average income. Table 6 shows the results when the ‘average’ refers to contemporary average income, and so is a threshold which changes in real terms from one year to the next. Table 7 shows the results based instead on a fixed real income threshold, 1991 average income. We use the same fractions of the average as the HBAI does, together with several more so that the whole income range is covered. (Thus our tables provide discrete representations of the whole cumulative distribution function of income.)

<Tables 6 and 7 near here>

The close similarity between the corresponding proportions for current and annual income distributions is striking. For example in 1991 (wave 1), the proportion of persons with an income below half contemporary average income is 23 percent according to both the annual and current income measures. In 1997 (wave 7), the corresponding proportions are 23 percent according to current incomes and 22 percent according to annual incomes (Table 6). If instead the low income threshold is half 1991 average income, the corresponding estimates for 1997 are 20 percent for both measures (Table 7).

These differences in estimates for low income incidence for annual and current income measures are rather smaller than the differences between monthly and annual poverty rates reported by Ruggles (1990) and cited in Section 3.

If one looks at the differences between annual and current incomes at other points along the income parade, the differentials remain small—rarely greater than one or two percentage points. And, as long as one focuses on the bottom of the income distribution, then the proportions with incomes below each given fraction of the mean are lower for annual income than for current income, as expected. (The prediction referred only to low incomes.)

Income growth

We now compare changes in current and annual income levels over time. Specifically we look at the growth in income between wave 1 (1991) and wave 7 (1997) of the median incomes of the decile income groups, the overall median, and the mean income. The results are shown on the right hand side of Table 8 (columns A and B).

<Table 8 near here>

The main finding is that income growth over this six year period is slightly larger if the current income measure is used rather than the annual income one, but at most points along the income range there is no difference. The differences at corresponding decile medians are relatively small—only a matter of one percentage point—except for the difference in growth in *p5*, in which case the difference is some five percentage points. It is possible that all these differences lie within the bounds of sampling error.

The results are also sensitive to the period over which income growth is calculated. For example, if we consider growth between wave 1 (1991) and wave 6 (1996), then the maximum difference between the current and annual income distribution estimates falls to four percentage points (for *p15*), with the higher growth in the current income distribution. In fact the income growth is higher at all decile medians in the current income distribution except *p5* in this case. The story changes again if one looks at income growth between wave 2 (1992) and wave 7 (1997). Now income growth in annual income is higher at all the decile medians, except for *p35* (a differential of two percentage points).

This lack of a clear systematic pattern to the results suggests that we should be cautious in drawing any conclusions about differences in income growth estimates for the two measures.

5. RESULTS: THE INCOME DISTRIBUTION AMONG POPULATION SUBGROUPS

We now turn to compare the annual and current income distributions amongst subgroups of the population. We use three groupings of persons, two of which are the same as HBAI ones, plus one other one. The classifications are:

- (a) *family type* (6 subgroups): single pensioners, pensioner couples, couples with dependent children, couples without children, single parents, and childless singles.
- (b) *economic status of the person's family* (8 subgroups): one or more self-employed; all adults employed full-time; couple-one working part-time, one full-time; couple-one working full-time, one not working; single person working part-time, or couple with one working part-time; head or spouse aged 60+ years; head or spouse unemployed; other. (This is a hierarchical classification: families are classified into the first category which applies.)
- (c) *person type* (3 subgroups): adult male; adult female; dependent child.

Table 9 shows the number of persons in each subgroup for these classifications and for each year. The proportions in the different groups are comparable with HBAI figures, and are similar to them.

<Table 9 near here>

We now look at the composition of the poorest income groups in the population according to these classifications and, for each subgroup, income growth between wave 1 (1991) and wave 7 (1997) and the incidence of low income.

The composition of the low income population

Table 10 shows the composition of the poorest income groups of the population using a breakdown by family type. Tables 11 and 12 show the same sort of information using instead breakdowns by economic status and person type. In each of the three tables, and for of the three years considered, it is only towards the very bottom of the income distribution that differences in income group composition are apparent, i.e. for the poorest 10%, 20% or 30%. (We need to be cautious about drawing conclusions from the poorest 10% because of the small number of cases involved.) Few differences are apparent in the breakdowns by person type, a few more in the breakdowns by family type, and most of all in the economic status breakdowns. We shall discuss the last two breakdowns only.

<Tables 10, 11, 12 near here>

The largest differences between the family type subgroup percentages for annual and current income distributions are revealed if we look at the poorest 10% or the poorest 20%. The largest difference is four percentage points (poorest 10%, single parents, wave 7). Clear patterns to the results are difficult to discern, however, particularly because the differences between current and annual measures are not consistent across the years.

Rather more clear cut patterns are discernible in the breakdowns by economic status (Table 11). Subgroup differences between annual and current income percentages for a given year are greatest for persons in families with a head or spouse aged 60+ years (looking at the poorest 20%), and families with an unemployed head or spouse (looking at the poorest 10%). In each case the subgroup forms a larger proportion of the low income group when current incomes are used (as expected).

Overall it seems that changing the income measure does have some perceptible effect on estimates of the composition of the low income population, and in a systematic way. Nonetheless it also has to be said that the *rankings* of the various groups in terms of their composition percentages hardly changes.

Rather than just looking at the composition of the income distribution, one might ask more generally who is located where in the distribution and whether relative positions differ in the current and annual income distributions. To investigate this we have calculated each individual's normalised rank in the current and annual income distributions, where the normalised rank is derived by ordering persons in ascending order of income and dividing their rank by the maximum rank (the weighted total sample size). A scatterplot of the normalised ranks shows whether the extent of re-ranking between distributions: if everyone had the same position in both distributions, then the scatterplot would coincide with a 45° ray through the origin and point (1,1).

Figure 9, based on data from BHPS wave 1 (1991), shows that individuals' rankings in the annual and current distributions are indeed very closely related, with the vast majority of points lying on or close to the 45° ray from the origin. (The same pattern is apparent for all the other waves of data.)

<Figure 9 near here>

Subgroup risks of low income

Tables 13, 14 and 15 show the incidence of low income for each subgroup defined by the classifications by family type, economic status and person type. Three low income thresholds are used: 40%, 50% and 60% of contemporary average income. (Tables 13a, 14a,

and 15a show the corresponding results for low income thresholds defined relative to wave 1 (1991) average income.)

Our main prediction is that the incidence of low income for each subgroup will be lower in the annual income distribution than the current income distribution (subject to the caveat that the means of the pairs of distributions being compared are not exactly equal, as we assumed earlier—see Section 3). It turns out that differences are typically small. Where they exist, most of them are in the direction predicted but with some notable exceptions. To discuss these let us focus on the half-average income threshold.

<Tables 13 to 15, 13a to 15a near here>

In the breakdown by family type, the exceptional results are for persons in single parent families and single persons without children. The result for single parent families is straightforward to explain in terms of the discussion of the prototypic model in Section 3. Since the majority of the subgroup (over 60%) have low income, whichever the income measure, the result is indeed as predicted. On the other hand it is not clear to us why single people's low income incidence rates are higher for annual income than current income.

In the breakdowns by family economic status (Table 14), there are also expected and unexpected results. E.g. for persons in families with a head or spouse aged 60+, or families with an unemployed head or spouse, subgroup low income incidence is markedly higher for current incomes compared to annual incomes, the expected direction. However we also find that for persons in families with all adults in full-time employment, and to a lesser extent the other two working couple families with at least one full-time worker, the low income incidence rate is higher for annual income than current income.¹¹

In the breakdowns by person type, there are no large current-annual income differences apparent. One noticeable difference is that low income incidence is slightly higher for dependent children for annual income rather than current income—echoing the results for lone parent families earlier.

To sum up, we have found more marked differences in subgroup low income incidence than we have found for comparisons of current and annual incomes, and some of them are in an unanticipated direction. However once again it must be said that the subgroup *rankings* by low income incidence are hardly altered at all by changing the income measure. For example, in a breakdown by family type, single pensioners and lone parents are the

¹¹ The result is unlikely to be due to sampling error for two reasons. First, the result persists when sample sizes are relatively large (e.g. also at the 60% threshold). Second, the results are systematically in one direction, rather than both as one would expect if sampling error were the reason.

poorest groups, and childless couples the least poor, according to both current and annual income. This also reflects the fact that rankings in the current and annual income distributions are very similar for each individual, not just each group.

Subgroup income growth 1991-1997

Tables 16 to 18 display the quintile group medians and mean incomes for each family type, economic status and person type subgroup in wave 1 (1991) and wave 7 (1997) for annual income and current income. Also shown, in the bottom panel of each table, and the focus of our interest, is the growth in each subgroup quintile group median and mean over the period.

<Tables 16, 17, 18 near here>

For the population as a whole we found that, where they differed, annual income growth rates seemed to be a little larger than corresponding current income growth rates, and that was mostly the case too when one looks at each subgroup separately. But also again it is not clear whether the differences which are apparent are statistically reliable.

Looking first at the family type breakdowns, the largest of the apparent differences between corresponding current and annual income estimates tends to occur at the bottom and top of the distribution, i.e. for *p10* and *p90*, rather than in the middle. E.g. for persons in single parent families, the growth in *p10* is -4% according to current income but +2% according to annual income, and for *p90* the corresponding figures are 35% and 60%. The very large disparities may be a combination of this being a relatively small group (about 7% of the total sample) and the greater unreliability of incomes at the very top and bottom of the distribution. On the other hand, when one takes a subgroup of much larger size, e.g. persons in families of couples with children (35%-39% of the sample), there is still a relatively large difference between the current and annual income growth rates in *p10*: 2% compared to 10%.

Looking at the economic status breakdowns, at first sight there are relatively more differences between current and annual income growth rates, and throughout the income distribution. Again some of these differences may not be robust. Some of the largest disparities are for subgroups of relatively small size: persons in families with a part-time worker (6% of the total sample at wave 7), or in families with an unemployed head or spouse (4% of the sample). The estimated growth in *p10* for persons in families with at least one full-time self-employed member (10% of the total sample in wave 7) is -9% for current incomes and zero for annual incomes—here the impact of small sample size may be exacerbated by the oft-cited unreliability of self-employment income.

Looking at the person type breakdowns, annual income growth rates are consistently greater than current income ones, especially for *p10* (by about 4 percentage points).

Longitudinal income mobility and low income transition rates

We complete our analysis with some comparisons of annual and current income estimates of longitudinal income mobility and low income transition rates. The first row of Table 19 shows the correlation between incomes at successive waves $t, t+1$, for $t = 1, \dots, 6$. We would expect that the current income estimate would be lower than the annual income one, but this is not always so. In particular for $t = 1$ and $t = 2$, the reverse is the case. The other feature of the table is that the differential between the current and annual income estimates is rather variable in size, even when the ordering is as expected. For example for $t = 3$, the current and annual income estimates are 0.75 and 0.80, but for $t = 6$, they are 0.64 and 0.81. We suspected that both features of the results may be due in part to high income outlier values. We therefore re-calculated the correlations excluding the top one percent of income values in each wave. The results are shown in the second row of Table 19. Now the estimates are much more stable over time, and in every case, the current income estimate of the correlation is less than the corresponding annual one (as the prototypic model suggested). Why the current income correlation is so much lower at $t = 5$ compared to the other waves is not clear to us.

<Table 19 near here>

A measure of intertemporal income immobility which is intrinsically more robust to outliers than the correlation is the proportion of persons who remain in the same income group from one year to the next. Our estimates of this statistic, based on decile group transition matrices, are shown in row 3 of Table 19. It is clearly the case that there is greater mobility in current incomes, though the differential is small. Broadly speaking, for annual incomes just over 40% of individuals remain in the same decile group between one year and the next, and slightly less for current incomes. The maximum differential is about four percentage points (between waves 1 and 2).

The remaining rows of Table 19 show estimates of low income exit and entry rates, where the low income cut-off is half the mean income of the wave in question. Recall that there was no clear prediction from the prototypic model about the differential between current and annual income estimates. As it happens, the differentials are very small, a result stable over the panel. The low income exit rate is just over 30% according to the current income estimate, and perhaps up to a percentage point smaller according to the annual

income estimate. The low income entry rate is 8-10% according to the current income estimate, and perhaps up to a percentage point smaller according to the annual income estimate.

Overall it appears that annual and current income measures provides similar estimates of familiar summary statistics of longitudinal income mobility and low income transition rates, particularly once suitable account has been taken of high income outliers (in the case of the correlation).

6. CONCLUDING REMARKS

We have used BHPS estimates of current income and annual income to investigate differences between the distributions of short-term and longer-term income in terms of inequality, low income incidence and the income growth, both for the population as a whole and for subgroups within it. The results have been presented in a format which closely parallels that used in the HBAI reports, because the main goal of the research is to check the sensitivity of HBAI-type analysis, based on current incomes, to the use of a longer-term income measure. Our comparisons of current and annual incomes has produced some very clear findings, though it should be remembered that their applicability to the HBAI might be limited because we have considered gross income measures, whereas the HBAI uses net income ones. Nonetheless the fact that comparisons based on our measures of current and annual net income provide very similar conclusions (see the Appendix) does suggest that our results may be relatively robust.

The clear finding is that the BHPS current and annual income measures provide very similar pictures of what the income distribution is like. To be sure, there are some systematic differences between statistics based on the two measures—e.g. inequality and the incidence of low income is smaller for annual income than current income—but these differences are quite small. Where differences were more apparent, largely in the estimates of income growth, arguably many of them were attributable to measurement error rather than being genuine discrepancies.

These results raise a question: why do the BHPS current income and annual income measures provide such similar estimates?

We offer two hypotheses in explanation. The first draws attention to the way in which the BHPS variables are constructed. As discussed earlier, the current income measure

incorporates information about usual pay rather than last pay for employees, and annual income for self-employment and investments. I.e. the current income measure is not totally ‘current’ and some income smoothing is already incorporated in it. This is supported by the results of Morris and Preston (1986), cited earlier, comparing normal and current net income measures.

Our second hypothesis refers to the main potential socio-economic sources of household income variability over the year. It may simply be that the number of people moving into or out of jobs, or experiencing changes in the demographic composition of their household, is relatively few. I.e. even if the number of such changes occurring is non-trivial, and even if they have large income consequences for the people concerned,¹² it may be that once aggregated across all persons in the population (or across the subgroups as we and the HBAI define them), the changes become much less apparent.

We have explored briefly whether differences between the current and annual income distribution are greater for households which have experienced changes in labour market attachment or changes in household composition—as one might expect—but our results throw up a few puzzles and are inconclusive.

To summarise changes in household labour market attachment, we first classified each adult in the household according to whether, over the course of the reference period for annual income, she or he spent at least 50 weeks employed, at least 50 weeks unemployed, at least 50 weeks inactive, or changed attachment at least once over the year. We then aggregated this data within each household and defined four groups of persons: those in households in which all adults were 50+ weeks employed, or all adults were 50+ weeks unemployed, or all adults were 50+ weeks inactive, or there were changes in attachment.¹³

Table 20 shows that persons in households with adults who changed attachment over the reference year prior to the current interview form just over one half of all persons at each wave. Perhaps surprisingly the differences between the current and annual income estimates are very much the same for all subgroups, ‘changers’ as well as ‘non-changers’. (There are a few large differences between current and annual income distributions for the ‘all adults unemployed 50+ weeks’ group, but this is most likely due to sampling error: observe the small number of persons who belong to the group.) The reason for not seeing larger

¹² See e.g. Jarvis and Jenkins (1999) about the income changes associated with marital splits.

¹³ We used BHPS variables summarising the month-by-month calendar of labour force attachment for each adult derived by retrospective recall. An alternative would have been to classify persons (and households) according to changes in labour force attachment measured at the time of the interview.

differences for households with changes might be that our subgroup definitions are too broad. We attempted to get around this issue by using subgroup partitions based on finer definitions of ‘changers’ without much success. How ‘changer’ households should be defined is not obvious (there are many options) and, in any case, using finer definitions brought its own problems, namely small cell sizes.

<Table 20 near here>

Some clearer, but surprising, associations could be found between changes in household composition and differences between corresponding current and annual income estimates. We classified persons according to whether there had been changes in the number of adults or children in their household, comparing the situation at the time of last year’s interview with that at the time of this year’s interview. Table 21 shows that between 20 and 25 percent of persons experienced a change in household demographic composition over the interval between interviews, and of which about one third were in a household with a different household head compared to the previous interview. When we look at the estimates for the proportions of each subgroup estimated to be poor, there are some surprising findings. We find that for persons in households with demographic change between interviews, annual income measures often provide higher poverty rate estimates than do current income measures—which is the opposite of what is found when looking at all persons in the sample (see earlier). It is not obvious to us what explains this result. The patterns shown by the all-persons picture is driven by the results for persons in households with no household demographic change between interviews—they form by far the largest group (about 70 percent of the sample).

<Table 21 near here>

We began the paper by pointing out that British surveys and the official income statistics derived from them were unusual compared to those of many industrialised countries because they rely on current income measures rather than annual income ones. Our results suggest that, regardless of the merits of the one measure over the other in principle, in practice they provide very similar estimates of the British income distribution in the 1990s. Of course this conclusion relies on analysis based on a synthetic measure of annual income, and this may in itself complicate findings. On this issue our research has reinforced the conclusions of the Stocktaking Report on Households Below Average Income (Department of Social Security, 1991). Considering whether the HBAI should be based on annual as well as, or instead of, current income measures, the Working Group pointed out that ‘there are substantial practical difficulties associated with the estimation of annual income. ...

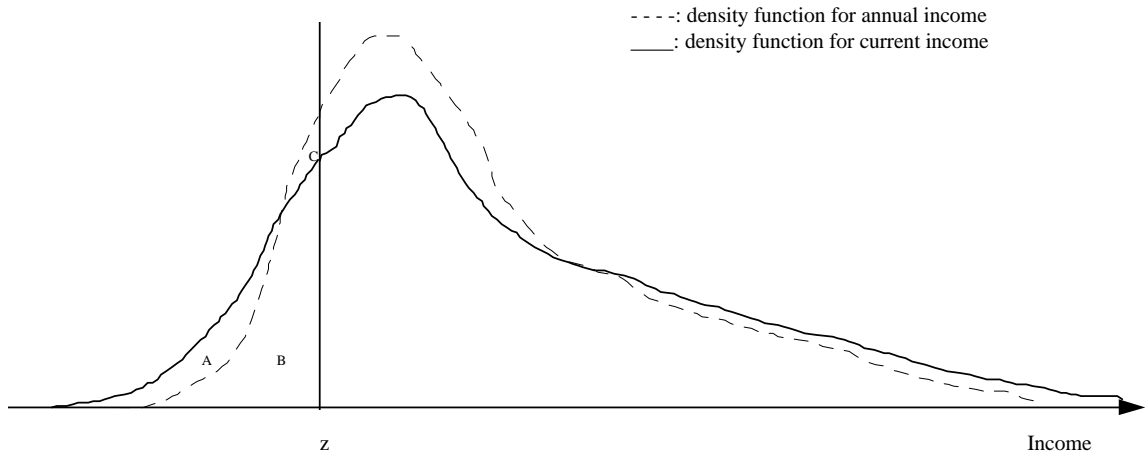
[E]stimates of annual income are more complex (and hence vulnerable to possible data discontinuities) than estimates of current income' (1991, p. 25). To resolve whether current and annual income measures provide different pictures of the UK income distribution will require surveys containing direct measures of annual income rather than synthetic ones.

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Figure 1. The proportion poor: example of the difference between annual income and current income estimates (common poverty line case)



Note: the proportion poor according to the annual income measure is area B + area C, and the proportion poor according to the current income measure is area B + area A.

Figure 2a. Histogram for current gross income, all persons with income less than £1000 per week, BHPS wave 1 (1991)

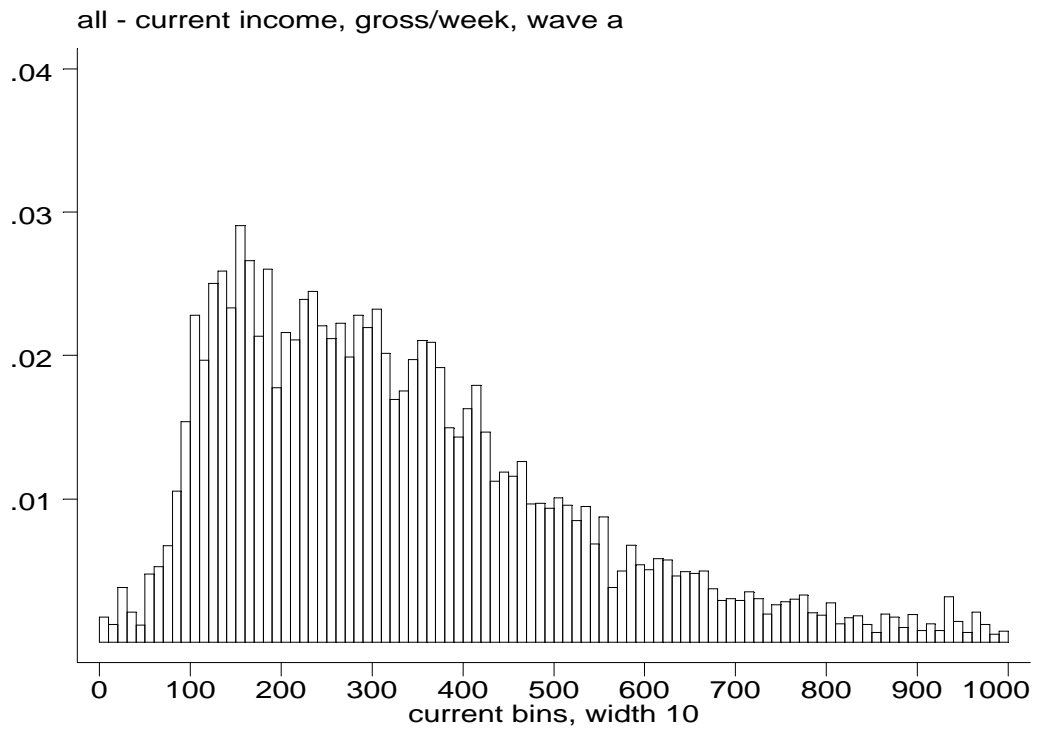


Figure 2b. Histogram for annual gross income, all persons with income less than £1000 per week, BHPS wave 1 (1991)

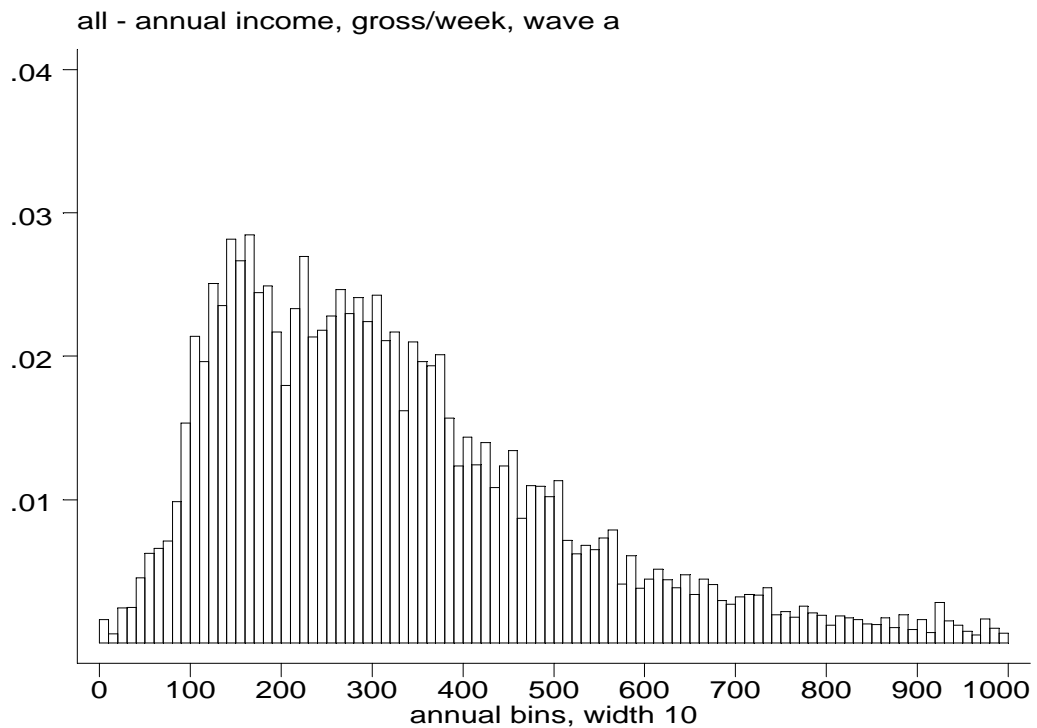


Figure 3a. Histogram for current gross income, all persons with income less than £1000 per week, BHPS wave 2 (1992)

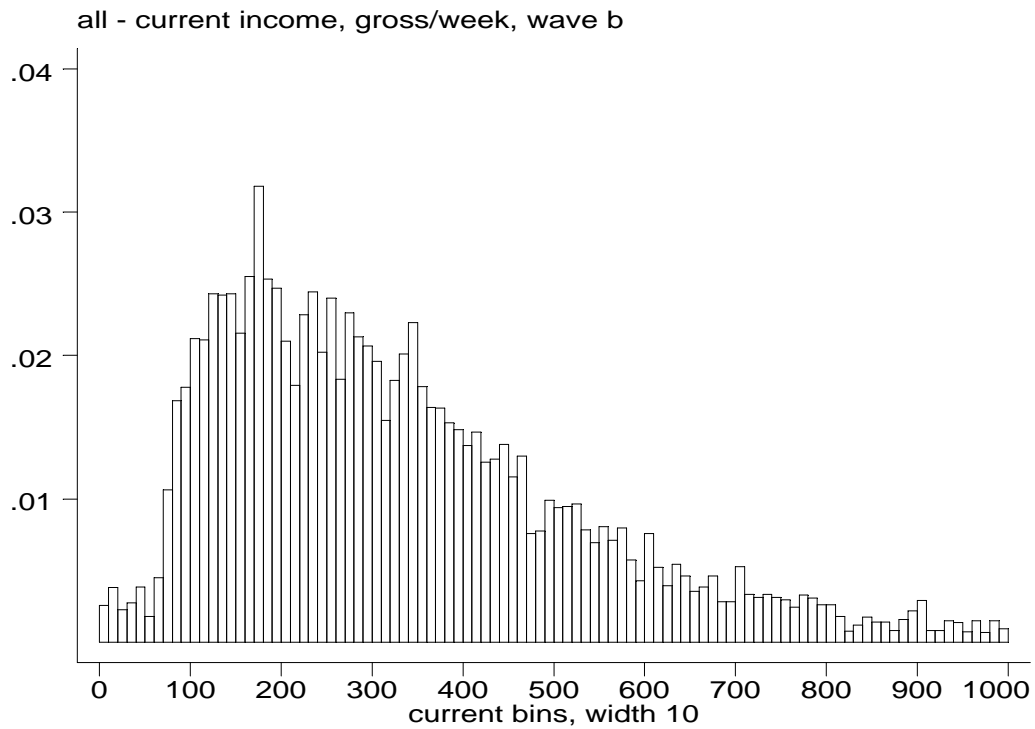


Figure 3b. Histogram for annual gross income, all persons with income less than £1000 per week, BHPS wave 2 (1992)

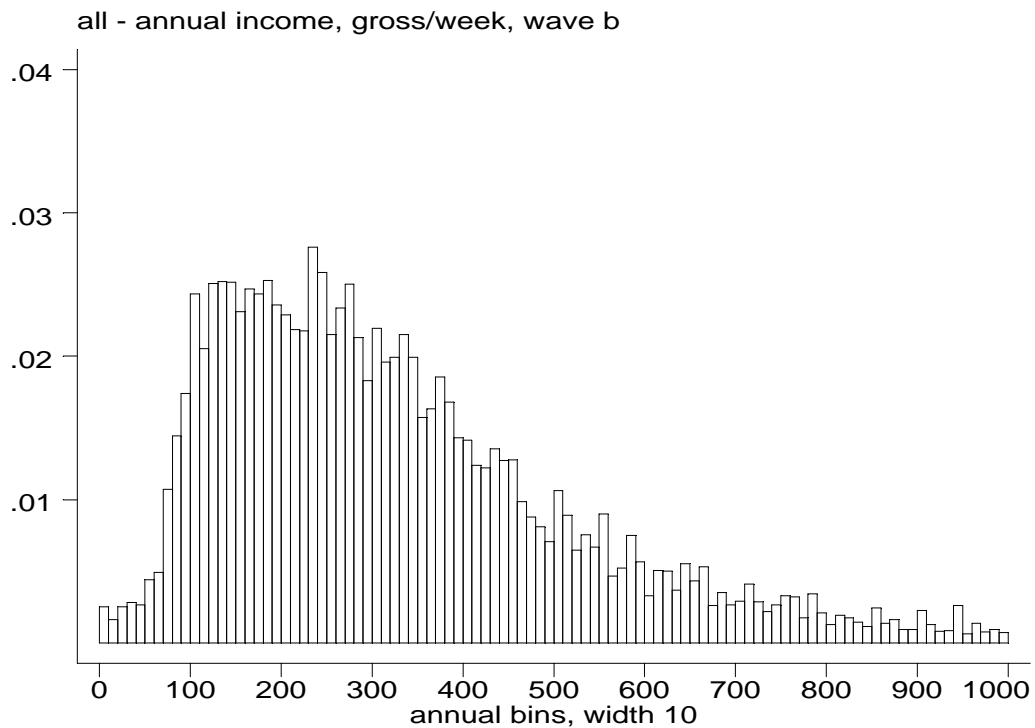


Figure 4a. Histogram for current gross income, all persons with income less than £1000 per week, BHPS wave 3 (1993)

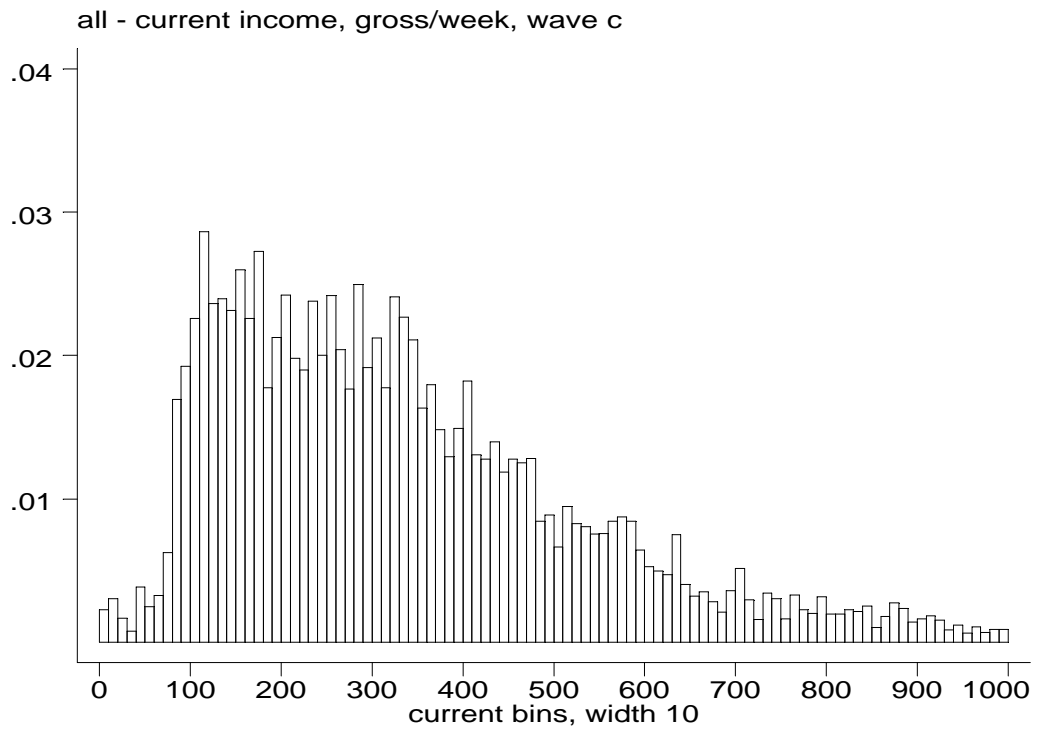


Figure 4b. Histogram for annual gross income, all persons with income less than £1000 per week, BHPS wave 3 (1993)

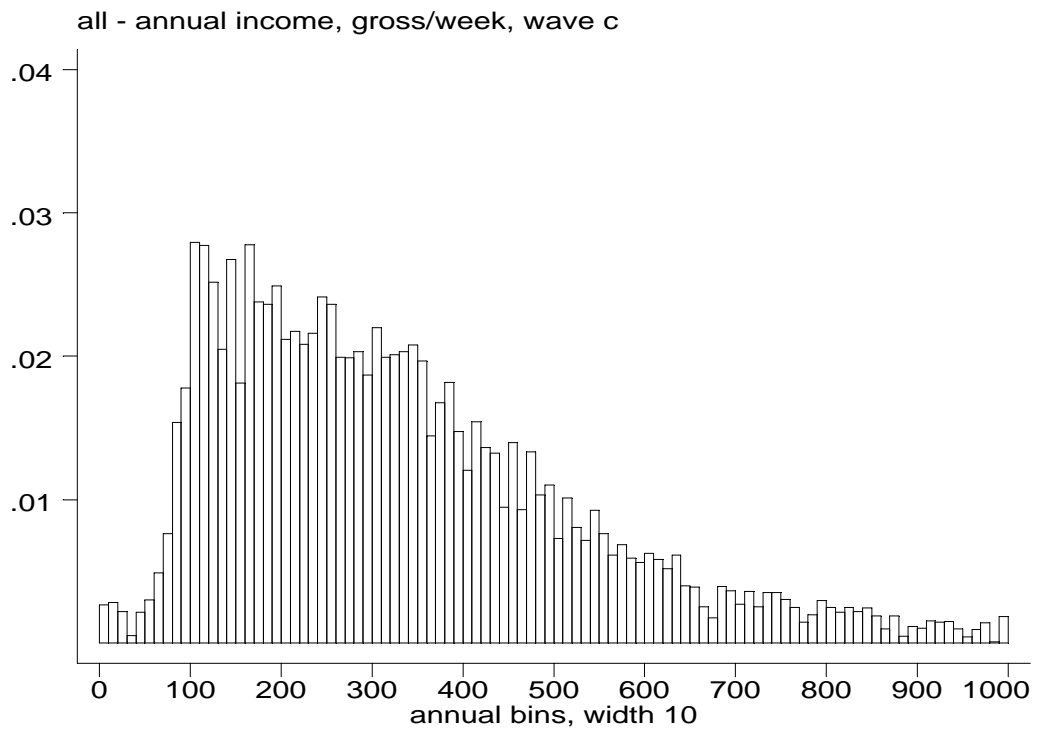


Figure 5a. Histogram for current gross income, all persons with income less than £1000 per week, BHPS wave 4 (1994)

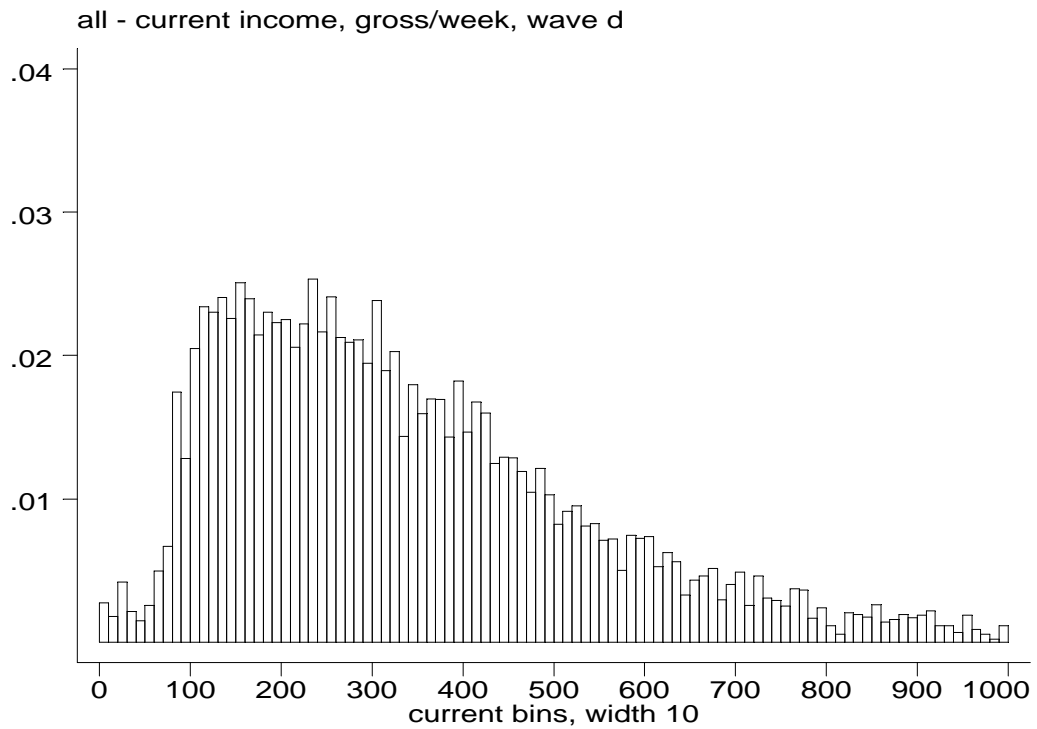


Figure 5b. Histogram for annual gross income, all persons with income less than £1000 per week, BHPS wave 4 (1994)

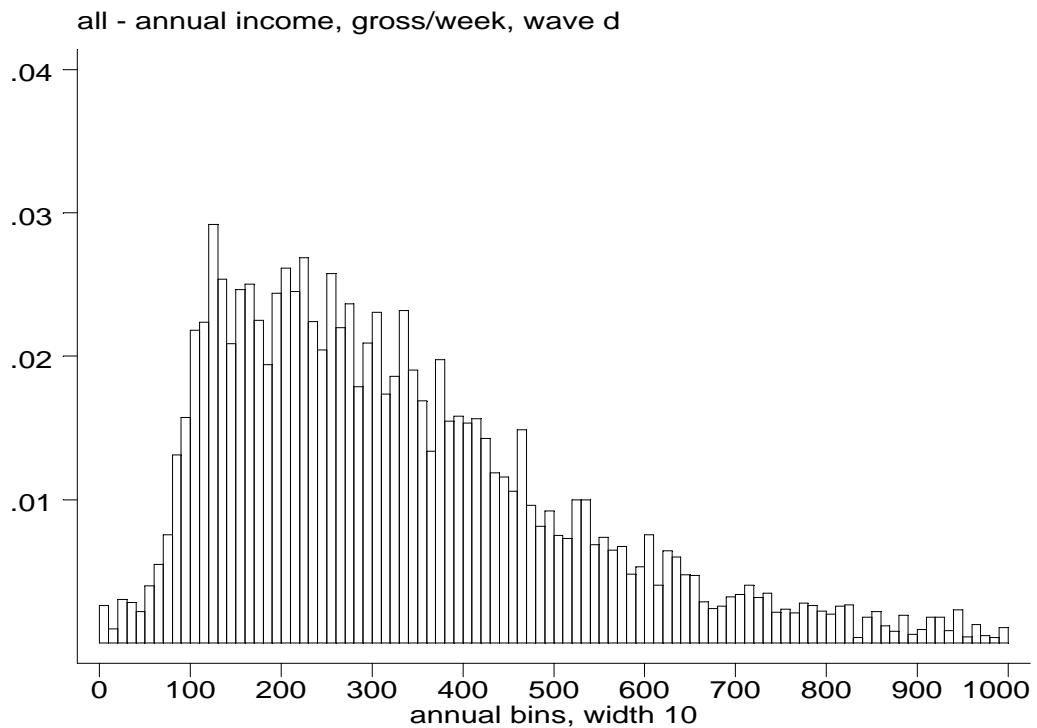


Figure 6a. Histogram for current gross income, all persons with income less than £1000 per week, BHPS wave 5 (1995)

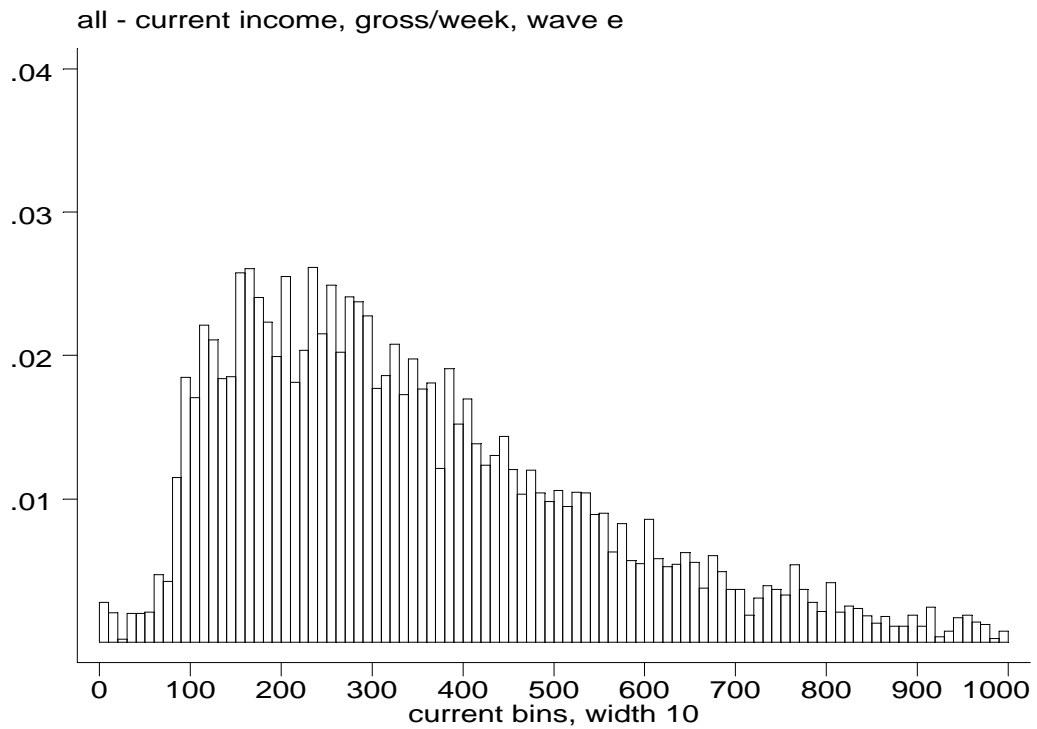


Figure 6b. Histogram for annual gross income, all persons with income less than £1000 per week, BHPS wave 5 (1995)

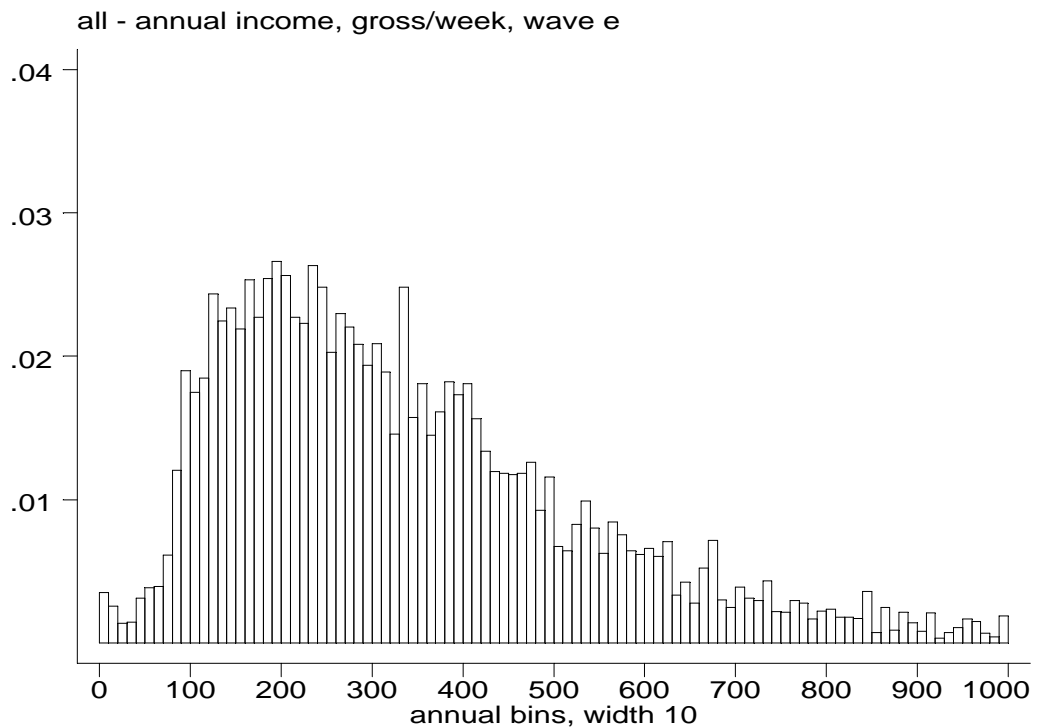


Figure 7a. Histogram for current gross income, all persons with income less than £1000 per week, BHPS wave 6 (1996)

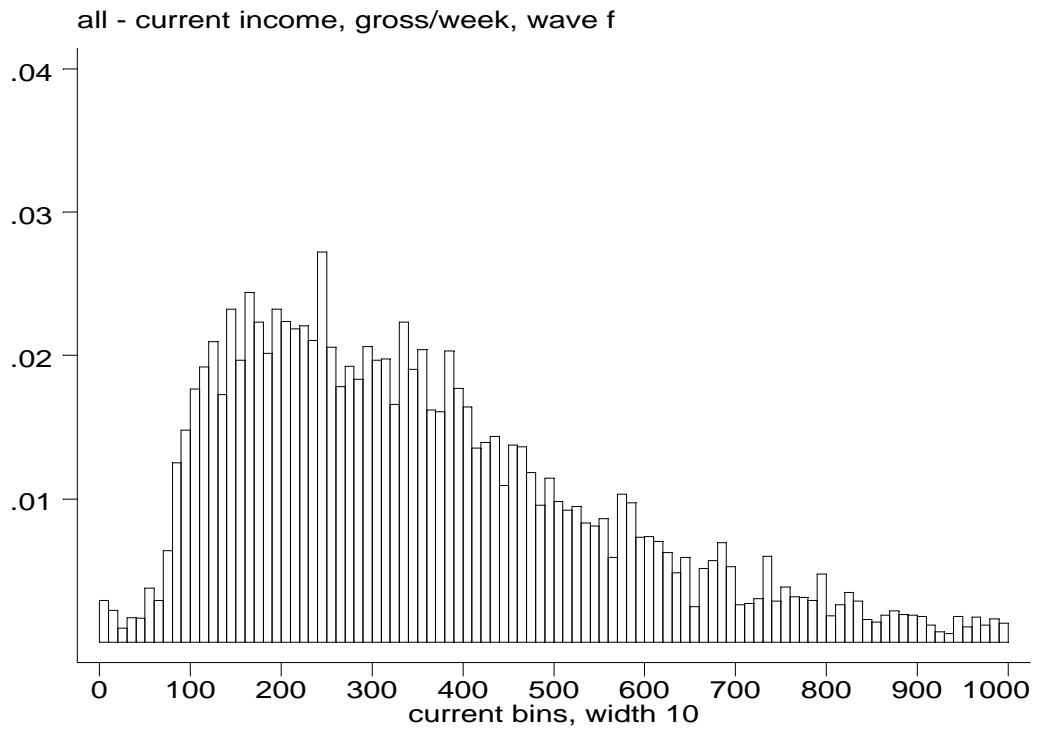


Figure 7b. Histogram for annual gross income, all persons with income less than £1000 per week, BHPS wave 6 (1996)

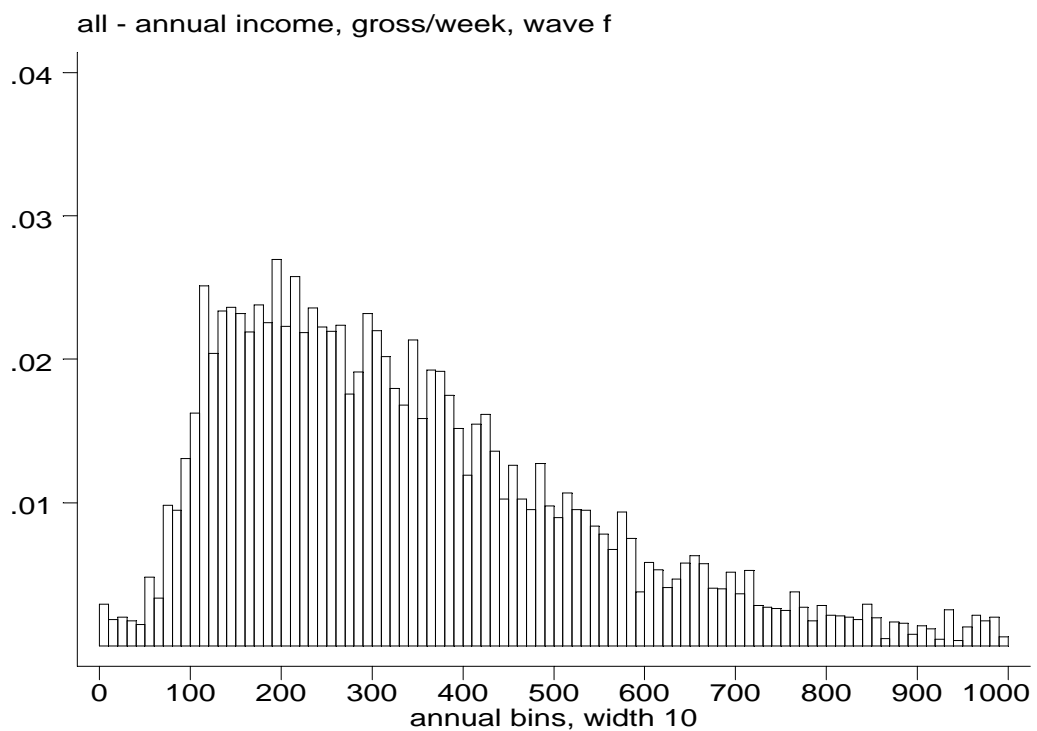


Figure 8a. Histogram for current gross income, all persons with income less than £1000 per week, BHPS wave 7 (1997)

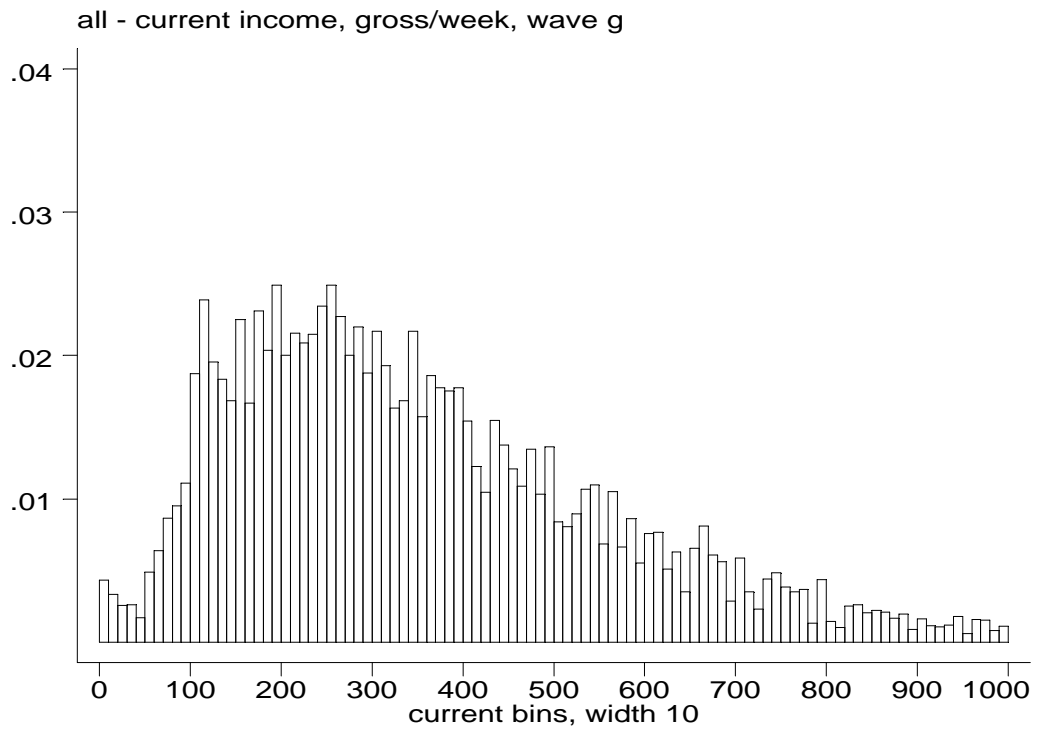


Figure 8b. Histogram for annual gross income, all persons with income less than £1000 per week, BHPS wave 7 (1997)

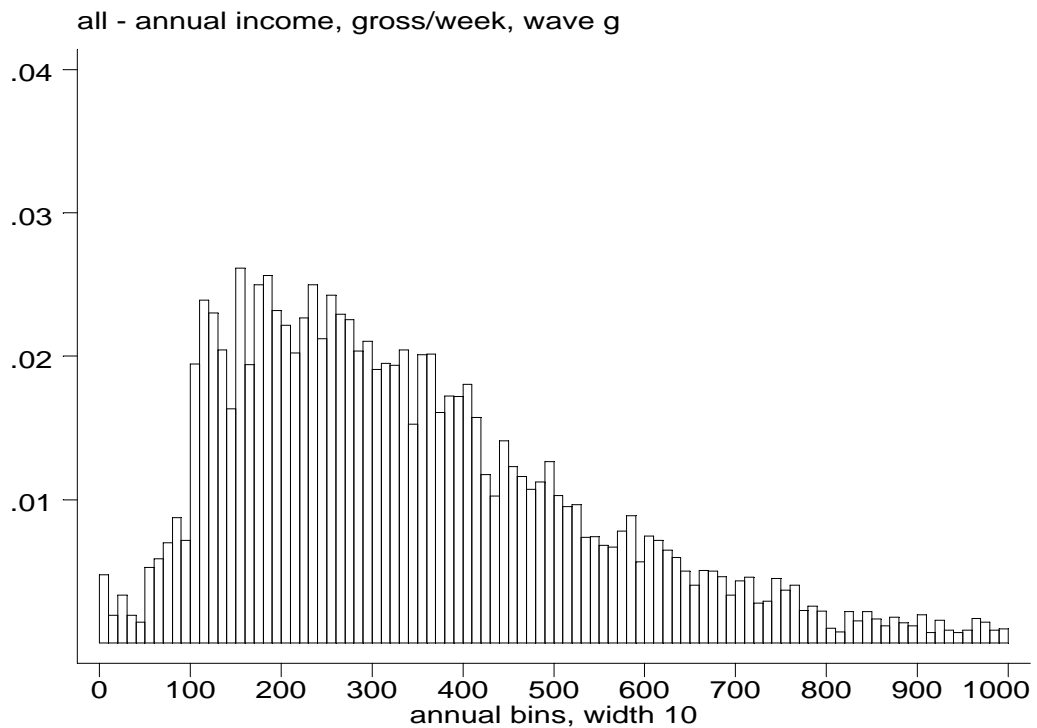


Figure 9. Scatterplot of normalised ranks in the annual and gross income distributions, BHPS wave 1 (1991)

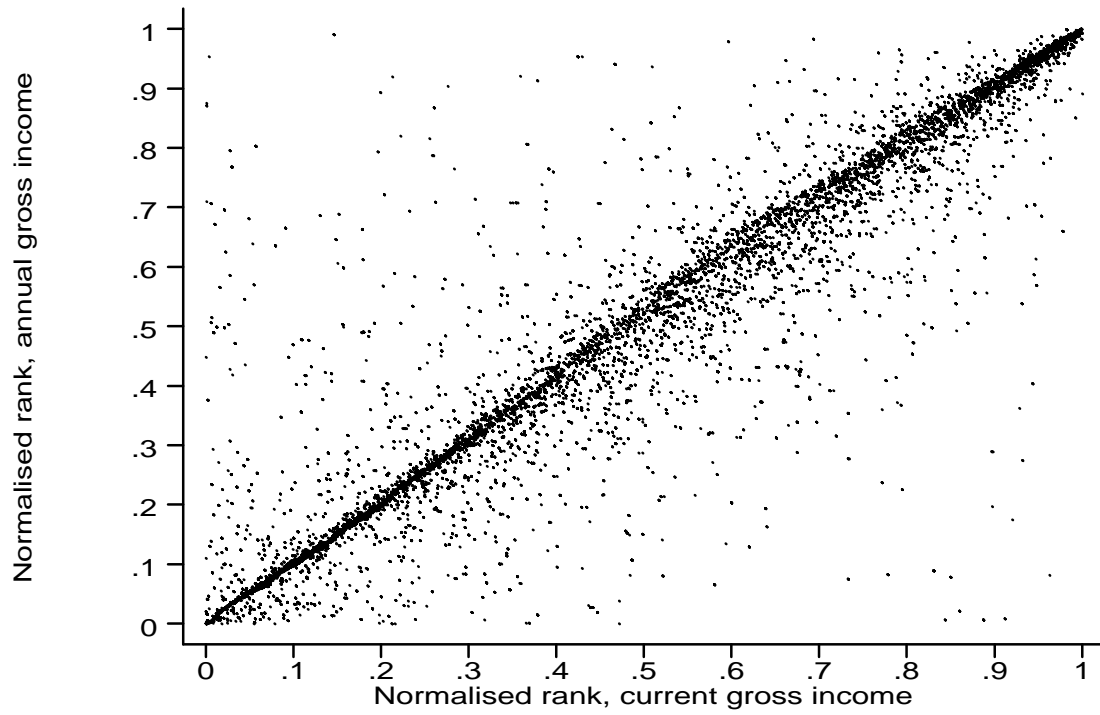


Table 1
Current, normal, and annual income estimates of inequality and poverty, UK 1968, 1977, 1983.

		Gini coefficient	Coefficient of variation	Proportion poor
1968	CNY	0.2806	0.5865	0.1322
	NNY	0.2617	0.5514	0.0995
	Annual	0.2670	0.5779	0.1135
1977	CNY	0.2771	0.5361	0.1217
	NNY	0.2688	0.5208	0.1049
	Annual	0.2766	0.5685	0.1160
1983	CNY	0.2887	0.5586	0.0649
	NNY	0.2827	0.5487	0.0562
	Annual	0.3075	0.6531	0.0985

Source: Morris and Preston (1986) using Family Expenditure Survey data. CNY is current net income; NNY is normal net income; Annual is annualized net income (see text). The poverty rate estimate is based on a poverty line equal to the 1983 Supplementary Benefit scale rate for the person's household.

Table 2. Current and annual income variables: summary statistics

		Mean	S. D.	Min	Max	N
Wave 1						
	annual	343	239	0	2790	13834
	current	352	247	0	5031	13824
Wave 2						
	annual	345	266	0	10529	13151
	current	352	259	0	3616	13146
Wave 3						
	annual	347	238	0	2862	12583
	current	352	244	0	3124	12575
Wave 4						
	annual	350	249	0	4285	12584
	current	363	270	0	4224	12578
Wave 5						
	annual	362	279	0	5257	12267
	current	377	287	0	6454	12267
Wave 6						
	annual	363	256	0	4363	12575
	current	380	274	0	4853	12575
Wave 7						
	annual	367	266	0	4933	12424
	current	380	308	0	8085	12423

Table 3. Decile group medians, overall median, and mean

Decile group	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
Decile group medians														
1	99	98	91	93	96	96	96	96	101	97	101	100	98	102
2	143	143	138	137	138	137	142	139	153	147	154	148	151	151
3	183	180	179	179	179	179	187	184	197	189	200	192	199	195
4	230	225	224	224	229	224	233	225	242	231	245	234	247	239
5	277	270	270	265	276	270	279	270	287	274	297	283	293	285
6	324	314	323	312	326	321	328	320	339	328	349	333	347	337
7	376	364	377	366	379	375	391	375	400	385	406	389	405	394
8	447	433	450	436	453	447	461	443	478	456	487	465	484	467
9	549	534	561	545	562	550	570	552	592	569	600	573	599	580
10	798	778	804	783	812	793	825	799	836	827	842	813	830	798
Median	300	291	294	286	300	296	303	294	313	300	323	306	317	310
Mean	352	343	352	345	352	347	363	350	377	362	380	363	380	367
Decile group medians as % of median														
1	33	34	31	33	32	32	32	33	32	32	31	33	31	33
2	48	49	47	48	46	46	47	47	49	49	48	48	48	49
3	61	62	61	63	60	60	62	63	63	63	62	63	63	63
4	77	77	76	78	76	76	77	77	77	77	76	76	78	77
5	92	93	92	93	92	91	92	92	92	91	92	92	92	92
6	108	108	110	109	109	108	108	109	108	109	108	109	109	109
7	125	125	128	128	126	127	129	128	128	128	126	127	128	127
8	149	149	153	152	151	151	152	151	153	152	151	152	153	151
9	183	184	191	191	187	186	188	188	189	190	186	187	189	187
10	266	267	273	274	271	268	272	272	267	276	261	266	262	257

Table 3a. Deciles

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
Deciles														
1	123	122	118	117	117	115	121	120	126	124	128	125	123	125
2	162	161	161	159	159	159	165	162	172	167	176	170	175	173
3	208	203	199	200	204	200	209	206	220	208	223	213	223	217
4	252	247	246	244	252	246	255	248	264	252	270	258	267	262
5	300	291	294	286	300	296	303	294	313	300	323	306	317	310
6	352	339	347	337	349	346	359	343	367	354	376	361	376	364
7	410	393	411	397	414	408	422	405	437	416	443	422	444	425
8	492	478	500	481	499	491	509	490	530	502	539	514	538	513
9	639	623	650	638	638	632	660	637	682	660	690	663	680	661
10														
Median	300	291	294	286	300	296	303	294	313	300	323	306	317	310
Deciles as % of median														
1	41	42	40	41	39	39	40	41	40	41	40	41	39	40
2	54	55	55	56	53	54	54	55	55	56	54	56	55	56
3	69	70	68	70	68	68	69	70	70	69	69	70	70	70
4	84	85	84	85	84	83	84	84	84	84	84	84	84	84
5	100	100	100	100	100	100	100	100	100	100	100	100	100	100
6	117	117	118	118	116	117	119	117	117	118	116	118	119	117
7	137	135	140	139	138	138	139	138	140	139	137	138	140	137
8	164	164	170	168	166	166	168	167	169	167	167	168	170	166
9	213	214	221	223	213	213	218	217	218	220	213	217	215	213

Table 4. Decile group income shares and cumulative income shares

Decile group	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
Decile group income share														
1	3	3	2	2	3	3	2	3	3	2	2	3	2	2
2	4	4	4	4	4	4	4	4	4	4	4	4	4	4
3	5	5	5	5	5	5	5	5	5	5	5	5	5	5
4	7	7	6	6	6	6	6	6	6	6	6	6	6	7
5	8	8	8	8	8	8	8	8	8	8	8	8	8	8
6	9	9	9	9	9	9	9	9	9	9	9	9	9	9
7	11	11	11	11	11	11	11	11	11	11	11	11	11	11
8	13	13	13	13	13	13	13	13	13	13	13	13	13	13
9	16	16	16	16	16	16	16	16	16	16	16	16	16	16
10	25	25	26	26	25	25	26	26	26	26	26	25	26	25
Cumulative share (%)														
1	3	3	2	2	3	3	2	3	3	2	2	3	2	2
2	7	7	6	6	6	6	6	7	7	7	6	7	6	7
3	12	12	11	12	12	12	12	12	12	12	12	12	11	12
4	18	19	18	18	18	18	18	18	18	18	18	18	18	18
5	26	26	25	26	26	26	26	26	26	26	26	26	26	26
6	35	36	34	35	35	35	35	35	35	35	35	35	35	35
7	46	46	45	45	46	46	45	46	45	45	46	46	46	46
8	59	59	58	58	59	59	58	59	58	58	59	59	58	59
9	75	75	74	74	75	75	74	74	74	74	75	75	74	75
10	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 5. Inequality indices

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	Current	annual	current	annual	current	annual	current	annual	current	annual	current	annual	current	annual
Gini	0.35	0.34	0.36	0.35	0.35	0.35	0.36	0.35	0.35	0.36	0.35	0.35	0.36	0.35
p90/p10	5.18	5.12	5.52	5.45	5.48	5.47	5.46	5.31	5.43	5.31	5.39	5.30	5.53	5.28
GE(2)	0.25	0.24	0.27	0.30	0.24	0.24	0.28	0.25	0.29	0.30	0.26	0.25	0.33	0.26
N	13834	13824	13146	13151	12575	12583	12578	12584	12267	12267	12575	12575	12423	12423
# Zeros	10	7	15	12	17	18	9	12	15	11	14	14	13	20

Note: zeros used in calculation

Table 5a Inequality indices, calculated excluding incomes > £8000

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	Current	annual	current	annual	current	annual	current	annual	current	annual	current	annual	current	annual
Gini	0.35	0.34	0.36	0.35	0.35	0.35	0.36	0.35	0.35	0.36	0.35	0.35	0.35	0.35
p90/p10	5.18	5.12	5.52	5.44	5.48	5.47	5.46	5.31	5.43	5.31	5.39	5.30	5.53	5.28
GE(2)	0.25	0.24	0.27	0.26	0.24	0.24	0.28	0.26	0.29	0.30	0.26	0.25	0.30	0.26
# Zeros	10	7	15	12	17	18	9	12	15	11	14	14	13	20

Note: zeros used in calculation

Table 6. Cumulative percentages of population with incomes below fractions of contemporary average income

Fraction	Current Wave 1	Annual Wave 1	Current Wave 2	Annual Wave 2	Current Wave 3	Annual Wave 3	Current Wave 4	Annual Wave 4	Current Wave 5	Annual Wave 5	Current Wave 6	Annual Wave 6	Current Wave 7	Annual Wave 7
< 0.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0.1-0.2	2	2	2	2	2	2	2	2	2	2	2	2	3	3
0.2-0.3	6	6	8	7	7	7	7	6	7	7	7	6	8	6
0.3-0.4	14	14	16	15	16	16	16	15	15	15	15	14	15	14
0.4-0.5	23	23	24	23	24	24	24	23	24	23	23	23	23	22
0.5-0.6	31	31	33	32	32	31	32	31	31	32	31	31	31	30
0.6-0.7	39	38	40	40	39	39	40	39	40	40	39	39	40	39
0.7-0.8	46	46	48	47	46	47	47	47	48	48	46	47	47	47
0.8-0.9	54	54	54	55	53	53	55	54	55	55	54	54	54	54
0.9-1.0	60	61	61	61	61	60	61	61	61	61	60	60	61	61
1.0-1.1	67	67	67	67	66	66	66	67	68	67	67	67	67	67
1.1-1.2	72	72	72	72	71	71	72	72	72	73	71	72	71	71
1.2-1.3	76	77	76	77	76	75	76	76	76	77	76	76	76	76
1.3-1.4	80	80	79	80	80	80	80	80	80	80	79	79	79	80
1.4-1.5	83	84	83	83	82	83	83	83	83	83	82	83	83	83
1.5-1.75	89	89	89	89	89	89	89	89	89	89	89	88	89	89
1.75-2.0	93	93	92	92	92	92	93	92	92	93	92	93	93	93
2.0-2.5	96	96	96	96	96	97	96	96	96	96	97	97	97	97
2.5-3.0	98	98	98	98	98	98	98	98	98	98	99	98	98	98
≥ 3.0	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 7. Cumulative percentages of population with incomes below fractions of 1991 average income

Fraction	Current Wave 1	Annual Wave 1	Current Wave 2	Annual Wave 2	Current Wave 3	Annual Wave 3	Current Wave 4	Annual Wave 4	Current Wave 5	Annual Wave 5	Current Wave 6	Annual Wave 6	Current Wave 7	Annual Wave 7
< 0.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0.1-0.2	2	2	2	2	2	2	2	2	2	2	2	2	3	2
0.2-0.3	6	6	8	7	7	7	7	6	6	6	6	5	6	5
0.3-0.4	14	14	16	15	16	15	15	15	13	13	12	13	13	13
0.4-0.5	23	23	24	23	24	23	23	23	21	21	20	20	20	20
0.5-0.6	31	31	33	31	32	31	30	30	28	29	28	29	28	28
0.6-0.7	39	38	40	39	39	38	38	38	36	37	35	36	35	35
0.7-0.8	46	46	48	47	46	46	46	46	44	45	42	44	43	43
0.8-0.9	54	54	54	54	53	53	53	53	51	52	49	50	50	50
0.9-1.0	60	61	61	61	61	59	59	59	57	58	56	57	56	56
1.0-1.1	67	67	67	67	66	65	65	65	63	64	62	63	62	62
1.1-1.2	72	72	72	72	71	71	70	71	68	69	67	68	67	68
1.2-1.3	76	77	76	76	76	75	75	75	73	74	72	73	72	72
1.3-1.4	80	80	79	80	80	79	79	79	77	78	76	77	76	76
1.4-1.5	83	84	83	83	82	82	82	82	80	81	79	80	79	80
1.5-1.75	89	89	89	88	89	88	88	88	87	87	86	87	86	86
1.75-2.0	93	93	92	92	92	92	92	92	91	91	91	91	91	91
2.0-2.5	96	96	96	96	97	96	96	96	96	96	96	96	96	96
2.5-3.0	98	98	98	98	98	98	98	98	98	98	98	98	98	98
≥ 3.0	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 8. Growth in decile group medians, median, and mean

Decile Group	Wave 1	Wave 2	Wave 3	Current				(A) Change	(C)	(D)	(E)
				Wave 4	Wave 5	Wave 6	Wave 7		Difference between (A) and (B) (B)-(A)	Difference between (A),(B) wave 1, wave 6	Difference between (A), (B) wave 2, wave 7
1	99	91	96	96	101	101	98	-1	5	0	4
2	143	138	138	142	153	154	151	6	0	-4	2
3	183	179	179	187	197	200	199	9	0	-3	0
4	230	224	229	233	242	245	247	7	-1	-3	-2
5	277	270	276	279	287	297	293	6	0	-2	1
6	324	323	326	328	339	349	347	7	0	-2	2
7	376	377	379	391	400	406	405	8	1	-1	2
8	447	450	453	461	478	487	484	8	0	-2	1
9	549	561	562	570	592	600	599	9	0	-2	1
10	798	804	812	825	836	842	830	4	-1	-1	0
Median	300	294	300	303	313	323	317	6	1	-3	2
Mean	352	352	352	363	377	380	380	8	-1	-2	0

	Wave 1	Wave 2	Wave 3	Annual				(B) Change
				Wave 4	Wave 5	Wave 6	Wave 7	
1	98	91	96	96	97	100	102	4
2	143	135	137	139	147	148	151	6
3	180	176	179	184	189	192	195	8
4	225	220	224	225	231	234	239	6
5	270	261	270	270	274	283	285	6
6	314	307	321	320	328	333	337	7
7	364	360	375	375	385	389	394	8
8	433	429	447	443	456	465	467	8
9	534	536	550	552	569	573	580	9
10	778	772	793	799	827	813	798	3
Median	291	281	296	294	300	306	310	7
Mean	343	339	347	350	362	363	367	7

Note: Columns (A) and (B) were calculated in the following way: (wave 7 - wave 1)*100/wave 1. Column (C) simply subtracts (A) from (B). Columns (D) and (E) were calculated in a similar fashion, but using wave 6 instead of wave 7 (D); and using wave 2 instead of wave 1 (E).

Table 9. Population shares by subgroup (column percentages)

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
<i>Family type</i>							
Single pensioner	9	9	9	9	9	9	9
Pensioner couple	9	9	9	9	10	10	10
Couple with child(ren)	39	36	36	38	36	37	36
Couple without child	21	22	22	20	21	21	21
Single parent	6	6	7	7	6	7	7
Single	16	18	17	16	17	16	17
All	100	100	100	100	100	100	100
<i>Economic status of family</i>							
1+ FT self-employed	12	11	11	10	10	10	10
All adults in FT work	24	23	22	23	23	24	25
Couple: 1FT, 1PT	13	12	12	12	12	12	13
Couple: 1 FT, 1 not working	13	13	13	13	13	13	12
Single/couple: PT	6	6	6	6	7	7	6
Head/Spouse: 60+	18	18	19	20	20	19	20
Head/Spouse: unemployed	6	7	7	6	5	5	4
Other	7	10	10	10	10	10	10
All	100	100	100	100	100	100	100
<i>Person type</i>							
Adult man	37	37	36	37	37	37	37
Adult woman	41	41	41	41	41	41	41
Child	22	22	22	22	22	22	22
All	100	100	100	100	100	100	100

Table 10. Composition of the low income population by family type (column percentages)

Group	Wave 1		Wave 4		Wave 7	
	Current	Annual	Current	Annual	Current	Annual
<i>Bottom 10%</i>						
Single pensioner	16	16	12	13	15	15
Pensioner couple	7	7	6	4	6	6
Couple with child(ren)	37	36	35	33	33	33
Couple without child	9	7	7	7	7	4
Single parent	20	22	26	26	23	27
Single	11	13	14	17	15	15
All	100	100	100	100	100	100
<i>Bottom 20%</i>						
Single pensioner	19	19	20	19	19	17
Pensioner couple	13	13	11	10	12	10
Couple with child(ren)	32	31	31	32	30	32
Couple without child	8	7	7	6	7	6
Single parent	16	18	19	19	19	20
Single	11	12	13	14	14	16
All	100	100	100	100	100	100
<i>Bottom 30%</i>						
Single pensioner	19	19	19	19	19	17
Pensioner couple	15	15	13	12	16	14
Couple with child(ren)	31	31	31	31	30	30
Couple without child	9	8	8	7	8	7
Single parent	14	14	15	16	15	16
Single	11	12	13	14	13	14
All	100	100	100	100	100	100
<i>Bottom 40%</i>						
Single pensioner	17	17	18	17	17	17
Pensioner couple	15	15	14	14	15	15
Couple with child(ren)	34	35	34	34	32	32
Couple without child	10	9	9	8	9	9
Single parent	12	12	13	13	13	13
Single	12	13	13	14	14	14
All	100	100	100	100	100	100
<i>Bottom 50%</i>						
Single pensioner	15	14	15	15	15	15
Pensioner couple	14	14	14	13	14	14
Couple with child(ren)	37	37	36	37	34	34
Couple without child	11	11	11	10	11	10
Single parent	10	10	11	11	12	12
Single	12	13	13	14	14	14
All	100	100	100	100	100	100

Table 11. Composition of the low income population by family economic status (column percentages)

	Wave 1		Wave 4		Wave 7	
	Current	Annual	Current	Annual	Current	Annual
<i>Bottom 10%</i>						
1+ FT self employed	10	12	5	6	10	7
All adults in FT work	1	3	0	3	1	3
Couple: 1FT, 1PT	—	1	—	0	0	0
Couple: 1 FT, 1 not working	1	3	2	4	5	7
Single/couple: PT	10	10	8	10	9	9
Head/Spouse: 60+	28	26	21	20	23	22
Head/Spouse: unemployed	26	21	30	24	20	16
Other	23	23	33	33	32	36
All	100	100	100	100	100	100
<i>Bottom 20%</i>						
1+ FT self employed	10	10	6	7	8	7
All adults in FT work	2	3	1	3	2	5
Couple: 1FT, 1PT	1	3	0	1	1	3
Couple: 1 FT, 1 not working	2	4	5	6	7	8
Single/couple: PT	11	9	8	9	10	10
Head/Spouse: 60+	36	35	34	31	34	29
Head/Spouse: unemployed	20	17	20	19	13	11
Other	18	19	25	24	26	27
All	100	100	100	100	100	100
<i>Bottom 30%</i>						
1+ FT self employed	10	11	7	7	8	7
All adults in FT work	3	5	3	5	4	6
Couple: 1FT, 1PT	3	5	3	4	4	5
Couple: 1 FT, 1 not working	6	6	7	8	8	8
Single/couple: PT	10	9	8	8	9	10
Head/Spouse: 60+	37	36	36	34	36	33
Head/Spouse: unemployed	15	13	16	14	9	9
Other	16	16	20	20	22	22
All	100	100	100	100	100	100
<i>Bottom 40%</i>						
1+ FT self employed	10	11	8	8	8	7
All adults in FT work	5	7	5	6	6	8
Couple: 1FT, 1PT	5	7	5	6	7	7
Couple: 1 FT, 1 not working	10	9	10	9	10	10
Single/couple: PT	9	8	8	8	9	9
Head/Spouse: 60+	35	33	34	33	34	33
Head/Spouse: unemployed	13	12	13	12	8	7
Other	13	13	18	18	19	19
All	100	100	100	100	100	100
<i>Bottom 50%</i>						
1+ FT self employed	10	10	8	8	9	8
All adults in FT work	8	10	7	9	9	10
Couple: 1FT, 1PT	8	9	7	8	9	9
Couple: 1 FT, 1 not working	12	11	12	11	11	11
Single/couple: PT	8	8	8	8	9	9
Head/Spouse: 60+	31	30	31	30	31	30
Head/Spouse: unemployed	11	10	11	10	7	6
Other	12	12	15	15	16	17
All	100	100	100	100	100	100

Table 12. Composition of the low income population by person type (column percentages)

		Wave 1		Wave 4		Wave 7	
		Current	Annual	Current	Annual	Current	Annual
<i>Bottom 10%</i>							
Adult man		26	25	25	25	26	23
Adult woman		42	43	39	40	40	40
Child		32	32	37	35	34	37
All		100	100	100	100	100	100
<i>Bottom 20%</i>							
Adult man		28	28	27	27	27	26
Adult woman		45	45	44	44	43	43
Child		27	27	29	30	29	31
All		100	100	100	100	100	100
<i>Bottom 30%</i>							
Adult man		30	30	29	29	29	29
Adult woman		45	46	45	44	44	44
Child		24	25	26	27	27	27
All		100	100	100	100	100	100
<i>Bottom 40%</i>							
Adult man		32	31	31	31	31	31
Adult woman		44	44	44	43	44	43
Child		24	25	26	36	25	26
All		100	100	100	100	100	100
<i>Bottom 50%</i>							
Adult man		33	33	32	32	32	32
Adult woman		43	43	43	43	43	43
Child		25	25	25	26	25	26
All		100	100	100	100	100	100

Table 13. Percentage of each family type below fractions of contemporary mean

	Wave 1		Wave 4		Wave 7	
	Current	Annual	Current	Annual	Current	Annual
<i>Below 0.4 contemporary mean</i>						
Single pensioner	32	30	31	28	29	26
Pensioner couple	15	13	14	12	14	10
Couple with child(ren)	13	11	13	13	13	12
Couple without child	5	4	5	4	5	4
Single parent	46	49	48	49	48	47
Single	9	10	12	13	12	13
All	14	14	15	15	15	14
<i>Below 0.5 contemporary mean</i>						
Single pensioner	55	53	50	48	45	41
Pensioner couple	35	33	29	26	30	25
Couple with child(ren)	19	18	19	19	19	19
Couple without child	9	8	8	7	8	6
Single parent	60	63	60	62	59	61
Single	15	17	18	20	18	20
All	23	23	23	23	22	22
<i>Below 0.6 contemporary mean</i>						
Single pensioner	69	69	64	62	59	57
Pensioner couple	50	48	45	41	47	42
Couple with child(ren)	25	25	26	26	25	25
Couple without child	13	12	12	11	12	10
Single parent	69	70	69	70	68	72
Single	22	24	24	25	23	26
All	31	31	31	30	30	30

Table 13a. Percentage of each family type below fractions of wave 1 mean

	Wave 1		Wave 4		Wave 7	
	Current	Annual	Current	Annual	Current	Annual
<i>Below 0.4 wave 1 mean</i>						
Single pensioner	32	30	28	27	24	22
Pensioner couple	15	13	14	11	10	8
Couple with child	13	11	12	12	11	11
Couple without child	5	4	5	4	4	3
Single parent	46	49	46	47	44	45
Single	9	10	11	13	11	11
All	14	14	14	14	13	12
<i>Below 0.5 wave 1 mean</i>						
Single pensioner	55	53	48	47	40	35
Pensioner couple	35	33	27	25	23	19
Couple with child	19	18	18	18	17	17
Couple without child	9	8	8	7	7	5
Single parent	60	63	59	61	55	57
Single	15	17	17	19	16	18
All	23	23	22	22	20	19
<i>Below 0.6 wave 1 mean</i>						
Single pensioner	69	69	63	61	54	51
Pensioner couple	50	48	42	39	39	36
Couple with child	25	25	25	25	22	23
Couple without child	13	12	11	11	10	8
Single parent	69	70	67	69	65	69
Single	22	24	23	24	21	23
All	31	31	30	29	27	27

Table 14. Percentage of each economic status subgroup below fractions of contemporary mean

	Wave 1		Wave 4		Wave 7	
	Current	Annual	Current	Annual	Current	Annual
<i>Below 0.4 contemporary mean</i>						
1+ FT self employed	11	13	8	9	13	9
All adults in FT work	1	2	1	2	1	2
Couple: 1FT, 1PT	1	2	0	1	1	1
Couple: 1 FT, 1 not working	2	3	4	5	8	8
Single/couple: PT	27	22	21	22	23	21
Head/Spouse: 60+	26	24	25	22	23	19
Head/Spouse: unemployed	54	43	60	54	66	57
Other	43	44	44	42	43	42
All	15	14	16	16	15	14
<i>Below 0.5 contemporary mean</i>						
1+ FT self employed	20	21	17	15	16	16
All adults in FT work	2	4	2	4	2	5
Couple: 1FT, 1PT	3	5	1	4	4	5
Couple: 1 FT, 1 not working	8	8	11	12	14	15
Single/couple: PT	38	35	31	32	35	35
Head/Spouse: 60+	49	46	43	41	41	35
Head/Spouse: unemployed	69	58	69	64	71	65
Other	57	60	55	55	55	56
All	24	24	24	24	23	23
<i>Below 0.6 contemporary mean</i>						
1+ FT self employed	27	29	24	22	23	22
All adults in FT work	4	7	5	6	5	7
Couple: 1FT, 1PT	7	11	7	10	9	13
Couple: 1 FT, 1 not working	15	13	19	19	21	21
Single/couple: PT	50	46	42	43	47	47
Head/Spouse: 60+	63	61	59	55	57	52
Head/Spouse: unemployed	75	65	76	69	77	71
Other	69	69	63	63	64	65
All	31	31	32	32	31	31

Table 14a. Percentage of each economic status subgroup below fractions of wave 1 mean

	Wave 1		Wave 4		Wave 7	
	Current	Annual	Current	Annual	Current	Annual
<i>Below 0.4 wave 1 mean</i>						
1+ FT self employed	11	13	8	9	12	8
All adults in FT work	1	2	1	2	1	2
Couple: 1FT, 1PT	1	2	0	1	0	1
Couple: 1 FT, 1 not working	2	3	3	5	6	7
Single/couple: PT	27	22	19	22	20	18
Head/Spouse: 60+	26	24	23	21	19	16
Head/Spouse: unemployed	54	43	57	52	63	53
Other	43	44	42	40	40	41
All	15	14	15	15	14	13
<i>Below 0.5 wave 1 mean</i>						
1+ FT self employed	20	21	15	14	16	14
All adults in FT work	2	4	2	3	2	4
Couple: 1FT, 1PT	3	5	1	4	2	3
Couple: 1 FT, 1 not working	8	8	11	11	11	13
Single/couple: PT	38	35	30	32	31	30
Head/Spouse: 60+	49	46	42	39	34	29
Head/Spouse: unemployed	69	58	69	64	71	62
Other	57	60	54	53	51	53
All	24	24	23	23	20	20
<i>Below 0.6 wave 1 mean</i>						
1+ FT self employed	27	29	22	21	21	20
All adults in FT work	4	7	4	6	4	6
Couple: 1FT, 1PT	7	11	7	10	7	10
Couple: 1 FT, 1 not working	15	13	17	18	18	19
Single/couple: PT	50	46	41	41	41	42
Head/Spouse: 60+	63	61	57	54	50	46
Head/Spouse: unemployed	75	65	75	68	75	69
Other	69	69	62	62	61	61
All	31	31	31	31	28	28

Table 15. Percentage of each person type subgroup below fractions of the contemporary mean

	Wave 1		Wave 4		Wave 7	
	Current	Annual	Current	Annual	Current	Annual
<i>Below 0.4 contemporary mean</i>						
Adult man	10	10	11	10	11	9
Adult woman	15	15	16	15	15	14
Child	20	19	21	21	22	21
All	14	14	15	15	15	14
<i>Below 0.5 contemporary mean</i>						
Adult man	18	17	18	17	17	16
Adult woman	26	26	25	25	24	23
Child	28	27	29	29	30	30
All	23	23	23	23	23	22
<i>Below 0.6 contemporary mean</i>						
Adult man	25	25	25	24	24	24
Adult woman	34	34	34	33	33	32
Child	34	34	36	37	37	38
All	31	31	31	31	31	30

Table 15a. Percentage of each person type below fractions of the wave 1 mean

	Wave 1		Wave 4		Wave 7	
	Current	Annual	Current	Annual	Current	Annual
<i>Below 0.4 wave 1 mean</i>						
Adult man	10	10	10	10	9	8
Adult woman	15	15	15	15	13	13
Child	20	19	20	21	20	20
All	14	14	14	14	13	13
<i>Below 0.5 wave 1 mean</i>						
Adult man	18	17	17	17	15	14
Adult woman	26	26	24	24	21	20
Child	28	27	28	28	27	28
All	23	23	22	22	20	20
<i>Below 0.6 wave 1 mean</i>						
Adult man	25	25	24	23	21	21
Adult woman	34	34	32	32	29	29
Child	34	34	35	36	34	36
All	31	31	30	29	27	28

Table 16. Quintile group medians, wave 1 (1991) and wave 7 (1997), and quintile group median growth 1991-1997, by family type

Wave 1	Current						Annual					
	p10	p30	p50	p70	p90	Mean	p10	p30	p50	p70	p90	Mean
Single pensioner	127	188	290	407	647	206	126	187	289	385	601	204
Pensioner couple	139	201	291	382	655	246	138	198	284	379	622	247
Couple with child(ren)	116	216	298	404	632	350	113	212	291	391	606	340
Couple without child	117	215	308	416	657	476	122	206	300	403	645	467
Single parent	114	194	298	410	555	199	107	183	288	404	516	190
Single	123	208	301	413	625	394	119	205	295	396	612	375

Wave 7	Current						Annual					
	p10	p30	p50	p70	p90	Mean	p10	p30	p50	p70	p90	Mean
Single pensioner	130	216	312	434	681	238	131	214	309	415	694	246
Pensioner couple	144	214	309	437	668	302	143	209	308	421	620	297
Couple with child(ren)	118	231	317	443	668	377	124	221	307	419	644	359
Couple without child	125	228	328	452	702	517	130	224	323	435	673	505
Single parent	110	208	298	411	752	209	109	200	281	405	828	197
Single	118	230	324	443	671	418	126	221	319	426	655	395

Growth (%) = (W7-W1)*100/W1

	p10		p30		p50		p70		p90		Mean	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
Single pensioner	2	4	15	14	8	7	7	8	5	15	16	21
Pensioner couple	4	4	6	6	6	8	14	11	2	0	23	20
Couple with child(ren)	2	10	7	4	6	5	10	7	6	6	8	6
Couple without child	7	7	6	9	6	8	9	8	7	4	9	8
Single parent	-4	2	7	9	0	-2	0	0	35	60	5	4
Single	-4	6	11	8	8	8	7	8	7	7	6	5

Table 17. Quintile group medians, wave 1 (1991) and wave 7 (1997), and quintile group median growth 1991-1997, by economic status

Wave 1	Current						Annual					
	p10	p30	p50	p70	p90	Mean	p10	p30	p50	p70	p90	Mean
1+ FT self employed	120	209	295	413	738	424	120	209	295	413	738	408
All adults in FT work	138	222	307	414	636	499	138	222	307	414	636	472
Couple: 1FT, 1PT	156	220	301	399	643	397	156	220	301	399	643	375
Couple: 1 FT, 1 not working	147	216	298	409	597	367	147	216	298	409	597	366
Single/couple: PT	124	204	307	412	647	276	124	204	307	412	647	275
Head/Spouse: 60+	132	196	291	395	623	208	132	196	291	395	623	211
Head/Spouse: unemployed	108	205	305	423	614	176	108	205	305	423	614	205
Other	108	190	295	413	565	202	108	190	295	413	565	194

Wave 7	Current						Annual					
	p10	p30	p50	p70	p90	Mean	p10	p30	p50	p70	p90	Mean
1+ FT self employed	109	232	315	443	682	447	120	218	312	443	669	433
All adults in FT work	144	239	330	449	701	536	138	228	320	430	673	505
Couple: 1FT, 1PT	157	235	330	443	666	425	158	221	310	417	634	404
Couple: 1 FT, 1 not working	138	232	318	441	680	400	141	234	310	425	664	394
Single/couple: PT	126	220	300	441	661	293	130	210	303	452	675	286
Head/Spouse: 60+	136	215	311	431	652	254	134	212	307	413	671	259
Head/Spouse: unemployed	96	228	307	413	651	158	109	215	307	420	626	188
Other	111	214	311	444	673	230	111	214	310	407	665	215

Growth (%) =(W7-W1)*100/W1	p10		p30		p50		p70		p90		Mean	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
	1+ FT self employed	-9	0	11	4	7	6	7	7	-8	-9	5
All adults in FT work	4	0	8	3	7	4	8	4	10	6	7	7
Couple: 1FT, 1PT	1	1	7	0	10	3	11	5	4	-1	7	8
Couple: 1 FT, 1 not working	-6	-4	7	8	7	4	8	4	14	11	9	8
Single/couple: PT	2	5	8	3	-2	-1	7	10	2	4	6	4
Head/Spouse: 60+	3	2	10	8	7	5	9	5	5	8	22	23
Head/Spouse: unemployed	-11	1	11	5	1	1	-2	-1	6	2	-10	-8
Other	3	3	13	13	5	5	8	-1	19	18	14	11

Table 18. Quintile group medians, wave 1 (1991) and wave 7 (1997), and quintile median growth 1991-1997, by person type

Wave 1	Current						Annual					
	p10	p30	p50	p70	p90	Mean	p10	p30	p50	p70	p90	Mean
Adult man	127	209	300	411	646	384	132	211	300	405	639	375
Adult woman	125	204	300	411	635	345	129	205	300	405	629	335
Child	114	213	298	403	628	312	119	214	298	400	619	304

Wave 7	Current						Annual					
	p10	p30	p50	p70	p90	Mean	p10	p30	p50	p70	p90	Mean
Adult man	125	225	317	444	684	415	130	220	312	427	665	402
Adult woman	126	221	319	444	681	375	128	215	311	427	661	363
Child	116	225	313	440	670	327	116	218	304	417	655	312

Growth (%) = (W7-W1)*100/W1

	p10		P30		p50		p70		p90		Mean	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
Adult man	-2	-2	8	4	6	4	8	5	6	4	8	7
Adult woman	1	-1	8	5	6	4	8	5	7	5	9	8
Child	2	-3	6	2	5	2	9	4	7	6	5	3

Table 19
Longitudinal income mobility and low income transition rates

	Wave $t,t+1$											
	1,2		2,3		3,4		4,5		5,6		6,7	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
Correlation	0.74	0.73	0.76	0.73	0.75	0.80	0.75	0.76	0.71	0.79	0.64	0.81
Correlation (trimmed data)*	0.74	0.75	0.76	0.77	0.75	0.80	0.75	0.77	0.66	0.80	0.73	0.78
Proportion of sample in same decile group	0.36	0.40	0.40	0.41	0.39	0.42	0.38	0.41	0.41	0.42	0.40	0.41
Low income exit rate	0.31	0.29	0.31	0.31	0.30	0.30	0.32	0.30	0.32	0.31	0.30	0.30
Low income entry rate	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.07

*: calculations based on distributions excluding the richest 1% of observations. Low income entry and exit rates based on a low income cut-off equal to half mean income of the relevant wave.

Table 20. Comparison of current and annual income for persons classified by change in household employment status over the annual reference period prior to the current interview

	Percentage of all persons	Mean		Percentage below half wave 1 average income		Percentage below half contemporary average income		Composition of poorest fifth (%)	
		Current	Annual	Current	Annual	Current	Annual	Current	Annual
<i>Wave 1 to wave 2</i>									
All adults employed 50+ weeks in reference year	30	490	481	6	6	6	6	7	7
All adults unemployed 50+ weeks in reference year	1	119	116	90	89	90	89	3	3
All adults inactive 50+ weeks in reference year	18	195	189	55	55	55	55	37	39
Remainder (at least 1 adult changing status)	52	331	324	23	21	23	22	53	52
All	100	352	345	24	23	24	23	100	100
<i>Wave 2 to wave 3</i>									
All adults employed 50+ weeks in reference year	29	480	476	6	5	6	5	7	7
All adults unemployed 50+ weeks in reference year	1	147	140	79	80	79	80	2	3
All adults inactive 50+ weeks in reference year	17	202	201	53	53	53	54	35	37
Remainder (at least 1 adult changing status)	53	332	325	22	21	22	22	55	53
All	100	352	347	23	22	23	23	100	100
<i>Wave 3 to wave 4</i>									
All adults employed 50+ weeks in reference year	30	498	483	5	5	5	5	7	6
All adults unemployed 50+ weeks in reference year	1	139	111	77	94	79	94	3	3
All adults inactive 50+ weeks in reference year	18	205	202	51	50	53	52	37	36
Remainder (at least 1 adult changing status)	51	342	327	21	21	22	22	53	55
All	100	363	350	22	22	23	23	100	100
<i>Wave 4 to wave 5</i>									
All adults employed 50+ weeks in reference year	31	508	497	4	4	6	5	7	7
All adults unemployed 50+ weeks in reference year	0	142	116	78	84	81	87	2	2
All adults inactive 50+ weeks in reference year	19	218	211	49	49	55	53	41	40
Remainder (at least 1 adult changing status)	50	359	339	19	19	21	21	50	51
All	100	377	362	20	20	23	22	100	100
<i>Wave 5 to wave 6</i>									
All adults employed 50+ weeks in reference year	31	513	501	4	4	6	5	6	6
All adults unemployed 50+ weeks in reference year	1	124	120	80	81	89	81	2	2
All adults inactive 50+ weeks in reference year	19	220	217	47	46	54	51	39	37
Remainder (at least 1 adult changing status)	49	360	335	18	20	21	22	52	55
All	100	380	363	20	20	23	23	100	100
<i>Wave 6 to wave 7</i>									
All adults employed 50+ weeks in reference year	32	514	494	5	4	6	5	8	7
All adults unemployed 50+ weeks in reference year	0	148	151	70	70	70	70	1	1
All adults inactive 50+ weeks in reference year	19	219	218	45	42	51	47	38	37
Remainder (at least 1 adult changing status)	48	356	342	20	21	22	23	52	55
All	100	380	367	20	21	23	22	100	100

Table 21. Comparison of current and annual income for persons classified by change in household composition since the previous panel interview

	Percentage of all persons	Mean		Percentage below half wave 1 average income		Percentage below half contemporary average income		Composition of poorest fifth (%)	
		Current	Annual	Current	Annual	Current	Annual	Current	Annual
<i>Wave 1 to wave 2</i>									
No changes	74	346	342	25	23	25	23	73	70
Same HoH but # adults changed	6	393	385	20	21	20	21	6	6
Same HoH but # children changed	3	377	370	28	27	28	27	4	4
Same HoH but # adults and # children changed	7	322	309	22	22	22	22	7	8
Other changes	10	366	347	24	25	24	25	11	12
All	100	350	344	24	23	24	23	100	100
<i>Wave 2 to wave 3</i>									
No changes	77	356	350	23	22	23	22	74	73
Same HoH but # adults changed	6	390	388	16	14	16	15	6	5
Same HoH but # children changed	4	342	345	23	23	23	25	4	4
Same HoH but # adults and # children changed	5	316	304	22	22	22	22	4	4
Other changes	9	319	317	30	30	30	31	12	14
All	100	352	347	23	22	23	23	100	100
<i>Wave 3 to wave 4</i>									
No changes	77	358	348	22	22	23	23	75	73
Same HoH but # adults changed	6	375	363	20	19	21	20	6	6
Same HoH but # children changed	4	355	351	31	25	31	25	6	5
Same HoH but # adults and # children changed	6	374	343	17	21	18	22	6	7
Other changes	7	397	362	20	24	21	25	7	9
All	100	363	350	22	22	23	23	100	100
<i>Wave 4 to wave 5</i>									
No changes	77	377	364	21	20	23	22	74	72
Same HoH but # adults changed	6	417	382	16	17	18	18	5	6
Same HoH but # children changed	4	365	364	22	24	26	28	5	5
Same HoH but # adults and # children changed	5	353	321	18	21	21	23	5	6
Other changes	9	376	354	21	22	22	24	11	11
All	100	377	362	21	20	23	22	100	100
<i>Wave 5 to wave 6</i>									
No changes	78	382	368	19	19	22	22	74	72
Same HoH but # adults changed	5	415	388	16	17	19	19	5	5
Same HoH but # children changed	3	383	384	26	26	26	26	4	4
Same HoH but # adults and # children changed	6	345	307	19	22	22	25	6	7
Other changes	8	376	346	19	22	22	24	11	12
All	100	381	364	19	20	22	22	100	100
<i>Wave 6 to wave 7</i>									
No changes	76	378	368	20	19	23	22	74	72
Same HoH but # adults changed	6	431	411	14	13	14	15	4	4
Same HoH but # children changed	3	358	355	28	30	30	33	6	6
Same HoH but # adults and # children changed	6	353	324	19	23	21	24	5	7
Other changes	8	376	355	20	21	22	24	10	11
All	100	379	366	20	19	23	22	100	100

Note. HoH = household head

APPENDIX to

Do current income and annual income measures provide different pictures of Britain's income distribution?

by

René Böheim and Stephen P. Jenkins¹

Net income distributions: commentary, derivation, tables and figures

In the main body of the paper we provided a series of tables summarising the British income distribution 1991-1997 comparing statistics based on annual and current *gross* income measures. Most of this Appendix comprises a matching set of tables and figures in exactly the same format (and with the same numbering scheme but prefaced with the letter 'A'), but now summarising comparisons of annual and current *net* income measures. First, however, we provide a brief commentary on the principal similarities and differences between the net income and gross income results, and also explain how the net income variables were constructed.

The net income results compared with the gross income results

Our commentary on the tables and figures is brief, largely because it turns out that the patterns revealed for net income are very similar to those revealed by the gross income tables.

The most notable differences are apparent in Tables (A)2 and (A)2a, and Tables (A)6 and (A)7. Look first at the summaries in the former pair of tables of various percentiles of the income distribution expressed as a percentage of the median. Where there actually is a difference, the percentiles in the current distribution now appear quite often to be larger than their annual income distribution counterparts, whereas the opposite was the case in the gross income tables (again, where there was a difference). This is most apparent at wave 1 (1991), and in the bottom third of the distribution at all waves.

This phenomenon shows up again in the tables summarising the cumulative distribution function for income (the cumulative percentages of persons with incomes below

¹ The net income variables were produced with the assistance of Elena Bardasi and John Rigg. Our derivation of the annual net income variables was also partly funded with support from the US National Institute on Aging

fractions of average income: see Table (A)6 and (A)7). Here we find the proportion of the population defined as having low income (whether using a fraction equal to 0.4, 0.5, or 0.6) is often estimated to be larger for annual net incomes than it is for current net incomes, whereas the reverse was the case for gross incomes. (Wave 1 is an exception.) For example, at wave 2 (1992), 7% of persons have an income less than 40% of contemporary mean income according to the current net measure, but the figure is 9% according to the annual net measure. At wave 5 (1995), 15% of persons have a current net income less than half contemporary mean income, whereas 17% have an annual net income below the corresponding threshold. Similar patterns are apparent when the fixed income thresholds are used (Table (A)7).

Looking at the longitudinal summary statistics, Table (A)18, there is one notable difference between gross and net income results. In the latter case, the low income exit rates for current income are markedly higher than their annual income counterparts, just over 40% with the differential now up to 8-9 percentage points.

It is difficult to find an economic explanation for these differences between the net and gross income results. Instead we would prefer to point out that even these differences are not particularly large, especially when one takes into account measurement and sampling errors. Recall that we drew attention to this issue at several points in the main text, but there are also additional factors where net income are concerned. Net income in this paper has been defined as equal to gross income minus income tax and National Insurance contributions, and the two deductions have had to be simulated (see below). For annual income, the amount of estimation and assumption required by the simulation model is more than for current income, since less information is available.

The upshot is that, for the purposes of this paper, we prefer to give greater weight to the results for gross incomes than those for net incomes.

The derivation of the net income variables

The definition of net income used here is not identical to that used by the Department of Social Security when constructing the HBAI statistics.

Current net income is defined the same as net income in the HBAI, except that local taxes have not been deducted from income here. (See the main text, Section 2, for an

overview of the definitions.) Local taxes were not deducted largely because of the difficulty of constructing a suitable local taxes variable for the annual income measure. Otherwise the derivation of the current net income variables is as described in Bardasi, Jenkins and Rigg “Documentation for derived net income variables, BHPS waves 1-7” (ESRC Research Centre on Micro-Social Change Working Paper 99-25, University of Essex, Colchester, 1998).² Income tax and National Insurance liabilities have to be simulated using BHPS data about personal and family characteristics combined with the tax rules of the relevant year.

Total household *annual* net income was calculated to be equal to gross annual labour income plus annual non-labour income minus household income tax payments minus household National Insurance contributions (NICs). Gross annual labour income and non-labour income are exactly the same variables as discussed in the main text. The principal additional task was to derive an estimate of the income tax and NICs paid by each adult respondent in a household. These were later summed within households to derive estimates of total household payments of income tax and NICs.

We assumed taxable earnings were represented by gross annual labour income after the relevant deductions and allowances had been deducted.³ Since liabilities for NICs depend on whether one is employed or self-employed, taxable earnings were split into two new variables, taxable earnings from self-employment and taxable earnings from employment, with the allocation of the total amount between them depending on the fraction of months spent in employment versus self-employment. The information about employment status during each month during the annual reference period was derived from the retrospective monthly calendar for each adult respondent.⁴ So, for example, if an individual changed work status during the year (from self-employment to paid employment or vice-versa), the NICs were initially computed twice, using first the self-employment rules applied to the total

² Derived net income for waves 1-7 have been deposited with the Data Archive <<http://dawwww.essex.ac.uk>>, and have Study Number 3909. The annual income data are to form part of the BHPS component of the new edition of the Cross-National Equivalent File. This is to contain comparable panel data on income and related variables from the Panel Study of Income Dynamics, German Socioeconomic Panel, the Canadian Survey of Labour and Income Dynamics, and the BHPS. For more information about this project, see <http://www-cpr.maxwell.syr.edu/gsoep/equivfil.htm>.

³ These included the statutory amounts for the relevant year for the personal allowance, single parent allowance, married couple allowance, occupational pension contributions, etc.

⁴ Persons could report themselves as employed, self-employed, unemployed or active. The number of months spent in the reference year in the latter two states was disregarded when calculating the split in taxable earnings. E.g. the fraction of taxable earnings attributed to employment earnings was the total number of months in employment during the reference year, divided by the total months spent in either employment or self-employment during the reference year.

figure, and second the rules for employees applied to the total figure. Then the total NIC liability during the reference period was estimated to be a weighted average of the two figures with the weights equal to the proportion of the time in the year spent in either status.

One additional problem is that the annual income reference period spans two tax years (the tax year begins in April). We assumed that some labour earnings (those from September of the year prior to the interview to the subsequent April, i.e. a total of 7 months) are subject to the fiscal rules of the previous year, whereas earnings for the subsequent 5 months (from April to the September of the year of the current interview) are taxed according to the current year's tax rules. We therefore calculated what the income tax and NIC liabilities would be for a whole year, first according to last year's rules and second according to this year's rules, and then estimated the liabilities during the reference period to be 7/12 of the former amount and 5/12 of the latter amount.

Several additional assumptions are made implicitly in these derivations. First, the composition of the household and all other relevant variables (such as e.g. whether contracted out of the SERPS) were the same in the previous year. Second, the computations of the personal and the married couple's allowances only took account of differences in age. Third, we suppose that annual earnings do not fluctuate by a large amount relative to the previous year and to the next year. In reality the amount of income tax which would have been paid on the first 7 months of earnings would have depended on what the amount of earnings was in the preceding 5 months (and not the subsequent 5 months). Similarly the actual amount paid on the last 5 months would have depended on the earnings in the subsequent (and not preceding) 7 months. Fourth, earnings from a second job have been ignored, since they were not included in the derivation of the gross annual earnings variable.

Table A2. Current and annual income variables: summary statistics

		Mean	S. D.	Min	Max	N
Wave 1	Annual	275	165	0	1868	11634
	Current	280	168	0	1979	11634
Wave 2	Annual	280	187	0	6437	11001
	Current	285	177	0	2501	11001
Wave 3	Annual	283	173	0	1999	10473
	Current	288	183	0	6063	10473
Wave 4	Annual	282	173	0	2756	10476
	Current	289	181	0	2745	10476
Wave 5	Annual	291	206	0	4650	10119
	Current	304	222	0	4079	10119
Wave 6	Annual	294	183	0	2831	10510
	Current	306	192	0	2908	10510
Wave 7	Annual	297	186	0	3154	10497
	Current	307	217	0	5175	10496

Note: Real equivalised pounds/week.

Table A3. Decile group medians, overall median, and mean

Decile group	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
Decile group medians														
1	92	88	102	93	106	95	106	95	112	96	109	101	99	99
2	137	135	141	133	141	130	143	132	151	138	153	142	150	140
3	167	165	168	165	170	163	173	167	181	171	184	175	183	178
4	197	195	196	195	201	196	202	198	209	200	214	204	215	212
5	229	225	229	226	235	231	234	228	240	233	249	239	248	244
6	262	257	264	257	267	265	267	261	276	267	283	274	284	279
7	299	292	304	298	308	307	308	302	316	308	322	312	325	316
8	347	340	353	346	357	359	358	351	368	356	378	364	381	369
9	421	411	434	420	435	436	432	428	449	433	454	447	459	448
10	651	641	601	593	608	599	604	598	624	614	636	611	634	623
Median	245	245	246	241	250	247	251	246	256	250	266	256	266	261
Mean	280	275	285	280	288	284	289	282	304	291	306	294	307	297
Decile group medians as % of overall median														
1	38	36	41	39	42	38	37	39	44	38	41	39	33	38
2	56	55	57	55	56	53	56	54	59	55	58	55	55	54
3	68	67	68	68	68	66	69	68	71	68	69	68	69	68
4	80	80	80	81	80	79	81	80	82	80	80	80	80	81
5	93	92	93	94	94	94	93	93	94	93	94	93	93	93
6	107	105	107	107	107	107	107	106	108	107	106	107	107	107
7	122	119	124	124	123	124	122	123	123	123	121	122	122	121
8	142	139	143	144	143	145	143	143	144	142	142	142	143	141
9	172	168	176	174	174	177	173	174	175	173	171	175	174	172
10	266	262	244	246	243	243	238	243	244	246	239	239	241	239

Table A3a. Deciles

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
Deciles														
1	121	118	125	115	126	113	127	117	132	120	133	122	128	121
2	153	149	155	148	157	147	159	150	167	156	170	158	167	159
3	182	180	182	180	184	181	188	183	196	187	198	190	198	194
4	214	210	213	212	219	212	218	213	223	214	231	223	229	228
5	245	240	246	241	250	247	251	246	256	250	266	256	266	261
6	281	275	284	278	286	284	288	283	296	286	298	290	303	296
7	320	314	327	322	332	332	329	325	341	329	347	337	350	341
8	377	368	391	379	396	394	391	385	405	394	413	404	417	403
9	476	470	493	484	502	494	488	484	515	498	524	511	528	505
10														
Median	245	245	246	241	250	247	251	246	256	250	266	256	266	261
Deciles as % of median														
1	50	49	51	48	50	46	51	48	52	48	50	48	48	46
2	62	62	63	62	63	60	63	61	65	62	64	62	63	61
3	74	75	74	75	73	73	75	75	76	75	74	74	74	74
4	88	88	86	88	87	86	87	87	87	86	87	87	86	87
5	100	100	100	100	100	100	100	100	100	100	100	100	100	100
6	115	115	115	116	114	115	115	115	115	115	112	113	114	113
7	131	131	133	134	133	134	131	132	133	132	130	132	132	131
8	154	154	159	157	158	159	156	157	158	158	155	157	157	154
9	195	196	200	201	200	200	195	197	201	199	197	199	198	193

Table A4. Decile group income shares and cumulative income shares

Decile group	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
Decile group income share														
1	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2	5	5	5	5	5	5	5	5	5	5	5	5	5	5
3	6	6	6	6	6	6	6	6	6	6	6	6	6	6
4	7	7	7	7	7	7	7	7	7	7	7	7	7	7
5	8	8	8	8	8	8	8	8	8	8	8	8	8	8
6	9	9	9	9	9	9	9	9	9	9	9	9	9	9
7	11	11	11	11	11	11	11	11	10	11	11	11	11	11
8	12	12	12	12	13	13	12	13	12	12	12	12	12	12
9	15	15	15	15	15	15	15	15	15	15	15	15	15	15
10	23	23	23	24	23	23	23	23	25	24	23	23	24	23
Cumulative share (%)														
1	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2	8	8	8	8	8	8	8	8	8	8	8	8	8	8
3	14	14	14	14	14	13	14	14	14	14	14	14	14	14
4	21	21	21	21	21	20	21	21	21	21	21	21	21	21
5	29	29	29	29	29	28	29	29	29	29	29	29	29	29
6	39	39	38	38	38	38	39	38	38	38	39	38	38	38
7	49	49	49	49	49	49	49	49	48	48	49	49	49	49
8	62	62	61	61	62	61	62	61	61	61	61	61	61	61
9	77	77	77	76	77	77	77	77	75	76	77	77	76	77
10	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table A5. Inequality indices

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	current	annual	current	annual	current	annual	current	annual	current	annual	current	annual	current	annual
Gini	0.30	0.30	0.31	0.31	0.32	0.31	0.30	0.31	0.31	0.32	0.30	0.31	0.31	0.31
p90/p10	3.93	4.0	3.94	4.20	4.35	4.16	3.95	4.18	3.90	4.15	3.84	4.14	4.14	4.35
GE(2)	0.18	0.18	0.19	0.22	0.27	0.20	0.20	0.19	0.27	0.25	0.20	0.19	0.25	0.19
N	11634	11634	11001	11001	10473	10473	10476	10476	10119	10119	10510	10510	10497	10496
# Zeros	10	7	15	12	30	13	11	8	15	11	8	12	13	9

Note: zeros used in calculation

Table A6. Cumulative percentages of the population with incomes below fractions of contemporary average income

Fraction	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 5		Wave 7	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
< 0.1	1	0	1	1	1	1	1	1	1	1	1	0	2	1
0.1-0.2	1	1	2	2	1	1	1	1	1	1	1	1	3	2
0.2-0.3	3	3	3	4	3	3	2	4	2	4	3	3	5	4
0.3-0.4	8	8	7	9	7	10	7	9	7	9	7	9	10	9
0.4-0.5	16	16	15	17	16	18	15	17	16	17	15	17	17	17
0.5-0.6	25	25	26	26	26	27	25	26	26	26	25	25	26	25
0.6-0.7	35	34	36	35	35	36	35	35	36	36	35	36	35	34
0.7-0.8	43	44	45	44	44	44	44	44	46	45	44	44	44	43
0.8-0.9	52	52	53	54	53	52	53	53	55	54	53	53	53	52
0.9-1.0	60	60	60	61	61	60	60	60	62	61	61	61	61	60
1.0-1.1	67	68	67	67	67	66	68	67	69	68	68	68	67	67
1.1-1.2	73	73	73	73	73	72	74	73	75	73	73	73	73	73
1.2-1.3	78	78	78	78	78	76	78	77	79	78	78	77	77	78
1.3-1.4	82	83	81	82	81	81	82	81	83	82	82	81	81	81
1.4-1.5	85	85	85	85	85	84	85	85	86	85	85	85	85	85
1.5-1.75	91	91	90	90	90	90	91	90	91	91	91	90	90	91
1.75-2.0	94	94	94	94	94	94	94	94	94	94	94	94	94	94
2.0-2.5	97	97	97	97	98	98	97	97	98	97	97	97	97	97
2.5-3.0	99	99	99	99	99	99	99	99	99	99	99	99	99	99
≥ 3.0	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table A7. Cumulative percentages of population with incomes below fractions of 1991 average income

Fraction	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
< 0.1	1	0	1	1	1	1	1	1	1	1	1	0	1	1
0.1-0.2	1	1	2	1	1	1	1	1	1	1	1	1	2	2
0.2-0.3	3	3	3	3	2	3	2	3	2	3	3	3	3	4
0.3-0.4	8	8	7	9	7	9	6	8	5	8	6	7	6	7
0.4-0.5	16	16	15	17	15	17	14	16	12	15	11	14	13	15
0.5-0.6	25	25	25	25	24	25	23	24	20	23	19	22	20	21
0.6-0.7	35	34	35	34	34	34	33	33	30	32	30	31	29	30
0.7-0.8	43	44	44	43	42	42	42	42	40	42	38	39	39	37
0.8-0.9	52	52	52	52	51	50	50	50	49	49	46	47	46	46
0.9-1.0	60	60	59	59	58	58	58	58	56	57	54	55	54	54
1.0-1.1	67	68	66	66	65	64	65	65	63	64	62	63	61	61
1.1-1.2	73	73	72	72	71	70	71	71	69	70	68	69	67	68
1.2-1.3	78	78	77	77	76	75	76	76	74	75	73	74	72	73
1.3-1.4	82	83	80	81	79	79	80	80	78	79	77	78	77	78
1.4-1.5	85	85	84	84	83	82	84	83	82	82	81	81	81	81
1.5-1.75	91	91	90	90	90	89	90	90	88	89	88	88	88	88
1.75-2.0	94	94	94	93	93	93	94	93	92	93	92	92	92	93
2.0-2.5	97	97	97	97	97	97	97	97	97	97	96	97	97	97
2.5-3.0	99	99	99	99	99	99	99	99	98	98	98	98	98	98
≥ 3.0	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table A8. Growth in decile group medians, median, and mean

Decile group	Wave 1	Wave 2	Wave 3	Current Wave 4	Wave 5	Wave 6	Wave 7	(A) Change	(C)	(D)	(E)
									Difference between (A) and (B) (B)-(A)	Difference between (A),(B) wave 1, wave 6	Difference between (A), (B) wave 2, wave 7
1	92	102	106	106	112	109	99	8	5	-4	9
2	137	141	141	143	151	153	150	9	-6	-6	-1
3	167	168	170	173	181	184	183	10	-2	-4	-1
4	197	196	201	202	209	214	215	9	0	-4	-1
5	229	229	235	234	240	249	248	8	0	-3	0
6	262	264	267	267	276	283	284	8	0	-1	1
7	299	304	308	308	316	322	325	9	0	-1	-1
8	347	353	357	358	368	378	381	10	-1	-2	-1
9	421	434	435	432	449	454	459	9	0	1	1
10	651	601	608	604	624	636	634	-3	0	-2	0
Median	245	246	250	251	256	266	266	9	-2	-4	0
Mean	280	285	288	289	304	306	307	10	-2	-2	-2

	Wave 1	Wave 2	Wave 3	Annual Wave 4	Wave 5	Wave 6	Wave 7	(B) Change			
1	88	93	95	95	96	101	99	13			
2	135	133	130	132	138	142	140	4			
3	165	165	163	167	171	175	178	8			
4	195	195	196	198	200	204	212	9			
5	225	226	231	228	233	239	244	8			
6	257	257	265	261	267	274	279	9			
7	292	298	307	302	308	312	316	8			
8	340	346	359	351	356	364	369	9			
9	411	420	436	428	433	447	448	9			
10	641	593	599	598	614	611	623	-3			
Median	245	241	247	246	250	256	261	7			
Mean	275	280	284	282	291	294	297	8			

Note: Columns (A) and (B) were calculated in the following way: (wave7 - wave1)*100/wave1. Column (C) simply subtracts (A) from (B). Columns (D) and (E) were calculated in a similar fashion, but using wave 6 instead of wave 7 (D); and using wave 2 instead of wave 1 (E).

Table A9. Population shares by subgroup (column percentages)

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
<i>Family type</i>							
Single pensioner	9	10	10	10	11	10	9
Pensioner couple	9	9	9	9	10	10	10
Couple with child	39	36	37	38	36	37	35
Couple without child	21	22	21	19	20	20	21
Single parent	6	7	7	7	7	8	7
Single	16	16	16	15	16	15	17
All	100	100	100	100	100	100	100
<i>Economic status of family</i>							
1+ FT self-employed	12	11	11	11	11	11	10
All adults in FT work	24	23	22	23	24	24	25
Couple: 1FT, 1PT	13	12	12	12	13	12	13
Couple: 1 FT, 1 not working	13	13	12	13	13	12	12
Single/couple: PT	6	6	6	6	6	7	6
Head/Spouse: 60+	18	19	19	20	20	19	20
Head/Spouse: unemployed	6	7	7	6	5	5	4
Other	7	9	10	9	10	9	9
All	100	100	100	100	100	100	100
<i>Person type</i>							
Adult man	37	37	36	37	37	37	37
Adult woman	41	41	41	41	41	41	41
Child	22	22	22	22	22	22	22
All	100	100	100	100	100	100	100

Table A10. Composition of the low income population by family type (column percentages)

Group	Wave 1		Wave 4		Wave 7	
	Current	Annual	Current	Annual	Current	Annual
<i>Bottom 10%</i>						
Single pensioner	16	16	13	12	14	14
Pensioner couple	6	6	6	3	6	5
Couple with child	33	34	38	35	37	32
Couple without child	10	7	8	6	8	4
Single parent	23	24	20	28	18	30
Single	13	13	15	17	17	16
All	100	100	100	100	100	100
<i>Bottom 20%</i>						
Single pensioner	18	18	16	19	15	16
Pensioner couple	10	10	10	7	11	8
Couple with child	35	33	36	34	34	33
Couple without child	8	7	7	6	7	6
Single parent	18	19	19	21	19	21
Single	10	12	12	13	13	15
All	100	100	100	100	100	100
<i>Bottom 30%</i>						
Single pensioner	19	19	18	19	17	16
Pensioner couple	11	11	10	10	12	11
Couple with child	35	34	37	36	35	35
Couple without child	9	8	8	6	8	7
Single parent	15	15	16	17	17	18
Single	11	11	12	13	13	14
All	100	100	100	100	100	100
<i>Bottom 40%</i>						
Single pensioner	17	17	17	17	16	16
Pensioner couple	13	12	11	11	12	12
Couple with child	38	37	38	37	36	36
Couple without child	9	9	8	7	9	8
Single parent	12	13	13	14	14	15
Single	11	12	12	13	13	14
All	100	100	100	100	100	100
<i>Bottom 50%</i>						
Single pensioner	15	15	16	16	16	15
Pensioner couple	12	12	11	11	12	12
Couple with child	40	40	39	38	36	37
Couple without child	10	10	9	8	10	9
Single parent	11	11	12	12	13	13
Single	12	12	13	14	13	14
All	100	100	100	100	100	100

Table A11. Composition of the low income population by family economic status (column percentages)

	Wave 1		Wave 4		Wave 7	
	Current	Annual	Current	Annual	Current	Annual
<i>Bottom 10%</i>						
1+ FT self employed	12	13	9	8	15	8
All adults in FT work	2	4	1	3	2	3
Couple: 1FT, 1PT	0	2	0	1	0	0
Couple: 1 FT, 1 not working	1	4	5	5	9	8
Single/couple: PT	11	10	11	9	11	10
Head/Spouse: 60+	25	24	22	16	22	19
Head/Spouse: unemployed	25	20	26	24	19	17
Other	23	23	27	34	22	35
All	100	100	100	100	100	100
<i>Bottom 20%</i>						
1+ FT self employed	11	11	9	8	11	8
All adults in FT work	2	4	2	3	2	5
Couple: 1FT, 1PT	2	4	1	3	3	3
Couple: 1 FT, 1 not working	7	6	8	7	11	10
Single/couple: PT	10	9	8	8	10	10
Head/Spouse: 60+	31	30	28	27	28	26
Head/Spouse: unemployed	20	16	21	20	13	12
Other	17	18	23	24	23	25
All	100	100	100	100	100	100
<i>Bottom 30%</i>						
1+ FT self employed	11	11	9	8	9	8
All adults in FT work	4	5	4	5	4	7
Couple: 1FT, 1PT	4	6	5	5	6	7
Couple: 1 FT, 1 not working	9	8	11	9	12	11
Single/couple: PT	9	8	8	8	9	9
Head/Spouse: 60+	33	32	30	30	30	28
Head/Spouse: unemployed	15	13	15	15	10	9
Other	15	15	19	20	19	20
All	100	100	100	100	100	100
<i>Bottom 40%</i>						
1+ FT self employed	10	11	9	9	9	8
All adults in FT work	5	7	5	7	7	9
Couple: 1FT, 1PT	8	8	7	8	9	9
Couple: 1 FT, 1 not working	12	11	12	11	13	12
Single/couple: PT	9	8	7	7	9	9
Head/Spouse: 60+	31	30	30	29	30	29
Head/Spouse: unemployed	12	11	13	12	8	7
Other	13	13	17	17	16	17
All	100	100	100	100	100	100
<i>Bottom 50%</i>						
1+ FT self employed	10	10	9	8	9	9
All adults in FT work	8	10	8	9	10	11
Couple: 1FT, 1PT	10	11	9	9	10	10
Couple: 1 FT, 1 not working	13	12	13	12	13	12
Single/couple: PT	8	8	7	7	8	8
Head/Spouse: 60+	28	27	28	28	29	28
Head/Spouse: unemployed	11	10	11	11	7	6
Other	11	11	15	15	14	15
All	100	100	100	100	100	100

Table A12. Composition of the low income population by person type (column percentages)

		Wave 1		Wave 4		Wave 7	
		Current	Annual	Current	Annual	Current	Annual
<i>Bottom 10%</i>							
Adult man		26	25	27	24	28	22
Adult woman		43	43	39	38	39	39
Child		32	33	34	38	33	38
All		100	100	100	100	100	100
<i>Bottom 20%</i>							
Adult man		28	28	27	26	27	25
Adult woman		43	44	41	42	41	42
Child		29	29	32	32	32	33
All		100	100	100	100	100	100
<i>Bottom 30%</i>							
Adult man		28	28	28	27	28	27
Adult woman		45	45	43	43	42	42
Child		27	27	29	30	30	31
All		100	100	100	100	100	100
<i>Bottom 40%</i>							
Adult man		30	30	29	29	29	29
Adult woman		44	44	43	43	42	43
Child		27	26	28	28	28	29
All		100	100	100	100	100	100
<i>Bottom 50%</i>							
Adult man		31	31	31	31	31	30
Adult woman		42	42	42	42	42	42
Child		26	27	27	27	27	28
All		100	100	100	100	100	100

Table A13. Percentage of each family type below fractions of contemporary mean

	Wave1		Wave 4		Wave7	
	Current	Annual	Current	Annual	Current	Annual
<i>Below 0.4 contemporary mean</i>						
Single pensioner	10	11	7	7	11	10
Pensioner couple	2	3	2	2	5	3
Couple with child	6	6	6	7	7	7
Couple without child	3	2	2	2	3	2
Single parent	23	30	18	31	18	34
Single	5	6	6	8	7	7
All	6	7	6	7	7	8
<i>Below 0.5 contemporary mean</i>						
Single pensioner	28	29	21	28	23	24
Pensioner couple	12	11	11	11	13	9
Couple with child	12	11	13	13	13	13
Couple without child	5	4	4	4	5	4
Single parent	43	48	36	46	36	48
Single	9	10	10	12	11	12
All	13	13	13	14	13	14
<i>Below 0.6 contemporary mean</i>						
Single pensioner	48	45	39	44	36	37
Pensioner couple	26	25	23	20	23	20
Couple with child	18	18	20	19	20	20
Couple without child	8	8	7	6	8	6
Single parent	55	58	52	58	56	61
Single	15	15	15	17	15	17
All	21	21	21	21	21	21

Table A13a. Percentage of each family type below fractions of wave 1 mean

	Wave 1		Wave 4		Wave 7	
	Current	Annual	Current	Annual	Current	Annual
<i>Below 0.4 wave 1 mean</i>						
Single pensioner	10	11	5	6	7	6
Pensioner couple	2	3	1	2	3	1
Couple with child	6	6	5	7	5	6
Couple without child	3	2	2	2	2	1
Single parent	23	30	16	28	15	28
Single	5	6	6	7	6	6
All	6	7	5	7	5	6
<i>Below 0.5 wave 1 mean</i>						
Single pensioner	28	29	19	25	17	21
Pensioner couple	12	11	9	10	7	7
Couple with child	12	11	11	12	11	11
Couple without child	5	4	4	3	4	3
Single parent	43	48	33	45	29	44
Single	9	10	9	11	9	11
All	13	13	11	13	10	12
<i>Below 0.6 wave 1 mean</i>						
Single pensioner	48	45	36	41	28	31
Pensioner couple	26	25	20	18	17	15
Couple with child	18	18	18	18	16	17
Couple without child	8	8	7	5	6	5
Single parent	55	58	50	56	47	54
Single	15	15	14	17	13	15
All	21	21	19	20	17	18

Table A14. Percentage of each economic status subgroup below fractions of contemporary mean

	Wave1		Wave 4		Wave7	
	Current	Annual	Current	Annual	Current	Annual
<i>Below 0.4 contemporary mean</i>						
1+ FT self employed	8	9	6	6	12	7
All adults in FT work	0	1	0	1	0	1
Couple: 1FT, 1PT	0	1	0	0	0	0
Couple: 1 FT, 1 not working	1	1	2	3	5	5
Single/couple: PT	14	12	8	13	13	13
Head/Spouse: 60+	8	9	6	5	9	7
Head/Spouse: unemployed	31	27	30	32	46	39
Other	24	28	18	28	16	28
All	7	8	6	8	8	8
<i>Below 0.5 contemporary mean</i>						
1+ FT self employed	15	15	11	12	17	13
All adults in FT work	1	3	1	2	1	2
Couple: 1FT, 1PT	1	3	1	2	2	4
Couple: 1 FT, 1 not working	5	5	7	7	12	13
Single/couple: PT	28	22	19	21	24	23
Head/Spouse: 60+	24	23	18	21	20	19
Head/Spouse: unemployed	53	44	52	51	56	55
Other	42	44	34	39	32	40
All	15	15	14	16	15	15
<i>Below 0.6 contemporary mean</i>						
1+ FT self employed	23	25	18	17	22	18
All adults in FT work	3	5	3	4	3	5
Couple: 1FT, 1PT	6	8	5	8	8	10
Couple: 1 FT, 1 not working	13	12	16	15	22	19
Single/couple: PT	37	33	29	28	34	34
Head/Spouse: 60+	43	41	35	35	34	32
Head/Spouse: unemployed	66	56	62	59	67	62
Other	54	56	47	49	46	49
All	24	24	22	23	23	22

Table A14a. Percentage of each economic status subgroup below fractions of wave 1 mean

	Wave1		Wave 4		Wave7	
	Current	Annual	Current	Annual	Current	Annual
<i>Below 0.4 wave 1 mean</i>						
1+ FT self employed	8	9	5	5	10	6
All adults in FT work	0	1	0	1	0	1
Couple: 1FT, 1PT	0	1	0	0	0	0
Couple: 1 FT, 1 not working	1	1	2	3	1	5
Single/couple: PT	14	12	8	11	10	11
Head/Spouse: 60+	8	9	4	5	5	4
Head/Spouse: unemployed	31	27	28	30	35	31
Other	24	28	17	26	14	23
All	7	8	5	7	6	6
<i>Below 0.5 wave 1 mean</i>						
1+ FT self employed	15	15	10	11	15	10
All adults in FT work	1	3	1	2	1	2
Couple: 1FT, 1PT	1	3	1	2	1	2
Couple: 1 FT, 1 not working	5	5	6	6	8	9
Single/couple: PT	28	22	17	20	20	20
Head/Spouse: 60+	24	23	16	19	13	16
Head/Spouse: unemployed	53	44	46	48	53	52
Other	42	44	31	39	25	37
All	15	15	12	14	11	13
<i>Below 0.6 wave 1 mean</i>						
1+ FT self employed	23	25	18	16	19	16
All adults in FT work	3	5	2	4	2	4
Couple: 1FT, 1PT	6	8	5	6	4	6
Couple: 1 FT, 1 not working	13	12	14	14	17	16
Single/couple: PT	37	33	25	28	29	30
Head/Spouse: 60+	43	41	31	33	26	26
Head/Spouse: unemployed	66	56	61	59	62	59
Other	54	56	46	48	40	45
All	24	24	21	22	18	19

Table A15. Percentage of each person type below fractions of the contemporary mean

		Wave1		Wave 4		Wave7	
		Current	Annual	Current	Annual	Current	Annual
<i>Below 0.4 contemporary mean</i>							
Adult man		4	4	4	5	6	5
Adult woman		6	7	5	6	7	7
Child		10	11	9	13	11	14
All		6	7	6	7	7	8
<i>Below 0.5 contemporary mean</i>							
Adult man		10	9	9	10	10	9
Adult woman		14	14	12	14	14	14
Child		19	19	19	21	20	23
All		13	13	13	14	14	14
<i>Below 0.6 contemporary mean</i>							
Adult man		16	16	16	15	16	15
Adult woman		23	23	21	22	22	22
Child		26	26	28	28	31	31
All		21	21	21	21	21	21

Table A15a. Percentage of each person type below fractions of wave 1 mean

		Wave1		Wave 4		Wave7	
		Current	Annual	Current	Annual	Current	Annual
<i>Below 0.4 wave 1 mean</i>							
Adult man		4	4	4	4	4	4
Adult woman		6	7	4	6	5	5
Child		10	11	8	12	8	12
All		6	7	5	7	5	6
<i>Below 0.5 wave 1 mean</i>							
Adult man		10	9	8	9	8	8
Adult woman		14	14	11	13	10	12
Child		19	19	17	20	17	20
All		13	13	11	13	11	12
<i>Below 0.6 wave 1 mean</i>							
Adult man		16	16	15	15	12	12
Adult woman		23	23	19	21	17	18
Child		26	26	26	27	25	27
All		21	21	19	20	17	18

Table A16. Quintile group medians, wave 1 (1991) and wave 7 (1997), and quintile group median growth 1991-1997, by family type

Wave 1	p10	p30	p50	p70	p90	Mean	p10	p30	p50	p70	p90	Mean
Single pensioner	124	174	239	325	447	193	121	172	241	318	445	191
Pensioner couple	134	185	248	317	467	234	132	180	243	308	438	234
Couple with child	123	187	243	317	471	271	116	182	237	314	470	266
Couple without child	116	181	251	327	485	370	119	182	247	315	477	365
Single parent	112	177	247	321	457	175	105	172	237	330	417	166
Single	112	180	242	324	468	309	113	183	244	316	460	298
Wave 7	p10	p30	p50	p70	p90	Mean	p10	p30	p50	p70	p90	Mean
Single pensioner	130	194	252	342	542	238	125	194	251	332	497	236
Pensioner couple	146	199	263	349	544	297	137	191	259	342	524	288
Couple with child	126	201	268	348	505	293	123	194	262	338	481	280
Couple without child	125	203	273	358	547	403	127	204	266	348	523	400
Single parent	131	191	259	346	533	189	107	182	260	325	569	169
Single	115	203	266	351	524	333	118	198	264	342	503	317

Growth (%) = (W7-W1)*100/W1

	p10		p30		p50		p70		p90		Mean	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
Single pensioner	5	3	11	13	5	4	5	4	21	12	23	24
Pensioner couple	9	4	8	6	6	7	10	11	16	20	27	23
Couple with child	2	6	7	7	10	11	10	8	7	2	8	5
Couple without child	8	7	12	12	9	8	9	10	13	10	9	10
Single parent	17	2	8	6	5	10	8	-2	17	36	8	2
Single	3	4	13	8	10	8	8	8	12	9	8	6

Table A17. Quintile group medians, wave 1 (1991) and wave 7 (1997), and quintile group median growth 1991-1997, by economic status

Wave 1	Current						Annual					
	p10	p30	p50	p70	p90	Mean	p10	p30	p50	p70	p90	Mean
1+ FT self employed	118	180	240	319	527	332	110	170	244	313	542	320
All adults in FT work	129	190	248	324	473	376	129	190	245	321	461	361
Couple: 1FT, 1PT	141	192	246	317	481	300	135	186	237	304	477	287
Couple: 1 FT, 1 not working	141	188	245	319	454	278	134	185	241	315	447	281
Single/couple: PT	115	182	247	316	499	238	112	176	236	303	488	242
Head/Spouse: 60+	126	178	242	321	429	203	125	174	241	310	431	204
Head/Spouse: unemployed	111	172	240	326	614	159	109	175	229	314	436	175
Other	112	177	239	308	424	181	107	172	234	327	434	170

Wave 7	Current						Annual					
	p10	p30	p50	p70	p90	Mean	p10	p30	p50	p70	p90	Mean
1+ FT self employed	101	202	263	353	576	359	123	194	260	353	520	343
All adults in FT work	149	205	271	355	524	405	134	199	265	347	510	386
Couple: 1FT, 1PT	152	202	270	353	491	317	142	194	267	334	483	308
Couple: 1 FT, 1 not working	141	202	266	342	494	298	129	197	262	336	496	296
Single/couple: PT	125	198	271	344	564	251	122	186	260	342	577	249
Head/Spouse: 60+	138	196	257	345	544	254	129	193	254	335	499	250
Head/Spouse: unemployed	98	192	247	349	479	144	109	190	248	343	452	161
Other	131	193	269	350	516	212	108	189	255	340	519	189

Growth (%) = (W7-W1)*100/W1

	p10		p30		p50		p70		p90		Mean	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
1+ FT self employed	-14	12	12	14	10	7	11	13	9	-4	8	7
All adults in FT work	16	4	8	5	9	8	10	8	11	11	8	7
Couple: 1FT, 1PT	8	5	5	4	10	13	11	10	2	1	6	7
Couple: 1 FT, 1 not working	0	-4	7	6	9	9	7	7	9	11	7	5
Single/couple: PT	9	9	9	6	10	10	9	13	13	18	5	3
Head/Spouse: 60+	10	3	10	11	6	5	7	8	27	16	25	23
Head/Spouse: unemployed	-12	0	12	9	3	8	7	9	-22	4	-9	-8
Other	17	1	9	10	13	9	14	4	22	20	17	11

Table A18. Quintile group medians, wave 1 (1991) and wave 7 (1997), and quintile group median growth 1991-1997, by person type

Wave 1	Current						Annual					
	p10	p30	p50	p70	p90	Mean	p10	p30	p50	p70	p90	Mean
Adult man	124	184	245	321	482	305	122	182	241	313	476	300
Adult woman	122	180	245	322	470	277	119	178	241	315	461	271
Child	117	185	242	317	467	247	110	180	237	315	463	241

Wave 7	Current						Annual					
	p10	p30	p50	p70	p90	Mean	p10	p30	p50	p70	p90	Mean
Adult man	125	197	262	342	510	336	125	197	262	342	510	328
Adult woman	124	194	260	342	510	307	124	194	260	342	510	297
Child	113	189	261	336	483	259	113	189	261	336	483	246

Growth (%) = (W7-W1)*100/W1

	p10		p30		p50		p70		p90		Mean	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
Adult man	1	2	7	8	7	9	7	9	6	7	10	9
Adult woman	2	4	8	9	6	8	6	9	9	11	11	10
Child	-3	3	2	5	8	10	6	7	3	4	5	2

Table A19
Longitudinal income mobility and low income transition rates

	Wave $t,t+1$											
	1,2		2,3		3,4		4,5		5,6		6,7	
	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual	Current	Annual
Proportion of sample in same decile group	0.39	0.40	0.39	0.41	0.38	0.42	0.38	0.42	0.41	0.43	0.39	0.42
Low income exit rate	0.46	0.38	0.42	0.35	0.43	0.37	0.42	0.36	0.41	0.36	0.38	0.35
Low income entry rate	0.08	0.08	0.08	0.07	0.07	0.07	0.08	0.07	0.06	0.07	0.08	0.06

*: Low income entry and exit rates based on a low income cut-off equal to half mean income of the relevant wave.

Table A20. Comparison of current and annual income for subgroups classified by changes in household employment status over the annual reference period prior to the interview

	Group share (%)	Mean		Percentage below half wave 1 average income		Percentage below half contemporary average income		Composition of poorest fifth (%)	
		Current	Annual	Current	Annual	Current	Annual	Current	Annual
<i>Wave 1 to Wave 2</i>									
All adults employed 50+ weeks in reference year	30	372	369	4	4	4	4	11	9
All adults unemployed 50+ weeks in reference year	1	154	116	46	75	51	75	2	3
All adults inactive 50+ weeks in reference year	18	201	189	27	35	28	37	34	40
Remainder (at least 1 adult changing status)	52	257	255	12	12	12	12	52	47
All	100	285	280	12	14	13	14	100	100
<i>Wave 2 to wave 3</i>									
All adults employed 50+ weeks in reference year	29	365	367	4	4	4	4	12	8
All adults unemployed 50+ weeks in reference year	1	164	140	42	60	44	60	2	3
All adults inactive 50+ weeks in reference year	17	216	201	25	35	27	37	33	39
Remainder (at least 1 adult changing status)	53	261	256	11	12	12	12	53	50
All	100	288	284	12	14	13	14	100	100
<i>Wave 3 to wave 4</i>									
All adults employed 50+ weeks in reference year	30	372	369	3	3	4	3	10	7
All adults unemployed 50+ weeks in reference year	1	154	111	47	70	52	70	3	3
All adults inactive 50+ weeks in reference year	18	213	202	24	32	27	34	35	36
Remainder (at least 1 adult changing status)	51	260	251	11	12	12	13	52	54
All	100	289	282	11	13	13	14	100	100
<i>Wave 4 to wave 5</i>									
All adults employed 50+ weeks in reference year	31	377	376	3	3	4	3	11	8
All adults unemployed 50+ weeks in reference year	0	153	116	54	67	59	70	2	2
All adults inactive 50+ weeks in reference year	19	240	211	23	30	29	34	40	42
Remainder (at least 1 adult changing status)	50	275	260	9	11	11	12	46	48
All	100	304	291	10	12	13	14	100	100
<i>Wave 5 to wave 6</i>									
All adults employed 50+ weeks in reference year	31	386	380	3	2	4	3	10	8
All adults unemployed 50+ weeks in reference year	1	139	118	55	71	69	75	2	3
All adults inactive 50+ weeks in reference year	19	229	217	19	27	27	32	36	38
Remainder (at least 1 adult changing status)	49	277	261	10	11	12	13	52	51
All	100	306	294	9	11	13	14	100	100
<i>Wave 6 to wave 7</i>									
All adults employed 50+ weeks in reference year	32	388	378	4	3	5	4	13	9
All adults unemployed 50+ weeks in reference year	0	159	149	50	58	50	63	1	1
All adults inactive 50+ weeks in reference year	19	228	218	21	28	29	32	36	38
Remainder (at least 1 adult changing status)	48	276	265	10	12	13	14	50	52
All	100	307	297	11	12	14	14	100	100

Table A21. Comparison of current and annual income for subgroups classified by changes in household composition between successive interviews

	Group share (%)	Mean		Percentage below half wave 1 average income		Percentage below half contemporary average income		Composition of poorest fifth (%)	
		Current	Annual	Current	Annual	Current	Annual	Current	Annual
<i>Wave 1 to wave 2</i>									
No changes	74	282	280	13	14	13	14	74	72
Same HoH but # adults changed	6	312	312	11	11	12	11	6	5
Same HoH but # children changed	3	296	289	11	14	11	14	3	3
Same HoH but # adults and # children changed	7	255	247	10	12	10	12	7	7
Other changes	10	298	276	13	18	14	19	10	12
All	100	284	279	13	14	13	14	100	100
<i>Wave 2 to wave 3</i>									
No changes	77	292	287	11	13	12	14	74	74
Same HoH but # adults changed	6	316	312	7	8	8	8	5	5
Same HoH but # children changed	4	274	273	12	14	13	14	5	4
Same HoH but # adults and # children changed	5	260	255	14	12	16	12	4	4
Other changes	9	266	263	17	21	18	22	12	14
All	100	289	284	12	14	13	14	100	100
<i>Wave 3 to wave 4</i>									
No changes	77	288	282	11	13	12	14	73	73
Same HoH but # adults changed	6	304	295	10	14	12	14	6	5
Same HoH but # children changed	4	272	276	23	18	23	20	8	6
Same HoH but # adults and # children changed	6	285	269	11	12	11	12	6	6
Other changes	7	313	290	11	15	13	16	8	10
All	100	290	282	11	13	12	14	100	100
<i>Wave 4 to wave 5</i>									
No changes	77	307	295	10	12	13	13	76	71
Same HoH but # adults changed	6	321	312	7	10	9	11	4	5
Same HoH but # children changed	4	290	287	14	15	18	19	6	6
Same HoH but # adults and # children changed	5	271	241	10	13	12	15	5	7
Other changes	9	295	275	11	14	11	16	10	11
All	100	305	291	10	12	13	14	100	100
<i>Wave 5 to wave 6</i>									
No changes	78	308	298	9	11	12	13	75	72
Same HoH but # adults changed	5	329	310	6	10	9	12	4	6
Same HoH but # children changed	3	308	313	11	18	20	19	4	4
Same HoH but # adults and # children changed	6	276	252	9	13	11	15	5	6
Other changes	8	300	279	12	14	14	17	11	12
All	100	307	295	9	11	12	14	100	100
<i>Wave 6 to wave 7</i>									
No changes	78	308	298	9	11	12	13	75	72
Same HoH but # adults changed	5	329	310	6	10	9	12	4	6
Same HoH but # children changed	3	308	313	11	18	20	19	4	4
Same HoH but # adults and # children changed	6	276	252	9	13	11	15	5	6
Other changes	8	300	279	12	14	14	17	11	12
All	100	307	295	9	11	12	14	100	100

Note: HoH = household head.

Figure A2a. Histogram for current net income, all persons with income less than £1000 per week, wave 1 (1991)

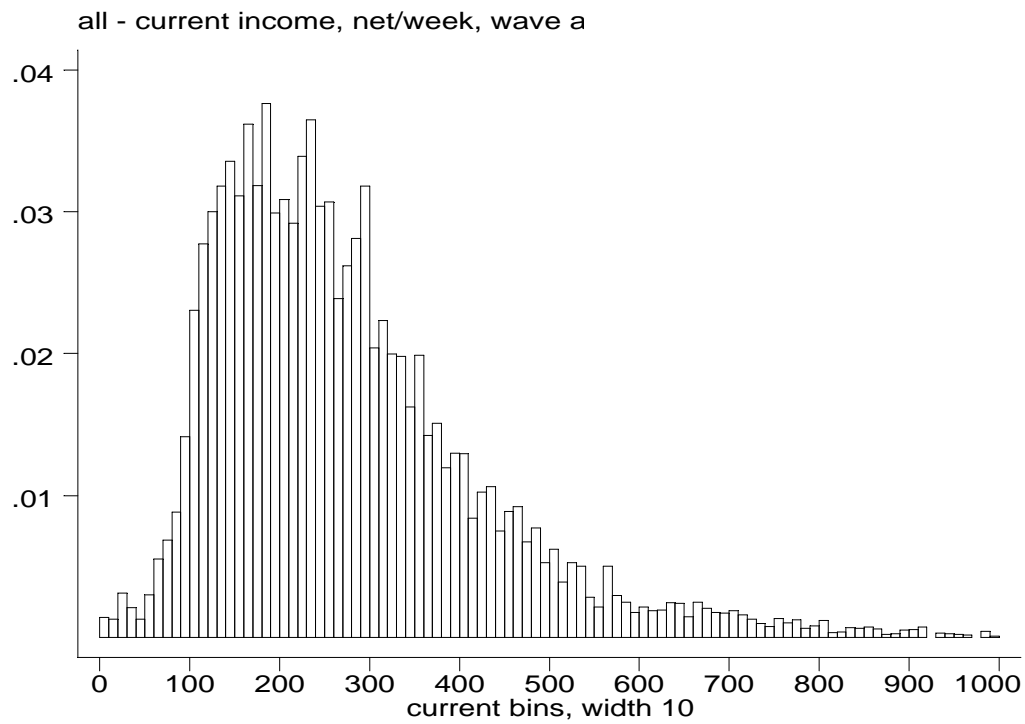


Figure A2a. Histogram for annual net income, all persons with income less than £1000 per week, wave 1 (1991)

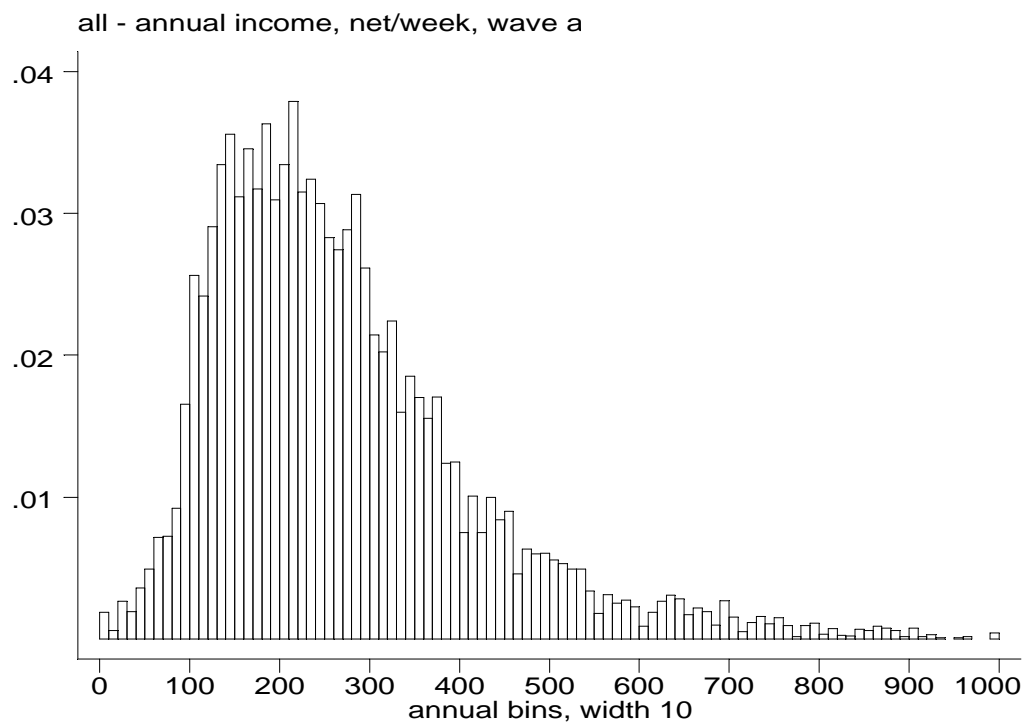


Figure A3a. Histogram for current net income, all persons with income less than £1000 per week, wave 2 (1992)

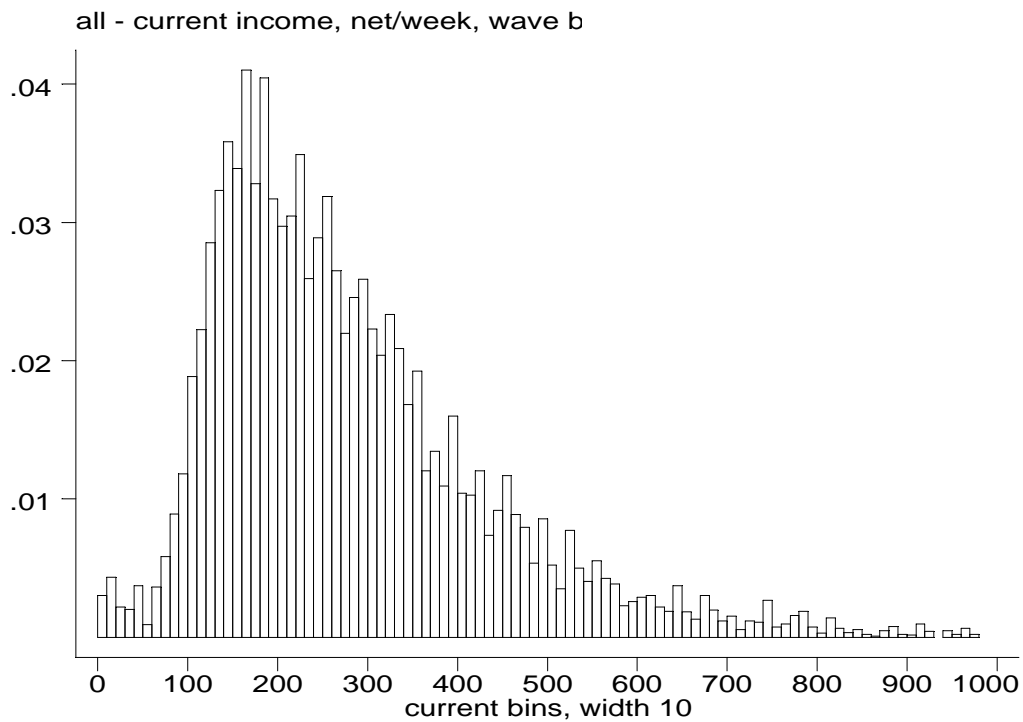


Figure A3b. Histogram for annual net income, all persons with income less than £1000 per week, wave 2 (1992)

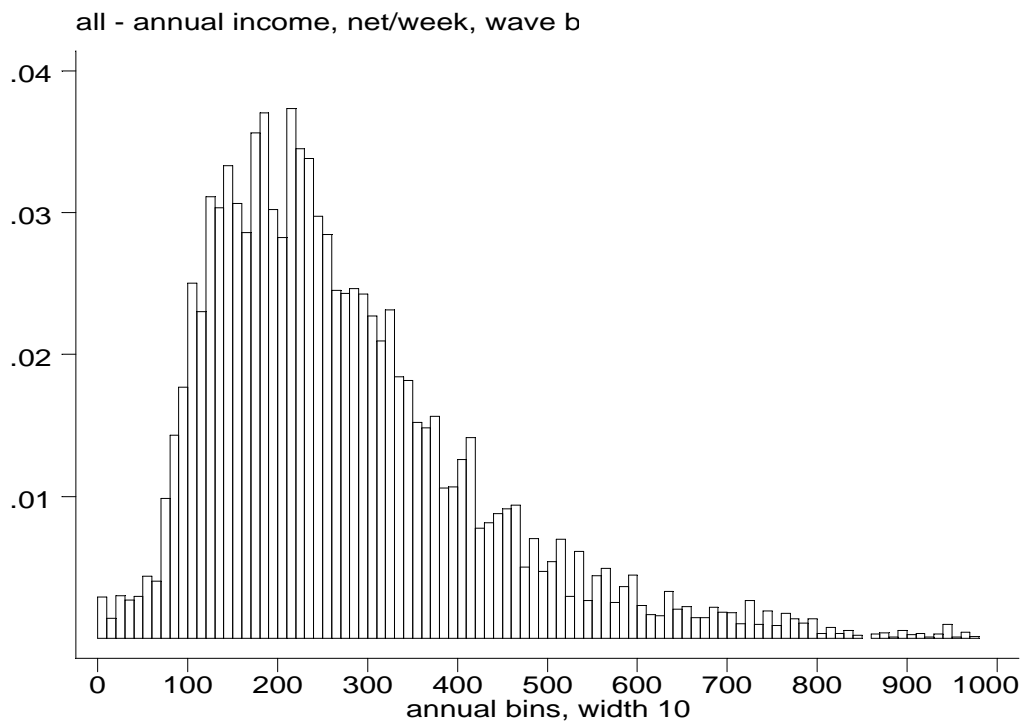


Figure A4a. Histogram for current net income, all persons with income less than £1000 per week, wave 3 (1993)

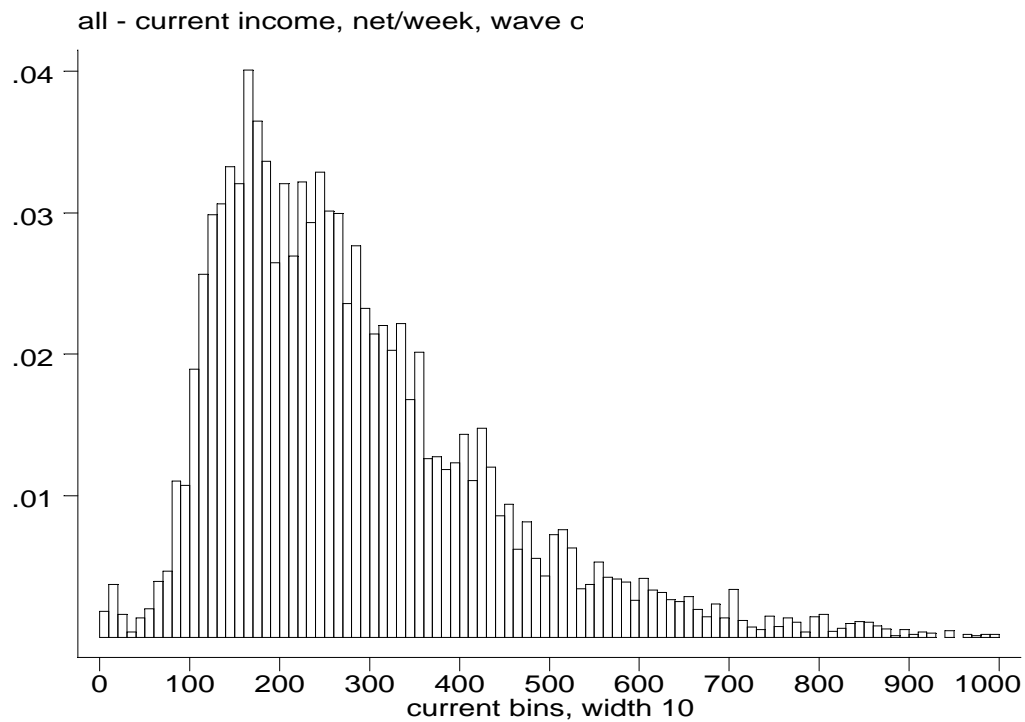


Figure A4b. Histogram for annual net income, all persons with income less than £1000 per week, wave 3 (1993)

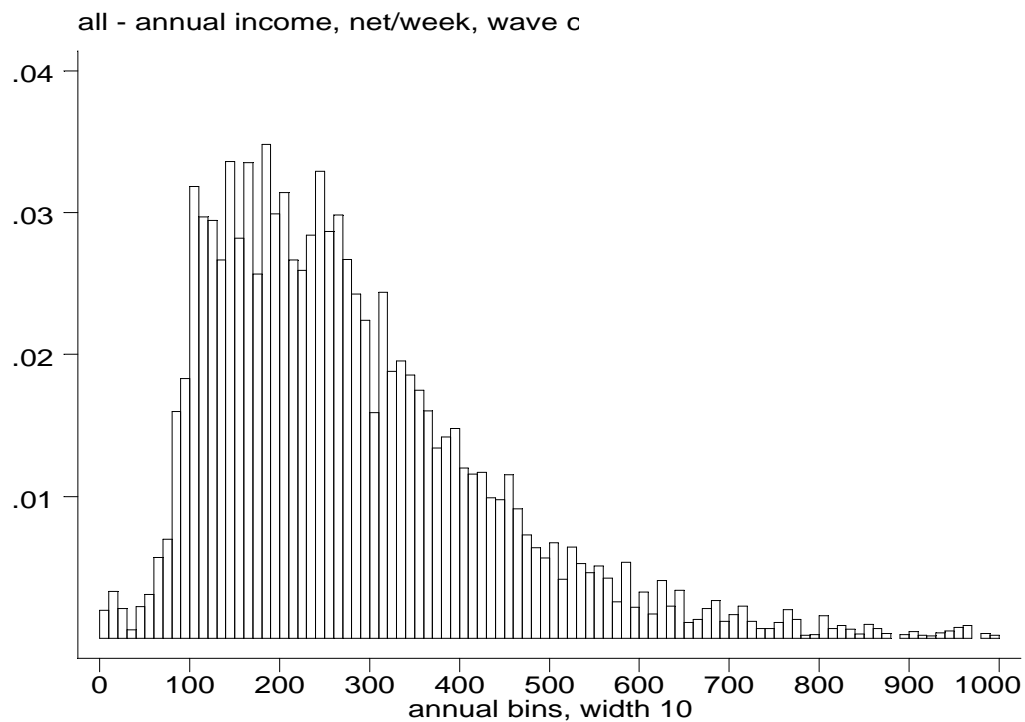


Figure A5a. Histogram for annual net income, all persons with income less than £1000 per week, wave 4 (1994)

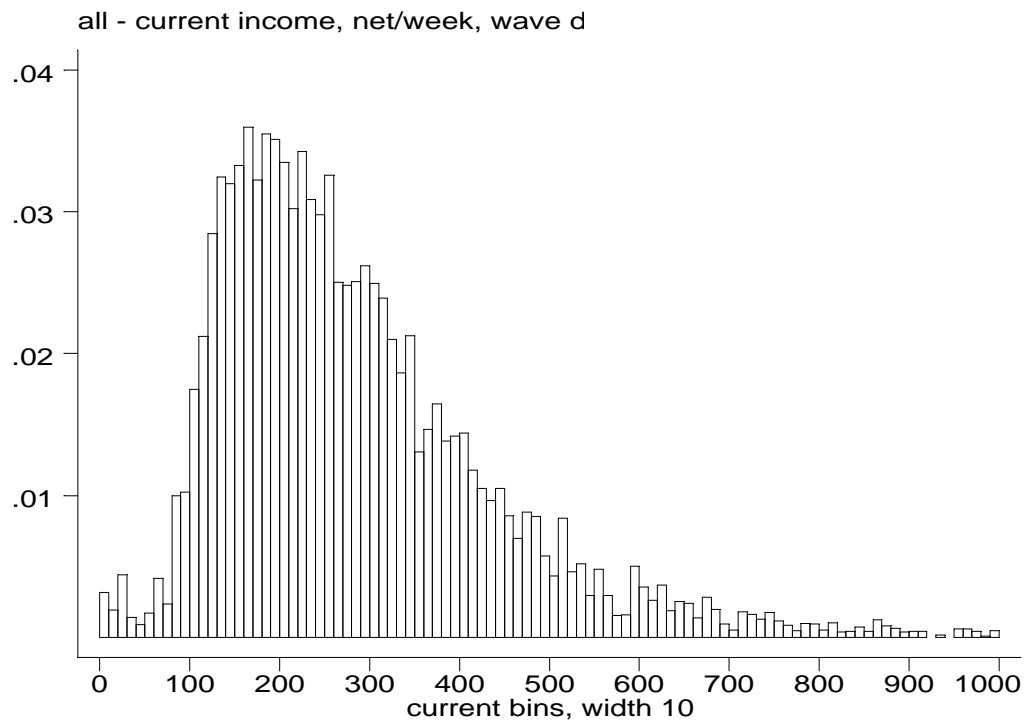


Figure A5b. Histogram for annual net income, all persons with income less than £1000 per week, wave 4 (1994)

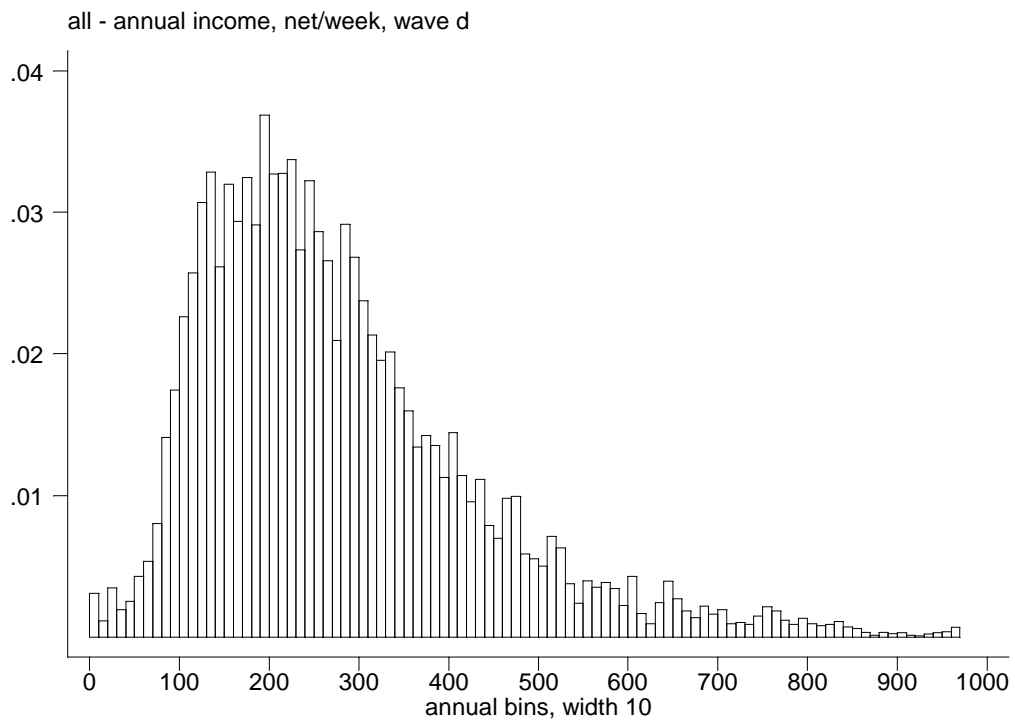


Figure A6a. Histogram for annual net income, all persons with income less than £1000 per week, wave 5 (1995)

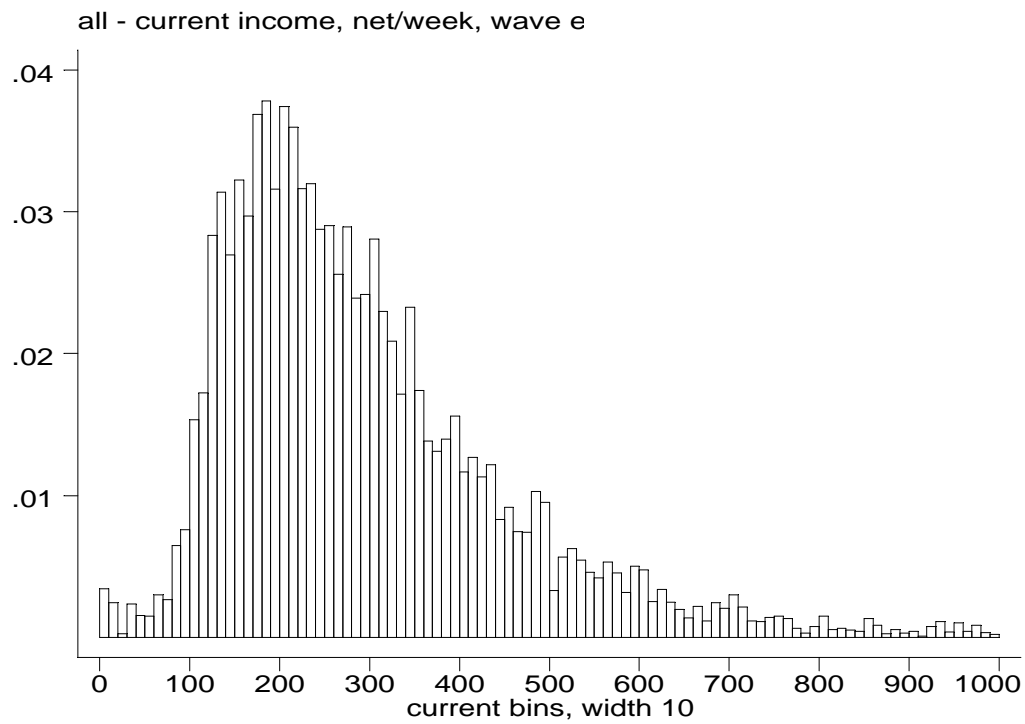


Figure A6b. Histogram for annual net income, all persons with income less than £1000 per week, wave 5 (1995)

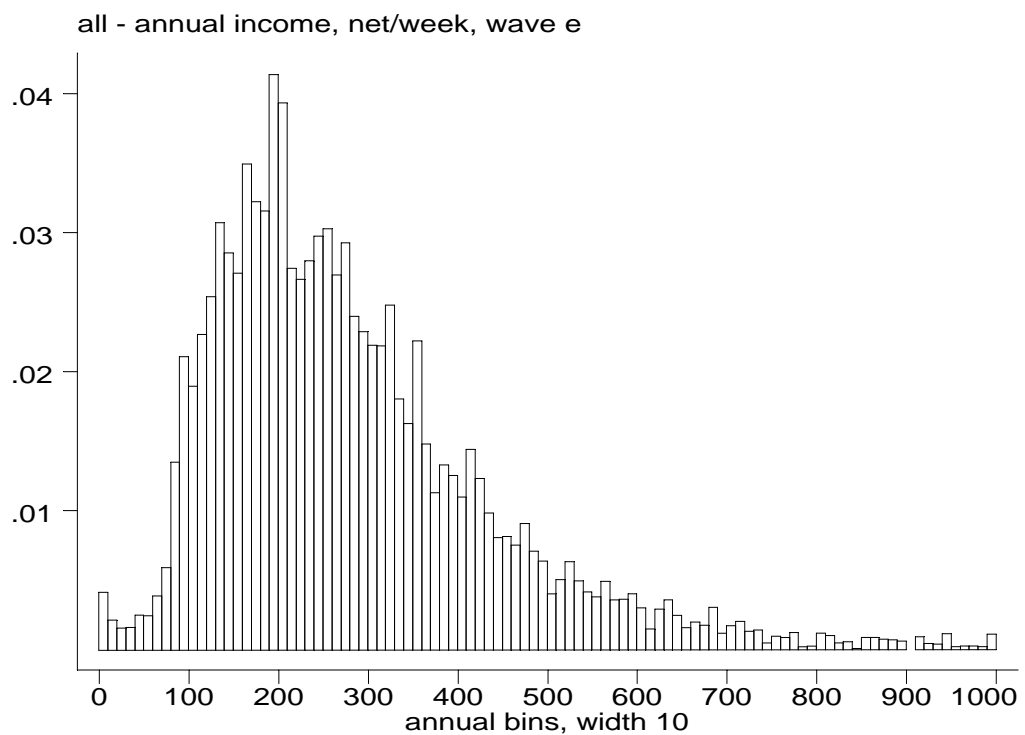


Figure A7a. Histogram for annual net income, all persons with income less than £1000 per week, wave 6 (1996)

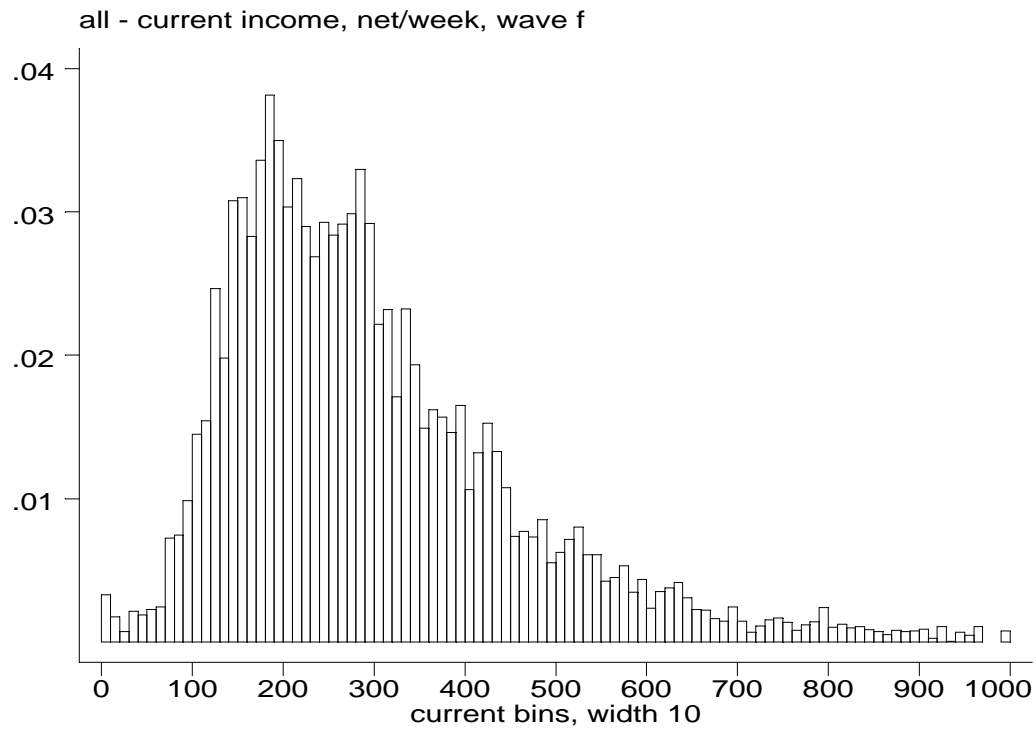


Figure A7b. Histogram for annual net income, all persons with income less than £1000 per week, wave 6 (1996)

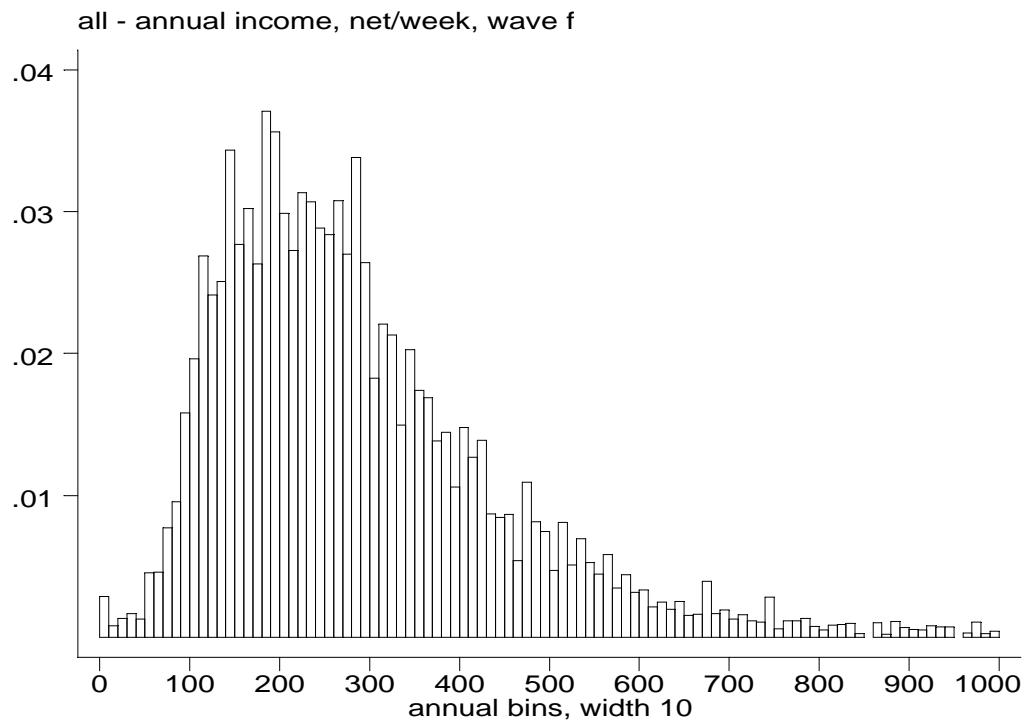


Figure A8a. Histogram for annual net income, all persons with income less than £1000 per week, wave 7 (1997)

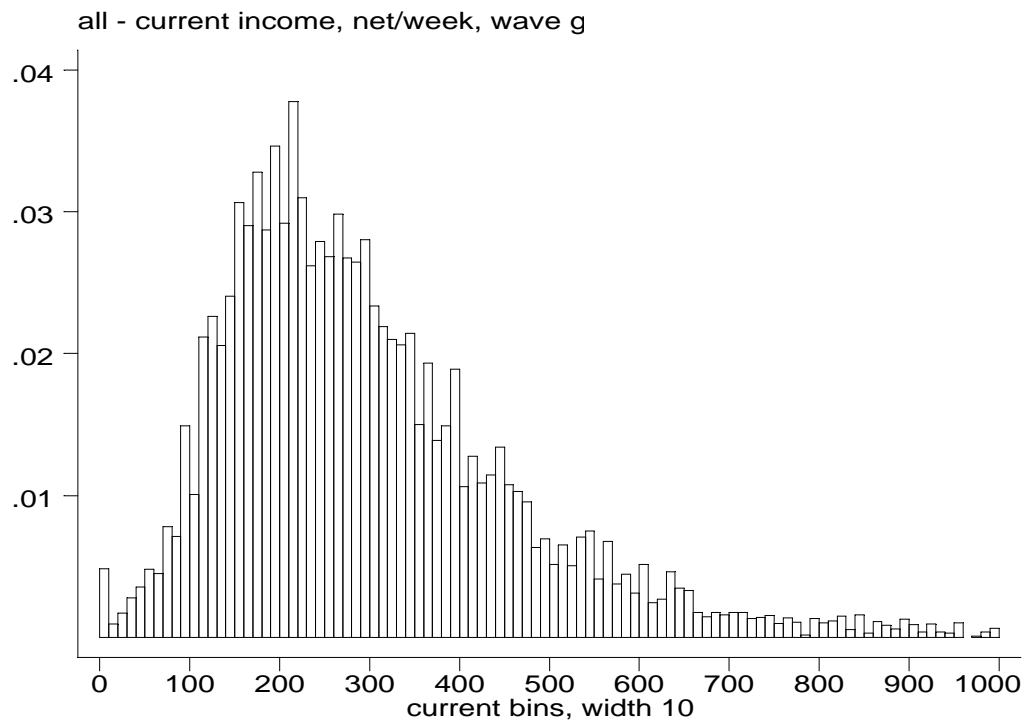


Figure A8b. Histogram for annual net income, all persons with income less than £1000 per week, wave 7 (1997)

