# Quality of Match for Statistical Matches Used in the 1995 and 2005 LIMEW Estimates for Great Britain

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## ABSTRACT

The quality of match of four statistical matches used in the LIMEW estimates for Great Britain for 1995 and 2005 is described. The first match combines the fifth (1995) wave of the British Household Panel Survey (BHPS) with the 1995–96 Family Resources Survey (FRS). The second match combines the 1995 time-use module of the Office of Population Censuses and Surveys Omnibus Survey with the 1995–96 FRS. The third match combines the 15th wave (2005) of the BHPS with the 2005 FRS. The fourth match combines the 2000 United Kingdom Time Use Survey with the 2005 FRS. In each case, the alignment of the two datasets is examined, after which various aspects of the match quality are described. In each case, the matches are of high quality, given the nature of the source datasets.

**INTRODUCTION**

This paper describes the construction of synthetic datasets created for use in estimation of the LIMEW for Great Britain (GB) for the years 1995 and 2005. This work was carried out for a project supported by the Alfred P. Sloan Foundation to produce international comparisons of economic well-being. Construction of LIMEW estimates requires a variety of information for households. In addition to basic demographics, the estimation process requires information about income, transfers, taxes, time use, and wealth. No single data set has all the required data for Great Britain. Thus, in order to produce LIMEW estimates, a synthetic data file is created by combining various source data sets with statistical matching.[1] We use the Office of National Statistics' Family Resources Survey (FRS) as the base data set, since it contains good information on demographics, income, transfers, and taxes for a regionally representative sample of UK households. Wealth data comes from the British Household Panel Survey (BHPS) carried out by the ESRC UK Longitudinal Studies Centre with the Institute for Social and Economic Research at the University of Essex. Time use data comes from the Office of Population Censuses and Surveys Omnibus Survey time use module (OPCS) for the 1995 LIMEW estimates and the United Kingdom Time Use Survey (UKTUS) for 2005.

This paper is organized as follows. In the next section, we discuss the method used to produce estimates of household wealth using the data in the BHPS for 1995 and 2005. Each subsequent section of the paper details four statistical matches in turn. The source datasets are described and their demographic characteristics are compared. Then the quality of the match is reviewed for each.

**HOUSEHOLD WEALTH ESTIMATION**

The BHPS wealth surveys contain information on individually held and household assets and liabilities. Ideally, the survey would comprise detailed questions about each asset and liability type. For the most part, however, the BHPS includes a limited set of questions for each asset/liability type. For example, for debts, a series of questions asks whether or not individual

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[1]  For details of the LIMEW and its construction, see Wolff and Zacharias (2003). See Kum and Masterson (2008) for details of the statistical matching procedure that we use.

types of debt are held, then another series of questions asks the total amount of debt, and if no amount is given, whether the total amount of debt exceeds a series of amounts.[2] Further questions ask whether any of the debt is held jointly with another individual and what amount this applies to.

We estimated amounts for each individual or household using the following method. In those cases for which the total amount was not given, we first converted the series of questions regarding the amount into a categorical variable. We then assigned values to records within a categorical range (£0 to £100, for example) by randomly selecting an amount from a uniform distribution and for the top category by selecting from a Pareto distribution:

$$y = \frac{y_{min}}{U^{1/k}}$$

Where ymin is the minimum of the top category (in the debt example, £5,000), U(0,1) is the normal distribution, and k is a parameter (equal to 2 in all cases in this estimation). Completion of this step yields an amount for all records without missing values (for details of handling missing values, see the appropriate sections below). This amount was adjusted in the cases where some of the total was held jointly. The new amount was then divided up equally between all types of asset or liability that the respondent indicated that they held.

## 1995 WEALTH MATCH

### Data and Alignment

The matching unit for the wealth match (and the unit of analysis for the LIMEW) is the household. The source data sets for the wealth match for the 1995 GB LIMEW estimates are the 1995–96 FRS and the 1995 wave of the BHPS. The 1995–96 FRS is used since it has income data for 1995. The 1995–96 FRS file has records for 26,435 households. These records represent 23,359,418 British households after weighting. The 1995 British Household Panel Survey contains information for 5,024 respondents.[3] After removing records representing institutional residents, we are left with 4,990 households. The weights in the BHPS are proportional weights

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[2] In the case of 1995, the amounts are "500 or more," "1,500 or more," "5,000 or more," and "100 or more."
[3] Neither the 1995 BHPS nor the 1995–96 FRS collect information from households in Northern Ireland.

that provide accurate demographic proportions, but do not give a total population estimate. Missing values in the BHPS data[4] were replaced in two stages: in the first, missing values in individual records were replaced by hot-decking; in the second, missing values in the household records were replaced using the method of multiple imputation with chained equations. This resulted in a data set with five replicates (generated in the first stage) for each original record, or 24,950 household records.

In order to perform a successful match, the candidate data sets must be well-aligned in the strata variables used in the match procedure.[5] For the wealth match, strata variables are homeownership, age, educational attainment, family type, and household income. Table 1 compares the distribution of households by these five variables in the two data sets. Since both surveys are regionally representative samples carried out the same year, we can expect them to be well-aligned. However, the BHPS is drawn from a more complicated sampling frame, since the BHPS is a panel survey. We expect some misalignment as a result of this important difference in sampling frame between the two surveys.

The distribution of home ownership is closely aligned in the two surveys. The distribution of family types is slightly different in the two surveys, with married couples and male-headed households slightly more common in the FRS than in the BHPS. Age categories differ more greatly, with elderly being more prevalent in the BHPS (3.80%). The largest difference is by education category, with those completing their O levels making up a much greater percentage of FRS household heads (5.86%), while those with less than O level are more common in the BHPS (3.40%). This is due to differing questions about educational achievement in the two surveys.[6] The lower end of the household income distribution makes up a larger proportion of the BHPS sample than of the FRS (1.45%), while the top tier makes up a larger portion of the FRS households (1.60%). These misalignments can make matching a challenge, because it ensures that, for example, some households with less than £10K annual income in the BHPS will be matched with households in the middle-income categories in the FRS, thereby

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[4] Variables with missing values were: educational attainment, employment status, and marital status, as well as wealth and income variables. 877 of 9,203 individual records were missing education, employment, savings, investment or debt data. 541 of 4,990 household records were missing mortgage, home value, or income data.
[5] Statistical matching is done first within subsets of the two data sets defined by key variables, which are referred to as strata variables.
[6] Age left full-time education in the FRS, as opposed to highest level completed in the BHPS.

slightly depressing the wealth profile of the lower middle of the income distribution (corresponding effects can be expected at the upper end of the income distribution).

Table 2 shows a more detailed breakdown of the alignment of the two surveys, using four of the five strata variables (household income has been left out for greater clarity). Here we can see that the higher prevalence of elder household heads in the BHPS is concentrated among female-headed renters. The largest single difference is among households with elder, renter female heads, which are much less prevalent in the FRS than in the BHPS, while younger male renter households are more prevalent in the FRS. Differences in education seem to be fairly evenly spread around. Based on these observations of the alignment, we can expect that the worst misallocation of wealth variables will be by education.

**Match QC**

Turning to the results of the match, we first look to the distribution of matched records by matching round in table 3. Earlier rounds occur in the most detailed cells (round 1 occurs within cells that incorporate all five strata variables). The bulk of the matches occur in the earliest rounds, in fact 94.5% in the first four rounds alone. This fact means that most of the wealth records will be assigned to records that are similar in age, education, family type, homeownership, and income to their donor records. This bodes well for the quality of the match. Indeed, we can see in figure 1 that the overall distribution of net worth is well carried over into the match file. In fact, it is impossible to see differences at all at this level of detail. Table 4 provides a more detailed comparison of the distribution of net worth in the BHPS and the matched file. The percentile ratios are all quite close, with the exception of p75/p25 and p50/p25. The middle of the wealth distribution in the matched file is somewhat less wealthy than in the BHPS. The twenty-fifth percentile, for example is £1,109 in the BHPS and only £760 in the matched file. The Gini coefficient is quite close, 0.686 in the matched file, compared to 0.690 in the BHPS. Table 5 breaks down the mean and median of the four asset and two debt classes that make up net worth in the wealth match.[7] We can see that for all seven variables the difference in the matched and the source file's mean is small, 4.5% or less in all cases. For median values,

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[7] The four asset classes are primary residence, other real estate net of debt and business equity, liquid assets, and financial and other assets (a fifth asset class used in the LIMEW estimates for the United States and other countries, retirement assets, is not available for the UK). The two debt classes are mortgages and equity loans and lines of credit on the primary residence and other debt (exclusive of mortgages on other property, which are subtracted from the value of that property in asset 2).

most asset and debt classes are zero. There is a larger percentage difference for asset 3 than we saw for average values, but this difference is small in absolute terms (£180). The most important asset, asset 1, is precisely matched, and the median net worth is off by 2%, but again, this represents a small absolute difference of just over £600.

Examination of the quality of the match within population subgroups shows generally good results. Figure 2 displays ratios of mean net worth between the matched file and the BHPS for the five strata variables. With one exception, the ratios of mean net worth within subcategories of the five strata variables are all within 10% of unity. The second educational attainment group (which attempts to match those with their O level in the BHPS with those with twelve years of education in the FRS) has 89.8% the net worth in the matched file as in the BHPS. Table 6 has the actual numbers, and we can see that this represents a substantial difference of about £6,400. The median net worth for this group in the matched file is 42.3% that of the BHPS. The degree to which this is a problem depends on the degree to which these categories actually overlap in real life. The second group in the household income panel of figure 2 is those households with greater than £5,000 but less than £15,000 per year. We can see that they have just under 10% smaller net worth in the matched file than in the BHPS. We see in table 6 that this translates to £5,300 smaller average net worth. The difference in medians is much larger, at 89%, which translates to a £34,300 difference in median net worth. The overall pattern in household income is that the lowest income group (less than £5,000) has higher net worth in the matched file, while all the other groups have lower net worth than in the BHPS. For judging the accuracy of the match in preserving the distribution of wealth by subgroups, table 6 displays the ratios of mean and median values for the strata variables' categories. The ratios' values in the BHPS are very well reproduced in the match file, given the variation in the means and medians described above. The extent to which the match file reproduces the distribution of net worth within matching cells is demonstrated in figure 3.[8] We can see that the distribution is well preserved in the matching process, even at this level of detail.

Overall, the quality of the match is good. It has its limitations, especially in terms of the education categories (due, once again, to the mismatch of variable definitions in the two surveys). But the overall distribution is transferred with remarkable accuracy, and the

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[8] Household income and educational attainment are excluded for the sake of clarity of the plot.

distributions within even small subgroups, such as young male-headed homeowners, is transferred with good precision.

## 1995 TIME USE MATCH

### Data and Alignment

The source data sets for the time use match for the 1995 LIMEW estimates are the 1995–96 FRS and the 1995 OPCS. We use individual records from the 1995–96 FRS file, excluding those living in group quarters or in the armed forces. The OPCS has a number of missing values, which we replaced by the method of multiple imputation with hot-decking.[9] This results in five replicates for each original record, for a total of 10,025. The weights in the OPCS are meant to give population proportions and not estimates of population size, so no weighted count is available. Since the OPCS covers individuals 16 years old and above, we discard younger individuals from the FRS file. This leaves 48,263 records, which represents 43,882,909 individuals when weighted.

For the time use match, the strata variables are sex, parental status, employment status, and marital status. While for the wealth match the matching unit is the household, we use individuals for the time use match. Table 7 compares the distribution of individuals by these variables and personal income in the two data sets. Since the two surveys were carried out at roughly the same time, we can expect them to be well-aligned. We see that the distribution of individuals by sex is quite close in the two surveys, with females slightly less common in the OPCS than in the FRS. Parents are present in greater portions in the OPCS (4%). The not employed are underrepresented in the OPCS relative to the FRS (5%). The portion of married individuals is also higher in the OPCS (2.3%). The differences by income category are largest, with those in the lowest income class making up a significantly larger proportion of the OPCS sample than of the FRS (5.7%), while the middle-income classes are relatively overrepresented in the FRS (1.3–2.4%). The differences must be due to the differing sampling frame and this will certainly impact the quality of the match.

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[9] The variables with missing values were: marital status, family type, relationship to household head, homeownership, educational achievement, personal income category, and age. 123 of 2,005 records had missing values for one or more of these variables.

**Match QC**

Turning to the results of the match, we first look to the distribution of matched records by matching round in table 8. The bulk of the matches, 92%, occur in the first round, ensuring as high-quality a match as possible. The rest of the records are matched over an additional eleven rounds, with one-tenth of 1% receiving no match at all.[10] Table 9 provides a comparison of the distribution of weekly hours of household production in the OPCS and the matched file. The percentile ratios are all equivalent. The Gini coefficient is extremely close, 0.5145 in the matched file, compared to 0.5148 in the OPCS. Table 10 breaks down the mean and median of the three classes that make up total household production in the time use match.[11] We can see that for all four variables the difference in the matched and the source file's mean and median is zero, with the one exception of average weekly hours of care, which is 6.45% (or twelve minutes) higher in the matched file than the OPCS.

Examination of the quality of the match within population subgroups shows generally good results. Figure 4 displays ratios of mean weekly hours of household production between the matched file and the OPCS for the four strata variables, as well as for personal income categories. As we can see, the best-aligned variable, sex, is the best-matched as well. Nonparents have 5% higher, while parents have 6% lower average weekly hours of household production compared to the OPCS. The full-time employed have 7% higher average weekly hours in the matched file than in the OPCS, while the part-time employed have 10% higher, and the not employed have 3.4% lower. Unmarried individuals have 5.3% lower weekly hours in the matched file than in the OPCS. There are also large differences by income group, ranging from 11% higher in the matched file (for the middle personal income group) to 7.4% lower average weekly hours in the matched file.

Table 11 has the actual numbers, and we can see that these large percentage differences represent relatively small differences in hours per week. For example, the large differences for the lowest and middle-income classes represent differences of three and two hours per week, respectively. Notice that the ratios by category are well reproduced in the matched file. The extent to which the match file reproduces the distribution of weekly hours of household

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[10] The unmatched records are assigned the average values of hours of household production for their original matching cells.

[11] The three classes are care (child care, elder care, etc.), procurement (shopping, etc.), and core (cooking, cleaning, laundry, etc.).

production within matching cells is demonstrated in figure 5.[12] We can see very little difference between the matched file and the OPCS. Thus the distribution of household production is well preserved in the matching process, even at this level of detail.

Overall, the quality of the match is very good. It has its limitations, especially in terms of the marital and employment status categories. But the overall distribution is transferred with remarkable accuracy, and the distributions within even small subgroups, such as female parent employees, is transferred with good precision.

## 2005 WEALTH MATCH

### Data and Alignment

The source data sets for the wealth match for the 2005 LIMEW estimates are the 2005–06 FRS and the 2005 BHPS. The 2005–06 FRS is used since it has income data for 2005. The 2005–06 FRS file contains records for 64,733 individuals in 28,029 households. After dropping those living in Northern Ireland[13] we have records for individuals in 26,134 households. When weighted this gives us data representing 24,821,549 British households. The 2005 BHPS has been multiply imputed to replace missing values.[14] There are five replicates for each of the 4,592 original records, making 22,960 household records in the full file. We use all the records. When the weights are appropriately adjusted, the records in the BHPS represent 25,482,600 households. As mentioned above, for the wealth match, the strata variables are homeownership, age, educational achievement, family type, and household income. Table 12 shows the distribution of households by these five variables plus region in the two data sets. Since both surveys are regionally representative samples carried out in roughly the same year, we can expect them to be well-aligned. However, the 2005 BHPS is drawn using the same complicated sampling frame as the 1995 BHPS. Thus we again expect some misalignment as a result of this important difference in sampling framed between the two surveys.

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[12] Marital status is excluded for the sake of clarity of the plot.

[13] The 2005 wave of the BHPS does cover Northern Ireland, but weights are not provided for records in Northern Ireland.

[14] Variables in the BHPS with missing values included: at the individual level, employment status, self-employment status, earner, education, savings, investments, and debts; and at the household level, homeownership, region, home value, other real estate, mortgage, and income variables. 1,544 of 8,407 individual records and 790 of 4,592 household records had one or more missing values.

Homeownership is more widely prevalent in the BHPS than in the FRS (by 3.3%). The distribution of family types is slightly different in the two surveys, with married couples once again being almost exactly the same, but male-headed and female-headed family types are slightly misaligned (by 2.3 to 2.6%). Educational categories are somewhat misaligned again (by 2.9 to 6.0%) due to the difference in the questions across surveys that we noted earlier (note 6). The differences by income category are small as in 1995, with those at the lower end of the household income distribution making up a slightly larger proportion of the BHPS sample than of the FRS, while those at the higher end of the household income scale are a smaller share of the BHPS. Age categories are misaligned to some extent for the youngest and oldest groups with the FRS containing a greater share of the former (by 3.3%) and a smaller share of the latter (4.7%).

Table 13 shows a more detailed breakdown of the alignment of the two surveys, using four of the five strata variables (and replacing more detailed age categories with the elder/nonelder indicator variable). Here we can see that the higher prevalence of nonelderly in the FRS is fairly evenly spread. Based on these observations of the alignment, we can expect that the worst misallocation of wealth variables will be by education and age.

**Match QC**

The match itself, although requiring twenty-three rounds of matching to complete, was 83% done after the first round (see table 14). This is a good sign, as so many records were matched within one of 208 very detailed matching cells (formed by combining all of the strata variables). This indicates that the quality of the match should be quite good. Table 15 and figure 6 begin to show that this is in fact the case. The distribution of net worth has been well preserved. There is no discernible difference in the density of log net worth between the BHPS and the matched file in figure 6. And, percentile ratios are quite closely carried over. The one exception is the p75/p25 ratio, which is considerably larger in the matched file. This is another example of the denominator problem, although the difference here is substantial: p25 is £3,400 in the matched file, compared to £7,500 in the BHPS. The components of net worth are well carried over into the matched file (see table 16). The largest difference is for asset 1, primary residence, although the actual difference is only £7,200.

Figure 7 shows the ratio of mean net worth by strata variable categories. As we can see, net worth has been well reproduced in the match file, with generally small variations between the

matched file and the BHPS. The largest difference in percentage terms is among renters (43.4%), but this is only £2,400 in absolute terms (see table 17). The comparison by family type shows good matching for married couples but less so for female-headed, and especially male-headed households (again the numerically smallest category is the worst). The distribution of wealth by age seems to have been well preserved by the matching, with only small variations between the BHPS and the match file. The differences by education are fairly large, with the matched amount falling short of the amount in the BHPS by 14% for the most highly educated, which will tend to reduce stated inequality because this group, on the average, is the wealthiest of all educational groups. The matches within household income categories are fairly good except that the higher income categories appear to be less wealthy in the match file than in the BHPS. This is due to the misalignment between the two files. Figure 8 shows the distribution of log net worth within collapsed matching cells (again by family type, homeownership, and age). The distributions have been carried over very well.

Finally, the comparison of mean and median net worth by strata variable categories is found in table 17. The ratios of mean net worth by category are very similar between the BHPS and the matched file. The most notable differences are the ratios by household income categories. The first two categories seem to have converged in the course of the matching. The same pattern appears in the ratios of median values by household income category, with even larger divergence between the matched and BHPS files.

Overall, however, the match has provided us with a fair representation of the original distribution of wealth in the BHPS. The differences we observe are small and unlikely to substantially affect the outcomes of the analysis of the LIMEW.


## 2005 TIME USE MATCH


### Data and Alignment

The source data sets for the time use match for the 2005 LIMEW estimates are the 2005–06 FRS and the 2000 UKTUS. We use individual records from the 2005–06 FRS file, excluding those living in group quarters or in the armed forces. Since the UKTUS covers individuals 16 years old and above, we discard younger individuals from the FRS file. This leaves 50,885 records, which represents 47,643,205 individuals when weighted. The UKTUS file includes time use data for

8,490 individuals. Missing values in the UKTUS were multiply imputed using chained equations, producing five replicates for each original record.[15] The records in the UKTUS correspond to 38,555,900 individuals when weighted. For the time use match, the strata variables are sex, parental status, employment status, marital status, and spouse's employment status. While for the wealth match the matching unit is the household, we use individuals for the time use match. Table 18 compares the distribution of individuals by these variables and household income in the two data sets. Since the two surveys were carried out five years apart, we can expect them to be somewhat misaligned. However, the distribution of individuals by sex and marital status is only slightly different in the two surveys. Parents are much less prevalent in the FRS than in the UKTUS (5.5%). The not employed are slightly underrepresented in the UKTUS relative to the FRS (2.4%), with the difference mostly made up by those working part-time (2.2%). The share of married individuals is lower in the UKTUS, by 2.23%. The difference in spouse's labor force status is very small (less than 1% in all cases). The difference in parental status, reflecting different sampling frames, is the greatest cause for concern in terms of the potential match quality, but the alignment overall is quite good.

**Match QC[16]**

Table 19 shows the distribution of matched records by matching round. The fact that 93% of records were matched in the first round of matching is a promising sign for the quality of the match. The overall distribution of weekly hours of household production looks nearly perfect, based on the percentile ratios and Gini coefficient displayed in table 20. All but the p90/p10 ratio are within two decimal points, while the discrepancy in this ratio is only 0.02. The difference in the Gini coefficients is less than 0.1 Gini points. The mean and median weekly hours of household production and its three components are exactly carried over to the matched file from the UKTUS (see table 21), with the exception of mean care hours, which is higher in the matched file by six minutes (3.4%). Figure 9 displays ratios of mean weekly hours of household production by the strata variables, as well as personal income. In terms of the strata variables, the match is good for each one of them. Nonparents have 5% greater average weekly hours of household production in the match file, parents have 3% greater, and the not employed have 3%

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[15] 778 of 8,490 records had missing values for personal income class.
[16] This discussion includes records for Northern Ireland, since both surveys covered that region. Removing these records does not affect the resulting match quality.

fewer household production hours. Personal income categories show a worse situation, but as it is not one of the strata variables, nothing could be done.

Table 22 gives us a closer look at the numbers behind figure 9, showing the mean and median weekly hours of household production by the strata variables, plus personal income. The average weekly hours of household production for most categories in the matched file are exactly the same as in the UKTUS. Discrepancies, where they exist, are all equal to one hour, which works out to between 3 and 5%. The ratios by strata variables are correspondingly well reproduced in the matched file. The differences for personal income are unsurprisingly larger, both in terms of percentage and hours. For example, those in the lowest income category, but working, have four hours more in the matched file than in the UKTUS, amounting to 16%. As we can see, the ratios of matched to UKTUS medians are unity or close to it for all the strata variables. The difference between the matched file and the UKTUS for parents, married people, unmarried people, and those not working is one hour per week. The differences for personal income are again larger, with those with the lowest income registering seven hours less per week at the median in the matched file. Figure 10 reinforces the quality of the match by providing a comparison of the distribution of weekly hours of household production by detailed cell. Some small differences are observable in the upper tails of the smaller cells. For the most part, however, the matched file reproduces the distributions of household production within cells quite accurately.

Overall match quality is good. The LIMEW should do as good a job portraying the distribution of household production and wealth as is possible given the limitations of the data.

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**TABLES**

**Table 1. Alignment of Strata Variables for 1995 Wealth Match**

|  | FRS95 | BHP95 | Difference |
|---|---|---|---|
| *# Households* | 23,359,418 | 26,130 | N/A |
| **Homeownership** | | | |
| *Renter* | 33.37% | 32.50% | -0.87% |
| *Owner* | 66.63% | 67.50% | 0.87% |
| **Family Type** | | | |
| *Married Couple* | 59.64% | 58.91% | -0.73% |
| *Female Headed* | 25.75% | 27.75% | 2.00% |
| *Male Headed* | 14.61% | 13.33% | -1.28% |
| **Age Category** | | | |
| *<35* | 23.80% | 20.94% | -2.86% |
| *35-44* | 18.01% | 18.19% | 0.18% |
| *45-54* | 17.49% | 17.40% | -0.09% |
| *55-64* | 14.54% | 13.52% | -1.02% |
| *>=65* | 26.16% | 29.96% | 3.80% |
| **Education Category** | | | |
| *LT O Level* | 44.60% | 48.00% | -3.40% |
| *O Level* | 27.08% | 21.22% | 5.86% |
| *A Level/Cert.* | 17.39% | 20.20% | -2.81% |
| *Degree* | 10.93% | 10.58% | 0.35% |
| **HH Income** | | | |
| *LT £10,000* | 33.31% | 34.76% | 1.45% |
| *£10,000 - £19,999* | 28.14% | 27.56% | -0.58% |
| *£20,000 - £29,999* | 18.51% | 19.25% | 0.74% |
| *£30,000 - £39999* | 9.91% | 9.91% | 0.00% |
| *GE £40,000* | 10.13% | 8.53% | -1.60% |

**Table 2. Matching Cells for 1995 Wealth Match**

| | | | Married Couple | | | Female Head | | | Male Head | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1995 BHP | 1995-6 FRS | Difference | 1995 BHP | 1995-6 FRS | Difference | 1995 BHP | 1995-6 FRS | Difference |
| Non-elder | Renter | LT O Level | 1,211,167 | 952,289 | (258,878) | 899,516 | 666,396 | (233,120) | 373,020 | 422,722 | 49,702 |
| | | O Level | 568,278 | 857,948 | 289,670 | 444,860 | 709,108 | 264,248 | 165,658 | 391,422 | 225,764 |
| | | A Level/Cert. | 329,092 | 311,231 | (17,861) | 319,471 | 355,409 | 35,938 | 267,902 | 218,300 | (49,602) |
| | | Degree | 216,912 | 228,554 | 11,642 | 157,978 | 138,830 | (19,148) | 133,603 | 218,039 | 84,436 |
| | Owner | LT O Level | 3,087,898 | 2,861,877 | (226,021) | 589,848 | 442,344 | (147,504) | 363,689 | 322,340 | (41,349) |
| | | O Level | 2,511,728 | 2,966,551 | 454,823 | 508,390 | 382,229 | (126,161) | 269,403 | 375,866 | 106,463 |
| | | A Level/Cert. | 2,753,749 | 1,881,732 | (872,017) | 343,290 | 466,732 | 123,442 | 440,184 | 297,901 | (142,283) |
| | | Degree | 1,393,573 | 1,292,542 | (101,031) | 273,865 | 207,256 | (66,609) | 225,286 | 281,467 | 56,181 |
| Elder | Renter | LT O Level | 618,513 | 573,604 | (44,909) | 1,690,815 | 1,136,705 | (554,110) | 513,392 | 378,870 | (134,522) |
| | | O Level | 64,903 | 26,764 | (38,139) | 149,494 | 68,467 | (81,027) | 34,963 | 27,203 | (7,760) |
| | | A Level/Cert. | 20,344 | 18,715 | (1,629) | 54,930 | 55,482 | 552 | 9,390 | 14,762 | 5,372 |
| | | Degree | 18,721 | 7,289 | (11,432) | 5,125 | 12,245 | 7,120 | 14,295 | 5,054 | (9,241) |
| | Owner | LT O Level | 1,283,702 | 1,369,931 | 86,229 | 1,222,964 | 941,764 | (281,200) | 377,581 | 349,462 | (28,119) |
| | | O Level | 418,044 | 271,458 | (146,586) | 182,354 | 193,201 | 10,847 | 89,815 | 54,926 | (34,889) |
| | | A Level/Cert. | 354,551 | 218,029 | (136,522) | 173,170 | 184,405 | 11,235 | 80,929 | 40,518 | (40,411) |
| | | Degree | 161,357 | 92,858 | (68,499) | 55,988 | 54,864 | (1,124) | 38,520 | 13,757 | (24,763) |

**Table 3. Distribution of Matched Records by Matching Round, 1995 Wealth Match**

| Matching Round | Records Matched | Percent | Cumulative Percent |
|---|---|---|---|
| 1 | 20,010,011 | 85.7 | 85.7 |
| 2 | 766,140 | 3.3 | 88.9 |
| 3 | 539,771 | 2.3 | 91.3 |
| 4 | 755,261 | 3.2 | 94.5 |
| 5 | 90,147 | 0.4 | 94.9 |
| 6 | 103,112 | 0.4 | 95.3 |
| 7 | 116,494 | 0.5 | 95.8 |
| 8 | 8,394 | 0.0 | 95.9 |
| 9 | 50,216 | 0.2 | 96.1 |
| 10 | 5,857 | 0.0 | 96.1 |
| 11 | 23,299 | 0.1 | 96.2 |
| 12 | 138,295 | 0.6 | 96.78 |
| 13 | 166,953 | 0.7 | 97.49 |
| 14 | 8,241 | 0.0 | 97.53 |
| 15 | 200,806 | 0.9 | 98.39 |
| 16 | 26,271 | 0.1 | 98.5 |
| 17 | 350,150 | 1.5 | 100 |
| Total | 23,359,418 | 100 | |

**Table 4. Distribution of Net Worth in 1995 BHPS and Matched File**

| | p90/p10 | p90/p50 | p50/p10 | p75/p25 | p75/p50 | p50/p25 | Gini |
|---|---|---|---|---|---|---|---|
| BHP 1995 | -1263.455 | 4.542 | -278.200 | 64.919 | 2.353 | 27.594 | 0.686 |
| Matched | -1354.150 | 4.514 | -300.000 | 92.895 | 2.353 | 39.474 | 0.690 |

**Table 5. Comparison of Mean and Median Wealth Variables in Matched File to 1995 BHPS**

| | | Asset1 | Asset2 | Asset3 | Asset4 | Debt1 | Debt2 | Networth |
|---|---|---|---|---|---|---|---|---|
| **Mean** | BHP 1995 | 50,678 | 4,237 | 7,966 | 10,868 | 15,265 | 1,391 | **57,094** |
| | Match | 49,844 | 4,169 | 7,686 | 10,543 | 15,083 | 1,366 | **55,793** |
| | Ratio | 98.35% | 98.40% | 96.48% | 97.01% | 98.81% | 98.21% | **97.72%** |
| **Median** | BHP 1995 | 45,000 | - | 1,280 | - | - | - | **30,602** |
| | Match | 45,000 | - | 1,100 | - | - | - | **30,000** |
| | Ratio | 100.00% | | 85.94% | | | | **98.03%** |

**Note:** The four asset classes are primary residence, other real estate net of debt and business equity, liquid assets, and financial and other assets (a fifth asset class used in the LIMEW estimates for the United States and other countries, retirement assets, is not available for the UK). The two debt classes are mortgages and equity loans and lines of credit on the primary residence and other debt (exclusive of mortgages on other property, which are subtracted from the value of that property in asset 2).

**Table 6. Mean and Median Net Worth by Strata Variable, 1995 BHPS and Matched File**

**Average Net Worth**

| | BHP1995 | Match | Ratio | | BHP1995 | Match |
|---|---|---|---|---|---|---|
| **Asset1** | 50,678 | 49,844 | 98.35% | | | |
| **Asset2** | 4,237 | 4,169 | 98.40% | | | |
| **Asset3** | 7,966 | 7,686 | 96.48% | | | |
| **Asset4** | 10,868 | 10,543 | 97.01% | | | |
| **Debt1** | 15,265 | 15,083 | 98.81% | | | |
| **Debt2** | 1,391 | 1,366 | 98.21% | | | |
| **Networth** | 57,094 | 55,793 | 97.72% | | | |
| | | | | | **BHP1995** | **Match** |
| **Renter** | 6,529 | 6,030 | 92.36% | **ren/own** | 0.080 | 0.075 |
| **Owner** | 81,443 | 80,717 | 99.11% | | | |
| | | | | | | |
| **Non-elder** | 53,226 | 52,296 | 98.25% | **non/eld** | 0.805 | 0.796 |
| **Elder** | 66,138 | 65,663 | 99.28% | | | |
| | | | | | | |
| **Married Couple** | 71,165 | 69,321 | 97.41% | | | |
| **Female Headed** | 35,418 | 35,399 | 99.95% | **fh/mc** | 0.498 | 0.511 |
| **Male Headed** | 40,039 | 36,514 | 91.19% | **mh/mc** | 0.563 | 0.527 |
| | | | | | | |
| **LT O Level** | 42,299 | 44,955 | 106.28% | **ltOlvl/deg** | 0.446 | 0.509 |
| **O Level** | 62,751 | 56,384 | 89.85% | **Olvl/deg** | 0.661 | 0.638 |
| **A Level/Cert.** | 66,497 | 62,171 | 93.49% | **Alvl/deg** | 0.700 | 0.703 |
| **Degree** | 94,934 | 88,406 | 93.12% | | | |
| | | | | | | |
| **LT £10,000** | 29,477 | 30,993 | 105.14% | **LT £10,000** | 0.227 | 0.246 |
| **£10,000 - £19,999** | 52,982 | 47,733 | 90.09% | **£10,000 - £19,999** | 0.408 | 0.380 |
| **£20,000 - £29,999** | 68,711 | 63,580 | 92.53% | **£20,000 - £29,999** | 0.529 | 0.506 |
| **£30,000 - £39999** | 80,176 | 76,012 | 94.81% | **£30,000 - £39999** | 0.617 | 0.604 |
| **GE £40,000** | 129,879 | 125,745 | 96.82% | | | |

**Median Net Worth**

| | BHP1995 | Match | Ratio | | BHP1995 | Match |
|---|---|---|---|---|---|---|
| Asset1 | 35,202 | 45,000 | 127.83% | | | |
| Asset2 | 0 | 0 | | | | |
| Asset3 | 945 | 1,280 | 135.50% | | | |
| Asset4 | 0 | 0 | | | | |
| Debt1 | 0 | 0 | | | | |
| Debt2 | 0 | 0 | | | | |
| Networth | 22,869 | 30,602 | 133.81% | | | |
| | | | | | BHP1995 | Match |
| Renter | 21 | 108 | 502.84% | ren/own | 0.000 | 0.002 |
| Owner | 45,000 | 54,030 | 120.07% | | | |
| | | | | | | |
| Non-elder | 18,952 | 27,250 | 143.78% | non/eld | 0.518 | 0.634 |
| Elder | 36,569 | 43,000 | 117.59% | | | |
| | | | | | | |
| Married Couple | 24,741 | 22,500 | 90.94% | | | |
| Female Headed | 30,703 | 32,670 | 106.41% | fh/mc | 1.241 | 1.452 |
| Male Headed | 41,842 | 39,020 | 93.26% | mh/mc | 1.691 | 1.734 |
| | | | | | | |
| LT O Level | 19,810 | 30,008 | 151.48% | ltOlvl/deg | 0.610 | 1.000 |
| O Level | 38,000 | 16,080 | 42.32% | Olvl/deg | 1.169 | 0.536 |
| A Level/Cert. | 34,220 | 25,000 | 73.06% | Alvl/deg | 1.053 | 0.833 |
| Degree | 32,500 | 30,000 | 92.31% | | | |
| | | | | | | |
| LT £10,000 | 33,500 | 73,700 | 220.00% | LT £10,000 | 0.698 | 2.388 |
| £10,000 - £19,999 | 38,630 | 4,297 | 11.12% | £10,000 - £19,999 | 0.805 | 0.139 |
| £20,000 - £29,999 | 33,787 | 19,932 | 58.99% | £20,000 - £29,999 | 0.704 | 0.646 |
| £30,000 - £39999 | 41,604 | 28,884 | 69.43% | £30,000 - £39999 | 0.867 | 0.936 |
| GE £40,000 | 48,000 | 30,866 | 64.30% | | | |

**Note:** The four asset classes are primary residence, other real estate net of debt and business equity, liquid assets, and financial and other assets (a fifth asset class used in the LIMEW estimates for the United States and other countries, retirement assets, is not available for the UK). The two debt classes are mortgages and equity loans and lines of credit on the primary residence and other debt (exclusive of mortgages on other property, which are subtracted from the value of that property in asset 2).

**Table 7. Alignment of Strata Variables for 1995 Time Use Match**

|  | FRS 1995 | OPCS 1995 | Difference |
|---|---|---|---|
| *Individuals* | 42,527,589 | 11,690 | N/A |
| **Personal Income Class** | | | |
| *Less than £4K* | 25.11% | 30.78% | -5.67% |
| *£4K to £8K* | 26.14% | 24.81% | 1.33% |
| *£8K to £15K* | 25.92% | 23.48% | 2.44% |
| *£15K to £30K* | 18.47% | 16.91% | 1.56% |
| *£30K or more* | 4.36% | 4.02% | 0.34% |
| **Sex** | | | |
| *Male* | 48.10% | 48.85% | -0.75% |
| *Female* | 51.90% | 51.15% | 0.75% |
| **Parent** | | | |
| *No* | 76.91% | 72.91% | 4.00% |
| *Yes* | 23.09% | 27.09% | -4.00% |
| **Employed** | | | |
| *Full-time* | 42.06% | 42.85% | -0.79% |
| *Part-time* | 10.80% | 14.98% | -4.18% |
| *Not working* | 47.14% | 42.17% | 4.97% |
| **Married** | | | |
| *No* | 36.15% | 33.82% | 2.33% |
| *Yes* | 63.85% | 66.18% | -2.33% |

**Table 8. Distribution of Matched Records by Matching Round, 1995 Time Use Match**

| Matching Round | Records Matched | Percent | Cumulative Percent |
|---|---|---|---|
| 1 | 40,362,628 | 92.0 | 92.0 |
| 2 | 455,492 | 1.0 | 93.0 |
| 3 | 144,754 | 0.3 | 93.4 |
| 4 | 41,200 | 0.1 | 93.4 |
| 5 | 504,149 | 1.2 | 94.6 |
| 6 | 113,848 | 0.3 | 94.9 |
| 7 | 69,917 | 0.2 | 95.0 |
| 8 | 929,343 | 2.1 | 97.1 |
| 9 | 107,836 | 0.3 | 97.4 |
| 10 | 64,144 | 0.2 | 97.5 |
| 11 | 706,088 | 1.6 | 99.1 |
| 12 | 327,259 | 0.8 | 99.9 |
| 13 | 56,251 | 0.1 | 100 |
| Total | 43,882,909 | 100 | |

**Table 9. Distribution of Weekly Hours of Household Production in 1995 OPCS and Matched File**

|  | p90/p10 | p90/p50 | p10/p50 | p75/p25 | p75/p50 | p25/p50 | Gini |
|---|---|---|---|---|---|---|---|
| **OPCS 1995** | 16.50 | 2.54 | 6.50 | 3.83 | 1.77 | 2.17 | 0.5148 |
| **Match** | 16.50 | 2.54 | 6.50 | 3.83 | 1.77 | 2.17 | 0.5145 |

**Table 10. Comparison of Mean and Median Time Use Variables in 1995 OPCS and Matched File**

| | | Total | Care | Procurement | Core |
|---|---|---|---|---|---|
| **Mean** | **OPCS 1995** | 23.00 | 3.10 | 4.20 | 16.00 |
| | **Match** | 23.00 | 3.30 | 4.20 | 16.00 |
| | **Ratio** | 100.00% | 106.45% | 100.00% | 100.00% |
| **Median** | **OPCS 1995** | 18.00 | 0.00 | 0.00 | 11.00 |
| | **Match** | 18.00 | 0.00 | 0.00 | 11.00 |
| | **Ratio** | 100.00% | | | 100.00% |

**Table 11. Mean and Median Household Production Weekly Hours, 1995 OPCS and Matched File**

| Mean values of HH Production (Weekly Hours) | | | |
|---|---|---|---|
| | OPCS | Match | Ratio |
| HH Production | 23.00 | 23.00 | 100.0% |
| Care | 3.10 | 3.30 | 106.5% |
| Procurement | 4.20 | 4.20 | 100.0% |
| Core | 16.00 | 16.00 | 100.0% |

| Distribution among population subgroups | | | | Ratio of Mean Values | | |
|---|---|---|---|---|---|---|
| | | | | | OPCS | Match |
| **HH Income** | | | | **HH Income** | Over All | |
| *Less than £4K* | 28.00 | 31.00 | 110.7% | *Less than £4K* | 1.22 | 1.35 |
| *£4K to £8K* | 27.00 | 25.00 | 92.6% | *£4K to £8K* | 1.17 | 1.09 |
| *£8K to £15K* | 18.00 | 20.00 | | *£8K to £15K* | 0.78 | 0.87 |
| *£15K to £30K* | 16.00 | 16.00 | 100.0% | *£15K to £30K* | 0.70 | 0.70 |
| *£30K or more* | 17.00 | 16.00 | 94.1% | *£30K or more* | 0.74 | 0.70 |
| **Sex** | | | | **Sex** | | |
| *Male* | 16.00 | 16.00 | 100.0% | *Female/Male* | 1.81 | 1.81 |
| *Female* | 29.00 | 29.00 | 100.0% | | | |
| **Parent** | | | | **Parent** | | |
| *No* | 20.00 | 21.00 | 105.0% | *No/Yes* | 0.61 | 0.68 |
| *Yes* | 33.00 | 31.00 | 93.9% | | | |
| **Employed** | | | | **Employed** | | |
| *Working FT* | 14.00 | 15.00 | 107.1% | *No/FT* | 2.07 | 1.87 |
| *Working PT* | 30.00 | 33.00 | | *No/PT* | 0.97 | 0.85 |
| *Not Working* | 29.00 | 28.00 | 96.6% | | | |
| **Married** | | | | **Married** | | |
| *No* | 19.00 | 18.00 | 94.7% | *No/Yes* | 0.73 | 0.69 |
| *Yes* | 26.00 | 26.00 | 100.0% | | | |

| Median values of HH Production (Weekly Hours) | | | |
|---|---|---|---|
| | OPCS | Match | Ratio |
| HH Production | 18.00 | 18.00 | 100.0% |
| Care | - | - | |
| Procurement | - | - | |
| Core | 11.00 | 11.00 | 100.0% |

| Distribution among population subgroups | | | | Ratio of Median Values | | |
|---|---|---|---|---|---|---|
| | | | | | OPCS | Match |
| **HH Income** | | | | **HH Income** | Over All | |
| *Less than £4K* | 26.00 | 30.00 | 115.4% | *Less than £4K* | 2.36 | 2.73 |
| *£4K to £8K* | 23.00 | 21.00 | 91.3% | *£4K to £8K* | 2.09 | 1.91 |
| *£8K to £15K* | 12.00 | 14.00 | | *£8K to £15K* | 1.09 | 1.27 |
| *£15K to £30K* | 11.00 | 8.80 | 80.0% | *£15K to £30K* | 1.00 | 0.80 |
| *£30K or more* | 11.00 | 8.80 | 80.0% | *£30K or more* | 1.00 | 0.80 |
| **Sex** | | | | **Sex** | | |
| *Female* | 11.00 | 8.80 | 80.0% | *Female/Male* | 2.36 | 2.95 |
| *Male* | 26.00 | 26.00 | 100.0% | | | |
| **Parent** | | | | **Parent** | | |
| *No* | 14.00 | 14.00 | 100.0% | *No/Yes* | 0.47 | 0.54 |
| *Yes* | 30.00 | 26.00 | 86.7% | | | |
| **Employed** | | | | **Employed** | | |
| *Working FT* | 8.80 | 8.80 | 100.0% | *No/FT* | 2.95 | 2.95 |
| *Working PT* | 28.00 | 32.00 | 114.3% | *No/PT* | 0.93 | 0.81 |
| *Not Working* | 26.00 | 26.00 | 100.0% | | | |
| **Married** | | | | **Married** | | |
| *No* | 14.00 | 11.00 | 78.6% | *No/Yes* | 0.67 | 0.52 |
| *Yes* | 21.00 | 21.00 | 100.0% | | | |

**Table 12. Alignment of Strata Variables for 2005 Wealth Match**

|  | FRS 2005-6 | BHPS 2005 | Diff |
|---|---|---|---|
| Number | 24,821,549 | 9,261,750 | -62.7% |
| **Homeownership** | | | |
| Renter | 29.79% | 26.52% | 3.27% |
| Owner | 70.21% | 73.48% | -3.27% |
| **Family Type** | | | |
| Married Couple | 57.18% | 57.49% | -0.31% |
| Female Headed | 26.04% | 28.30% | -2.26% |
| Male Headed | 16.78% | 14.21% | 2.57% |
| **Education Category** | | | |
| LT O Level | 32.04% | 36.88% | -4.84% |
| O Level | 29.23% | 23.20% | 6.03% |
| A Level | 21.42% | 25.49% | -4.07% |
| More than A Level | 17.31% | 14.42% | 2.89% |
| **Age Category** | | | |
| LT 35 | 19.21% | 15.95% | 3.26% |
| 35 to 44 | 20.59% | 18.78% | 1.81% |
| 45 to 54 | 17.78% | 18.60% | -0.82% |
| 55 to 64 | 16.67% | 16.23% | 0.44% |
| GE 65 | 25.75% | 30.44% | -4.69% |
| **Household Income** | | | |
| LT £5,000 | 2.43% | 3.18% | -0.75% |
| £5,000 to £15,000 | 27.23% | 28.09% | -0.86% |
| £15,000 to £25,000 | 22.06% | 20.92% | 1.14% |
| £25,000 to £40,000 | 22.26% | 22.96% | -0.70% |
| GE £40,000 | 26.02% | 24.86% | 1.16% |

**Table 13. Matching Cells for 2005 Wealth Match**

| | | | LT O Level | | | O Level | | |
|---|---|---|---|---|---|---|---|---|
| | | | FRS 2005-6 | BHPS 2005 | Diff. | FRS 2005-6 | BHPS 2005 | Diff. |
| Renter | Nonelder | Married Couple | 474,732 | 648,059 | 173,327 | 810,341 | 499,415 | (310,926) |
| | | Female Head | 451,161 | 672,716 | 221,555 | 778,860 | 465,959 | (312,901) |
| | | Male Head | 376,424 | 260,662 | (115,762) | 438,781 | 180,187 | (258,594) |
| | Elder | Married Couple | 350,633 | 429,894 | 79,261 | 31,015 | 68,496 | 37,481 |
| | | Female Head | 756,749 | 1,049,181 | 292,432 | 91,550 | 155,180 | 63,630 |
| | | Male Head | 330,151 | 388,124 | 57,973 | 43,848 | 59,643 | 15,795 |
| Homeowner | Nonelder | Married Couple | 1,733,041 | 2,047,841 | 314,800 | 3,224,764 | 2,319,408 | (905,356) |
| | | Female Head | 326,055 | 477,193 | 151,138 | 541,642 | 573,300 | 31,658 |
| | | Male Head | 295,318 | 262,366 | (32,952) | 512,109 | 324,599 | (187,510) |
| | Elder | Married Couple | 1,417,906 | 1,355,023 | (62,883) | 422,000 | 604,667 | 182,667 |
| | | Female Head | 1,018,047 | 1,180,724 | 162,677 | 266,779 | 423,529 | 156,750 |
| | | Male Head | 421,925 | 383,448 | (38,477) | 93,844 | 85,205 | (8,639) |

| | | | A Level | | | More than A Level | | |
|---|---|---|---|---|---|---|---|---|
| | | | FRS 2005-6 | BHPS 2005 | Diff. | FRS 2005-6 | BHPS 2005 | Diff. |
| Renter | Nonelder | Married Couple | 479,450 | 371,716 | (107,734) | 416,165 | 177,391 | (238,774) |
| | | Female Head | 471,625 | 331,838 | (139,787) | 271,300 | 180,451 | (90,849) |
| | | Male Head | 357,163 | 323,738 | (33,425) | 348,359 | 132,639 | (215,720) |
| | Elder | Married Couple | 23,747 | 69,282 | 45,535 | 6,464 | 3,800 | (2,664) |
| | | Female Head | 41,161 | 53,264 | 12,103 | 19,747 | 15,748 | (3,999) |
| | | Male Head | 21,914 | 35,368 | 13,454 | 2,597 | 10,945 | 8,348 |
| Homeowner | Nonelder | Married Couple | 2,248,455 | 3,121,970 | 873,515 | 2,016,488 | 1,874,090 | (142,398) |
| | | Female Head | 627,429 | 661,282 | 33,853 | 442,310 | 489,606 | 47,296 |
| | | Male Head | 393,510 | 512,612 | 119,102 | 394,976 | 357,252 | (37,724) |
| | Elder | Married Couple | 330,595 | 457,036 | 126,441 | 206,616 | 221,427 | 14,811 |
| | | Female Head | 238,776 | 233,734 | (5,042) | 120,498 | 60,385 | (60,113) |
| | | Male Head | 83,836 | 154,913 | 71,077 | 50,693 | 56,384 | 5,691 |

**Table 14. Distribution of Matched Records by Matching Round, 2005 Wealth Match**

| Matching Round | Records Matched | Percent | Cumulative Percent |
|---|---|---|---|
| 1 | 20,634,119 | 83.1 | 83.1 |
| 2 | 767,690 | 3.1 | 86.2 |
| 3 | 209,100 | 0.8 | 87.1 |
| 4 | 1,298,089 | 5.2 | 92.3 |
| 5 | 87,380 | 0.4 | 92.7 |
| 6 | 78,516 | 0.3 | 93.0 |
| 7 | 232,964 | 0.9 | 93.9 |
| 8 | 66,838 | 0.3 | 94.2 |
| 9 | 27,635 | 0.1 | 94.3 |
| 10 | 7,453 | 0.0 | 94.3 |
| 11 | 312,065 | 1.3 | 95.6 |
| 12 | 16,524 | 0.1 | 95.6 |
| 13 | 41,190 | 0.2 | 95.8 |
| 14 | 32,736 | 0.1 | 95.9 |
| 15 | 18,602 | 0.1 | 96.0 |
| 16 | 75,137 | 0.3 | 96.3 |
| 17 | 89,246 | 0.4 | 96.7 |
| 18 | 116,292 | 0.5 | 97.1 |
| 19 | 58,007 | 0.2 | 97.4 |
| 20 | 104,925 | 0.4 | 97.8 |
| 21 | 28,514 | 0.1 | 97.9 |
| 22 | 14,144 | 0.1 | 98.0 |
| 23 | 504,383 | 2.0 | 100.0 |
| Total | 24,821,549 | 100.0 | |

**Table 15. Distribution of Net Worth in 2005 BHPS and Matched File**

| | p90/p10 | p90/p50 | p50/p10 | p75/p25 | p75/p50 | p50/p25 | gini |
|---|---|---|---|---|---|---|---|
| BHPS 2005 | -1827.240 | 3.322 | -550.000 | 27.933 | 1.905 | 14.667 | 0.630 |
| Match | -2109.412 | 3.516 | -599.888 | 59.268 | 1.985 | 29.863 | 0.648 |

**Table 16. Comparison of Mean and Median Wealth Variables in Matched File to 2005 BHPS**

|  | Asset1 | Asset2 | Asset3 | Asset4 | Debt1 | Debt2 | Networth |
|---|---|---|---|---|---|---|---|
| **Average** | | | | | | | |
| **BHPS 2005** | 156,853 | 10,207 | 12,909 | 12,650 | 35,233 | 3,999 | **153,388** |
| **Match** | 149,575 | 9,956 | 12,697 | 12,336 | 34,460 | 3,974 | **146,130** |
| **Ratio** | 95.36% | 97.54% | 98.36% | 97.52% | 97.81% | 99.38% | **95.27%** |
| **Median** | | | | | | | |
| **BHPS 2005** | 140,000 | - | 2,000 | - | - | - | **110,000** |
| **Match** | 132,500 | - | 2,000 | - | - | - | **101,981** |
| **Ratio** | 94.64% | | 100.00% | | | | **92.71%** |

**Note:** The four asset classes are primary residence, other real estate net of debt and business equity, liquid assets, and financial and other assets (a fifth asset class used in the LIMEW estimates for the United States and other countries, retirement assets, is not available for the UK). The two debt classes are mortgages and equity loans and lines of credit on the primary residence and other debt (exclusive of mortgages on other property, which are subtracted from the value of that property in asset 2).

**Table 17. Mean and Median Net Worth by Strata Variable, 2005 BHPS and Matched File**

**Average Net Worth**

|  | BHPS 2005 | Match | Ratio |  | BHPS 2005 | Match |
|---|---|---|---|---|---|---|
| Asset1 | 156,853 | 149,575 | 95.36% |  |  |  |
| Asset2 | 10,207 | 9,956 | 97.54% |  |  |  |
| Asset3 | 12,909 | 12,697 | 98.36% |  |  |  |
| Asset4 | 12,650 | 12,336 | 97.52% |  |  |  |
| Debt1 | 35,233 | 34,460 | 97.81% |  |  |  |
| Debt2 | 3,999 | 3,974 | 99.38% |  |  |  |
| Networth | 153,388 | 146,130 | 95.27% |  |  |  |
|  |  |  |  |  | BHPS 2005 | Match |
| Renter | 5,484 | 7,862 | 143.36% | ren/own | 0.027 | 0.038 |
| Owner | 206,780 | 204,792 | 99.04% |  |  |  |
|  |  |  |  |  |  |  |
| Non-elder | 142,764 | 132,582 | 92.87% | non/eld | 0.804 | 0.716 |
| Elder | 177,669 | 185,198 | 104.24% |  |  |  |
|  |  |  |  |  |  |  |
| Married Couple | 193,551 | 187,986 | 97.12% |  |  |  |
| Female Headed | 94,248 | 88,466 | 93.86% | fh/mc | 0.487 | 0.471 |
| Male Headed | 108,689 | 92,998 | 85.56% | mh/mc | 0.562 | 0.495 |
|  |  |  |  |  |  |  |
| Less than O lvl | 114,072 | 123,447 | 108.22% | ltO/mtA | 0.524 | 0.665 |
| O lvl | 149,217 | 135,358 | 90.71% | Olvl/mtA | 0.685 | 0.729 |
| A lvl | 177,586 | 162,727 | 91.63% | Alvl/mtA | 0.815 | 0.876 |
| More than A lvl | 217,879 | 185,761 | 85.26% |  |  |  |
|  |  |  |  |  |  |  |
| <£5000 | 80,825 | 91,078 | 112.68% | lt £5k | 0.350 | 0.410 |
| £5000>=hhinc<£14999 | 101,635 | 91,324 | 89.85% | £5-15k | 0.441 | 0.411 |
| £15000>=hhinc<£24999 | 129,285 | 122,414 | 94.69% | £15-25k | 0.561 | 0.551 |
| £25000>=hhinc<£39999 | 165,057 | 153,832 | 93.20% | £25-40k | 0.716 | 0.692 |
| >=£40000 | 230,651 | 222,156 | 96.32% |  |  |  |

**Median Net Worth**

| | BHPS 2005 | Match | Ratio | | BHPS 2005 | Match |
|---|---|---|---|---|---|---|
| **Asset1** | 102,517 | 140,000 | 136.56% | | | |
| **Asset2** | 0 | 0 | | | | |
| **Asset3** | 1,366 | 2,000 | 146.44% | | | |
| **Asset4** | 0 | 0 | | | | |
| **Debt1** | 0 | 0 | | | | |
| **Debt2** | 0 | 0 | | | | |
| **Networth** | 78,595 | 110,000 | 139.96% | | | |
| | | | | | BHPS 2005 | Match |
| **Renter** | 0 | 0 | | **ren/own** | 0.000 | 0.000 |
| **Owner** | 126,815 | 157,500 | 124.20% | | | |
| | | | | | | |
| **Non-elder** | 65,408 | 100,000 | 152.89% | **non/eld** | 0.541 | 0.752 |
| **Elder** | 120,926 | 133,000 | 109.98% | | | |
| | | | | | | |
| **Married Couple** | 83,451 | 84,900 | 101.74% | | | |
| **Female Headed** | 91,613 | 107,543 | 117.39% | **fh/mc** | 1.098 | 1.267 |
| **Male Headed** | 139,811 | 129,630 | 92.72% | **mh/mc** | 1.675 | 1.527 |
| | | | | | | |
| **Less than O lvl** | 69,790 | 92,200 | 132.11% | **ltO/mtA** | 0.590 | 0.981 |
| **O lvl** | 110,000 | 56,000 | 50.91% | **Olvl/mtA** | 0.930 | 0.596 |
| **A lvl** | 121,295 | 78,129 | 64.41% | **Alvl/mtA** | 1.025 | 0.831 |
| **More than A lvl** | 118,300 | 94,000 | 79.46% | | | |
| | | | | | | |
| **<£5000** | 103,400 | 157,677 | 152.49% | **lt £5k** | 0.689 | 2.039 |
| **£5000>=hhinc<£14999** | 125,474 | 6,147 | 4.90% | **£5-15k** | 0.836 | 0.079 |
| **£15000>=hhinc<£24999** | 162,003 | 32,171 | 19.86% | **£15-25k** | 1.080 | 0.416 |
| **£25000>=hhinc<£39999** | 158,000 | 71,558 | 45.29% | **£25-40k** | 1.053 | 0.925 |
| **>=£40000** | 150,050 | 77,335 | 51.54% | | | |

**Note:** The four asset classes are primary residence, other real estate net of debt and business equity, liquid assets, and financial and other assets (a fifth asset class used in the LIMEW estimates for the United States and other countries, retirement assets, is not available for the UK). The two debt classes are mortgages and equity loans and lines of credit on the primary residence and other debt (exclusive of mortgages on other property, which are subtracted from the value of that property in asset 2).

**Table 18. Alignment of Strata Variables for 2005 Time Use Match**

|  | FRS | UKTUS | Diff. |
|---|---|---|---|
| *Number* | 47,643,205 | 38,555,900 | 23.6% |
| **Sex** | | | |
| *female* | 51.58% | 52.57% | -0.99% |
| *male* | 48.42% | 47.43% | 0.99% |
| **Spouse** | | | |
| *No* | 38.19% | 38.75% | -0.56% |
| *Yes* | 61.81% | 61.25% | 0.56% |
| **Parent** | | | |
| *No* | 73.88% | 68.40% | 5.48% |
| *Yes* | 26.12% | 31.60% | -5.48% |
| **Labor Force Status** | | | |
| *Full-time* | 43.39% | 43.64% | -0.25% |
| *Part-time* | 13.89% | 16.05% | -2.16% |
| *Not working* | 42.72% | 40.31% | 2.41% |
| **Spouse's Labor Force Status** | | | |
| *No Spouse* | 38.19% | 38.75% | -0.56% |
| *Full-time* | 29.85% | 29.07% | 0.78% |
| *Part-time* | 9.66% | 10.48% | -0.82% |
| *Not working* | 22.29% | 21.70% | 0.59% |

**Table 19. Distribution of Matched Records by Matching Round, 2005 Time Use Match**

| Matching Round | Number | Percent | Cumulative Percent |
|---|---|---|---|
| 1 | 44,304,621 | 93.0% | 93.0% |
| 2 | 247,735 | 0.5% | 93.5% |
| 3 | 42,321 | 0.1% | 93.6% |
| 4 | 55,837 | 0.1% | 93.7% |
| 5 | 373,240 | 0.8% | 94.5% |
| 7 | 1,425,374 | 3.0% | 97.5% |
| 8 | 38,409 | 0.1% | 97.6% |
| 9 | 492,267 | 1.0% | 98.6% |
| 10 | 258,044 | 0.5% | 99.1% |
| 11 | 121,321 | 0.3% | 99.4% |
| 12 | 66,936 | 0.1% | 99.5% |
| 13 | 190,052 | 0.4% | 99.9% |
| 14 | 27,048 | 0.1% | 100.0% |
| **Total** | 47,643,205 | 100.0% | |

**Table 20. Distribution of Weekly Hours of Household Production in 2000 UKTUS and Matched File**

|  | p90/p10 | p90/p50 | p50/p10 | p75/p25 | p75/p50 | p50/p25 | Gini |
|---|---|---|---|---|---|---|---|
| **UKTUS 2000** | 12.953 | 2.402 | 5.393 | 3.872 | 1.732 | 2.236 | 0.4326 |
| **Match** | 12.932 | 2.401 | 5.387 | 3.869 | 1.731 | 2.236 | 0.4322 |

**Table 21. Comparison of Mean and Median Time Use Variables in 2000 UKTUS and Matched File**

| | | Total | Care | Procurement | Core |
|---|---|---|---|---|---|
| **Mean** | UKTUS 2000 | 25.00 | 2.90 | 5.70 | 17.00 |
| | Match | 25.00 | 3.00 | 5.70 | 17.00 |
| | Ratio | 100.00% | 103.45% | 100.00% | 100.00% |
| **Median** | UKTUS 2000 | 21.00 | 0.00 | 2.90 | 13.00 |
| | Match | 21.00 | 0.00 | 2.90 | 13.00 |
| | Ratio | 100.00% | | 100.00% | 100.00% |

**Table 22. Mean and Median Household Production Weekly Hours, 2000 UKTUS and Matched File**

| Average HH Production Weekly Hours | UKTUS 2000 | Match | ratio | | Ratios | UKTUS 2000 | Match |
|---|---|---|---|---|---|---|---|
| HH Production | 25.00 | 25.00 | 100% | | | | |
| Care | 2.90 | 3.00 | 103% | | | | |
| Procurement | 5.70 | 5.70 | 100% | | | | |
| Core | 17.00 | 17.00 | 100% | | | | |
| | | | | | | | |
| Female | 32.00 | 32.00 | 100% | | fem/male | 1.778 | 1.778 |
| Male | 18.00 | 18.00 | 100% | | | | |
| | | | | | | | |
| Unmarried | 22.00 | 22.00 | 100% | | sing/marr | 0.815 | 0.815 |
| Married | 27.00 | 27.00 | 100% | | | | |
| | | | | | | | |
| No kid | 22.00 | 23.00 | 105% | | no kid/kid | 0.710 | 0.719 |
| Kid | 31.00 | 32.00 | 103% | | | | |
| | | | | | | | |
| Not working | 33.00 | 32.00 | 97% | | nw/w | 1.650 | 1.600 |
| Working | 20.00 | 20.00 | 100% | | | | |
| | | | | | | | |
| Spouse not working | 24.00 | 24.00 | 100% | | spw/spnw | 0.889 | 0.889 |
| Spouse working | 27.00 | 27.00 | 100% | | | | |
| | | | | | | | |
| Not Working | 33.00 | 32.00 | 97% | | | | |
| less than £5,607 | 28.00 | 24.00 | 86% | | less than £5,607 | 0.875 | 0.774 |
| £5,607 to £11,213 | 21.00 | 24.00 | 114% | | £5,607 to £11,213 | 0.656 | 0.774 |
| £11,214 to £16,820 | 18.00 | 20.00 | 111% | | £11,214 to £16,820 | 0.563 | 0.645 |
| £16,821 to £36,347 | 16.00 | 19.00 | 119% | | £16,821 to £36,347 | 0.500 | 0.613 |
| £36,348 or more | 14.00 | 17.00 | 121% | | £36,348 or more | 0.438 | 0.548 |

| Median HH Production Weekly Hours | | | | | Ratios | | |
|---|---|---|---|---|---|---|---|
| | UKTUS 2000 | Match | ratio | | | | |
| HH Production | 17.00 | 17.00 | 100% | | | | |
| Care | 0.00 | 0.00 | | | | | |
| Procurement | 2.90 | 2.90 | 100% | | | | |
| Core | 13.00 | 13.00 | 100% | | | | |
| | | | | | | | |
| | | | | | | UKTUS 2000 | Match |
| | | | | | | | |
| Female | 30.00 | 30.00 | 100% | | fem/male | 2.308 | 2.308 |
| Male | 13.00 | 13.00 | 100% | | | | |
| | | | | | | | |
| Unmarried | 17.00 | 18.00 | 106% | | sing/marr | 0.708 | 0.783 |
| Married | 24.00 | 23.00 | 96% | | | | |
| | | | | | | | |
| No kid | 19.00 | 19.00 | 100% | | no kid/kid | 0.704 | 0.679 |
| Kid | 27.00 | 28.00 | 104% | | | | |
| | | | | | | | |
| Not working | 32.00 | 31.00 | 97% | | nw/w | 2.133 | 2.067 |
| Working | 15.00 | 15.00 | 100% | | | | |
| | | | | | | | |
| Spouse not working | 21.00 | 21.00 | 100% | | spw/spnw | 0.955 | 0.955 |
| Spouse working | 22.00 | 22.00 | 100% | | | | |
| | | | | | | | |
| Not Working | 32.00 | 31.00 | 97% | | | | |
| less than £5,607 | 26.00 | 19.00 | 73% | | less than £5,607 | 0.813 | 0.613 |
| £5,607 to £11,213 | 18.00 | 21.00 | 117% | | £5,607 to £11,213 | 0.563 | 0.677 |
| £11,214 to £16,820 | 14.00 | 16.00 | 114% | | £11,214 to £16,820 | 0.438 | 0.516 |
| £16,821 to £36,347 | 12.00 | 14.00 | 117% | | £16,821 to £36,347 | 0.375 | 0.452 |
| £36,348 or more | 10.00 | 12.00 | 120% | | £36,348 or more | 0.313 | 0.387 |

**FIGURES**

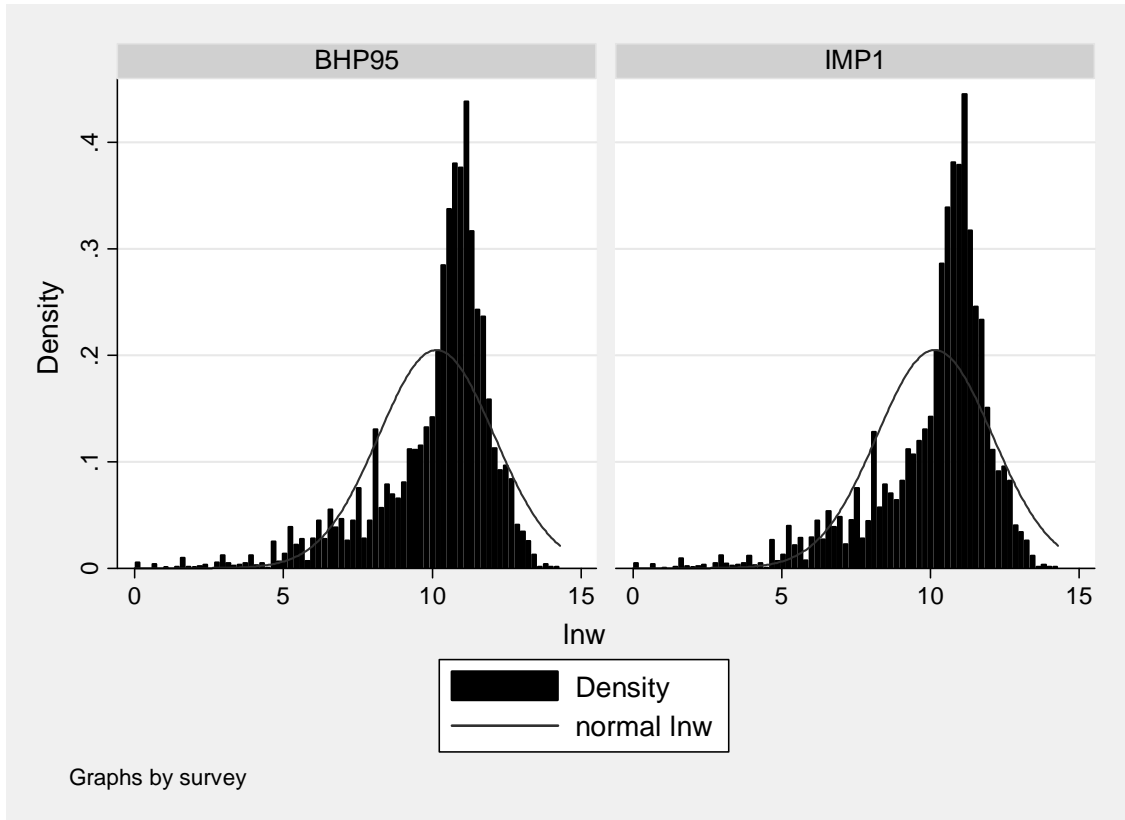**Figure 1. Distribution of Log Net Worth, 1995 BHPS and Matched File**



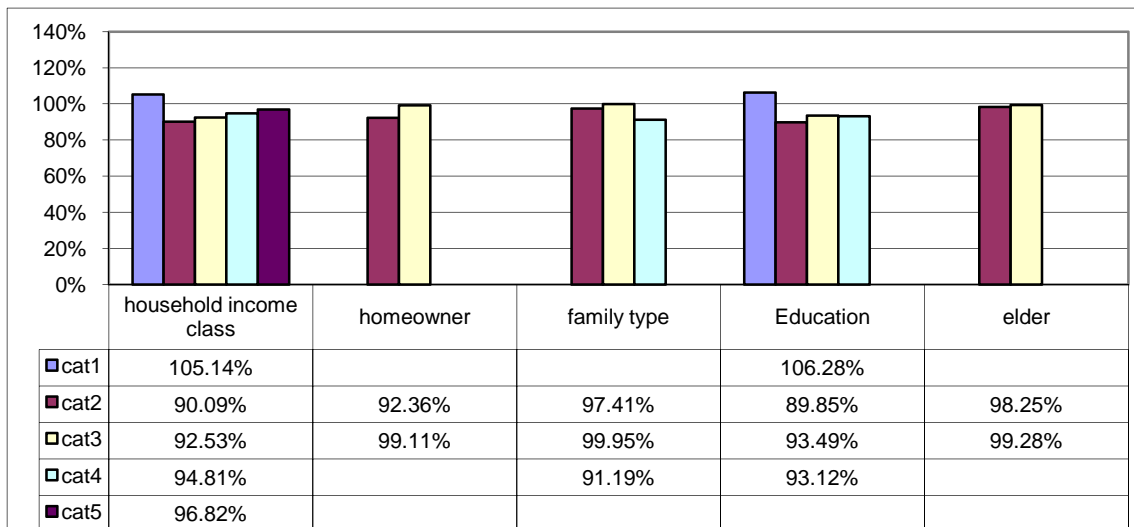**Figure 2. Ratio of Mean Net Worth by Category (Match/BHPS 1995)**



| | household income class | homeowner | family type | Education | elder |
|---|---|---|---|---|---|
| □cat1 | 105.14% | | | 106.28% | |
| ■cat2 | 90.09% | 92.36% | 97.41% | 89.85% | 98.25% |
| □cat3 | 92.53% | 99.11% | 99.95% | 93.49% | 99.28% |
| □cat4 | 94.81% | | 91.19% | 93.12% | |
| ■cat5 | 96.82% | | | | |

**Figure 3. Net Worth by Matching Cells, 1995 BHPS and Matched File**



Logged Net Worth

BHP95 / IMP1

^ = not, MC = Married Couple, FH = Female Head,
MH = Male Head, O = Homeowner, E = Elderly

lnw

Graphs by survey
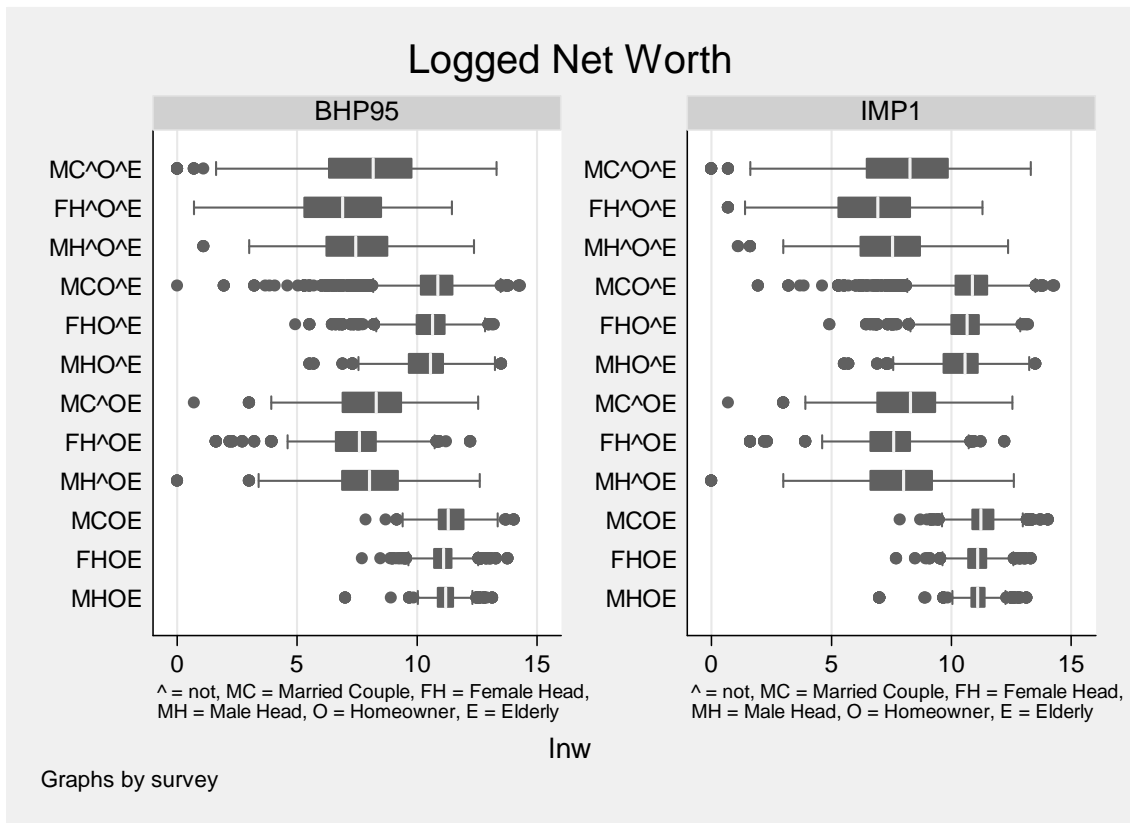
**Figure 4. Ratio of Mean HH Production by Category (Match/OPCS 1995)**



| | Personal Income | Sex | Parent | Employed | Married | Overall |
|---|---|---|---|---|---|---|
| cat1 | 110.7% | | | | | |
| cat2 | 92.6% | 100.0% | 105.0% | 107.1% | 94.7% | 100.0% |
| cat3 | 111.1% | 100.0% | 93.9% | 110.0% | 100.0% | 100.0% |
| cat4 | 100.0% | | | 96.6% | | |
| cat5 | 94.1% | | | | | |
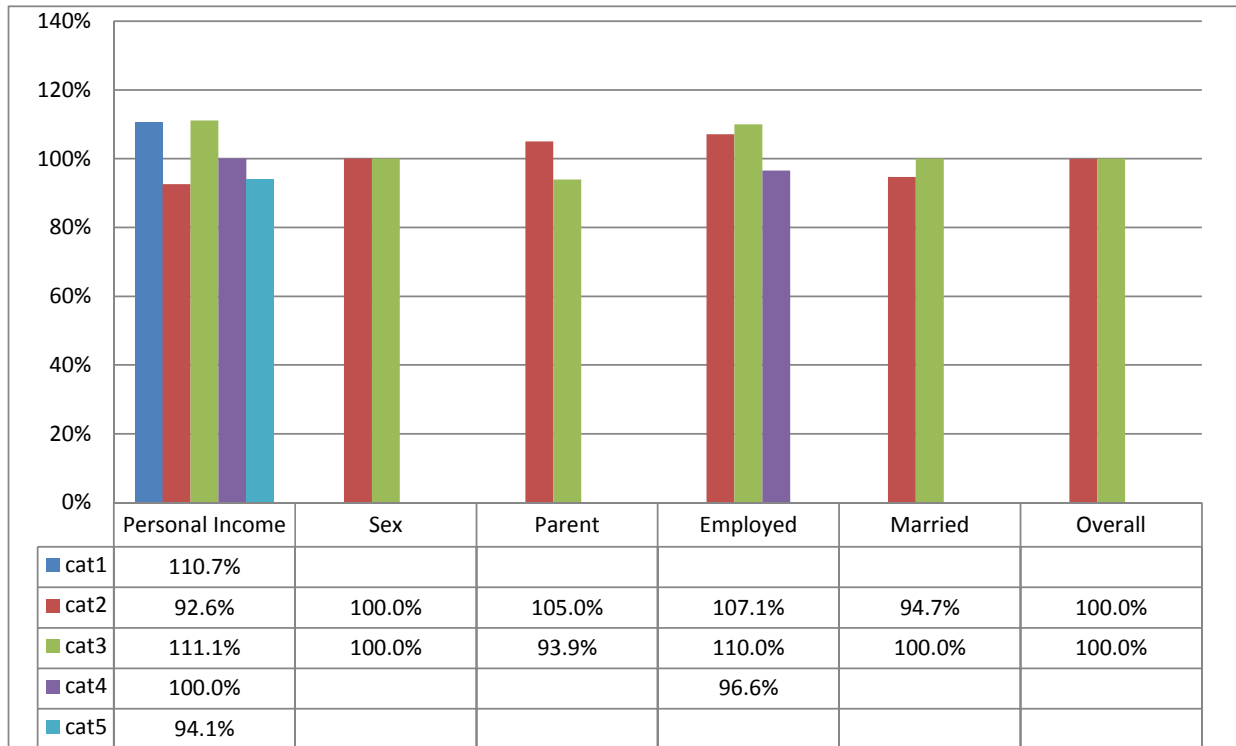
**Figure 5. Household Production by Matching Cells, 1995 OPCS and Matched File**



## Hours of HH Production

| IMP1 | OCPS |

M^PFT, M^PPT, M^PNW, MPFT, MPPT, MPNW, M^PFT, M^PPT, M^PNW, MPFT, MPPT, MPNW

0   50   100   150

^=not, F=Female, M=Male, P=Parent,
FT=Full-Time, PT=Part-Time, NW=Not Working
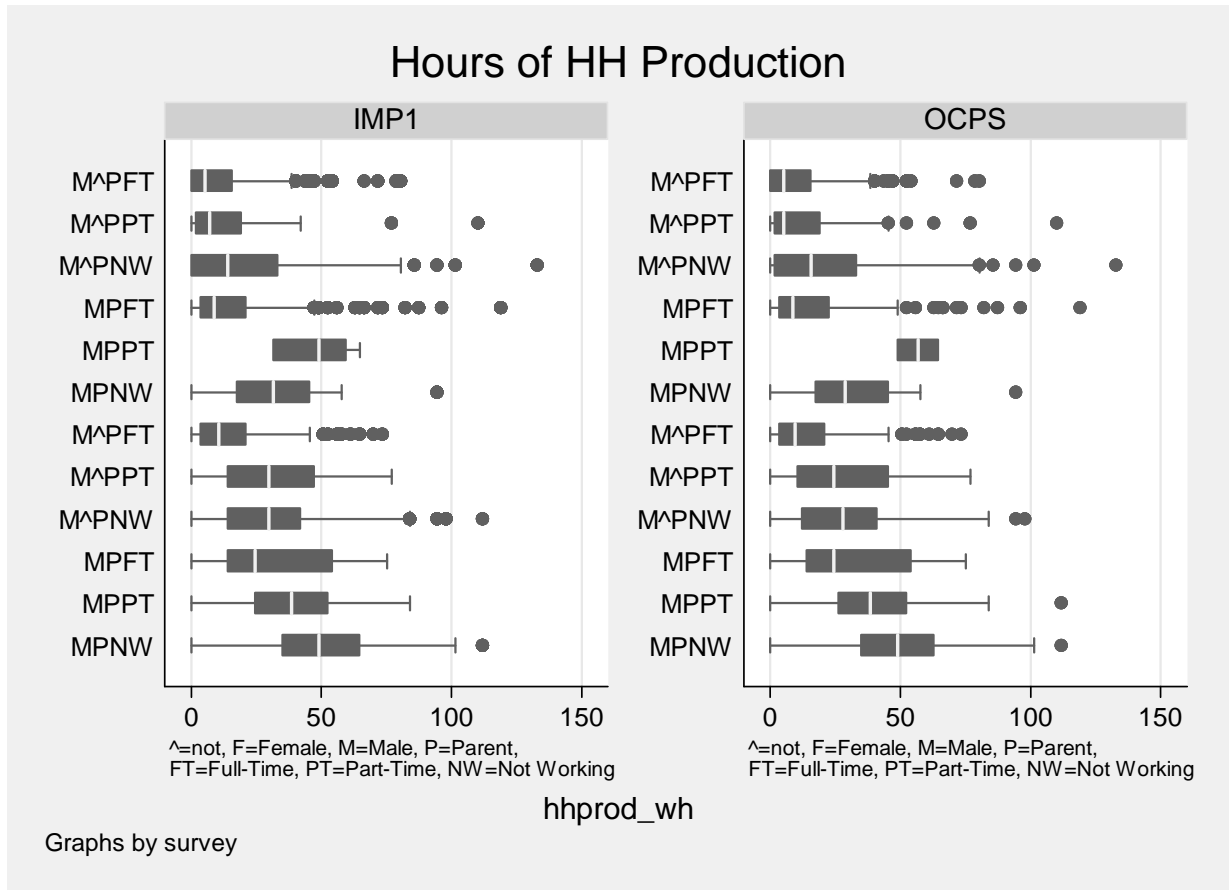
hhprod_wh

Graphs by survey

**Figure 6. Distribution of Log Net Worth, 2005 BHPS and Matched File**



Graphs by survey
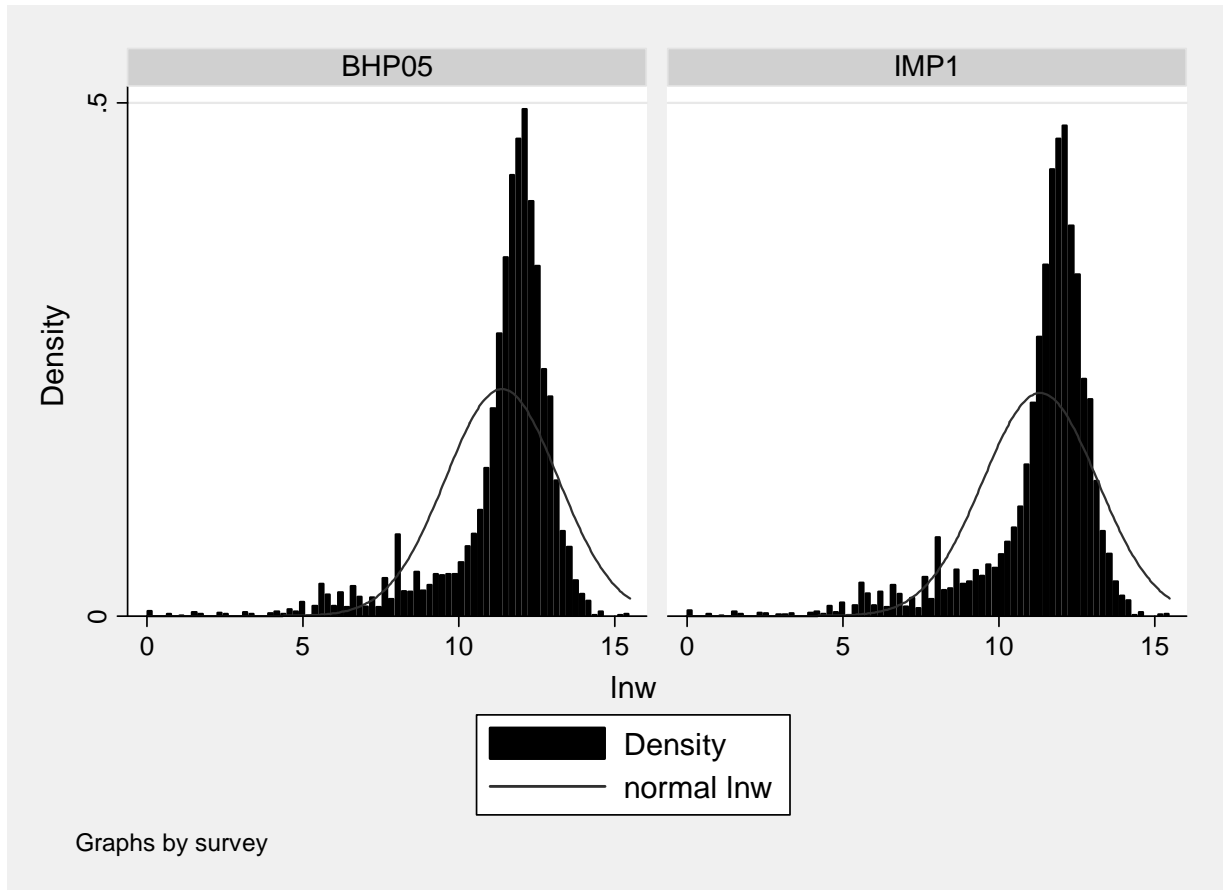
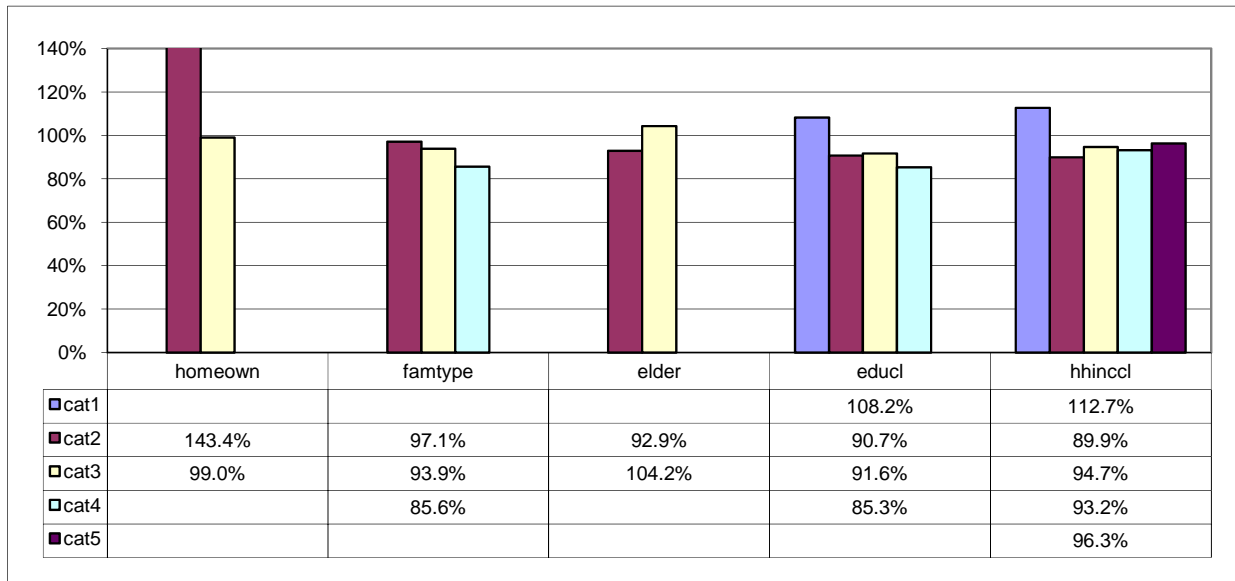**Figure 7. Ratio of Mean Net Worth by Category (Match/BHPS 2005)**



| | homeown | famtype | elder | educl | hhinccl |
|---|---|---|---|---|---|
| cat1 | | | | 108.2% | 112.7% |
| cat2 | 143.4% | 97.1% | 92.9% | 90.7% | 89.9% |
| cat3 | 99.0% | 93.9% | 104.2% | 91.6% | 94.7% |
| cat4 | | 85.6% | | 85.3% | 93.2% |
| cat5 | | | | | 96.3% |

**Figure 8. Net Worth by Matching Cells, 2005 BHPS and Matched File**



Logged Net Worth

^ = not, MC = Married Couple, FH = Female Head,
MH = Male Head, O = Homeowner, E = Elderly

lnw

Graphs by survey
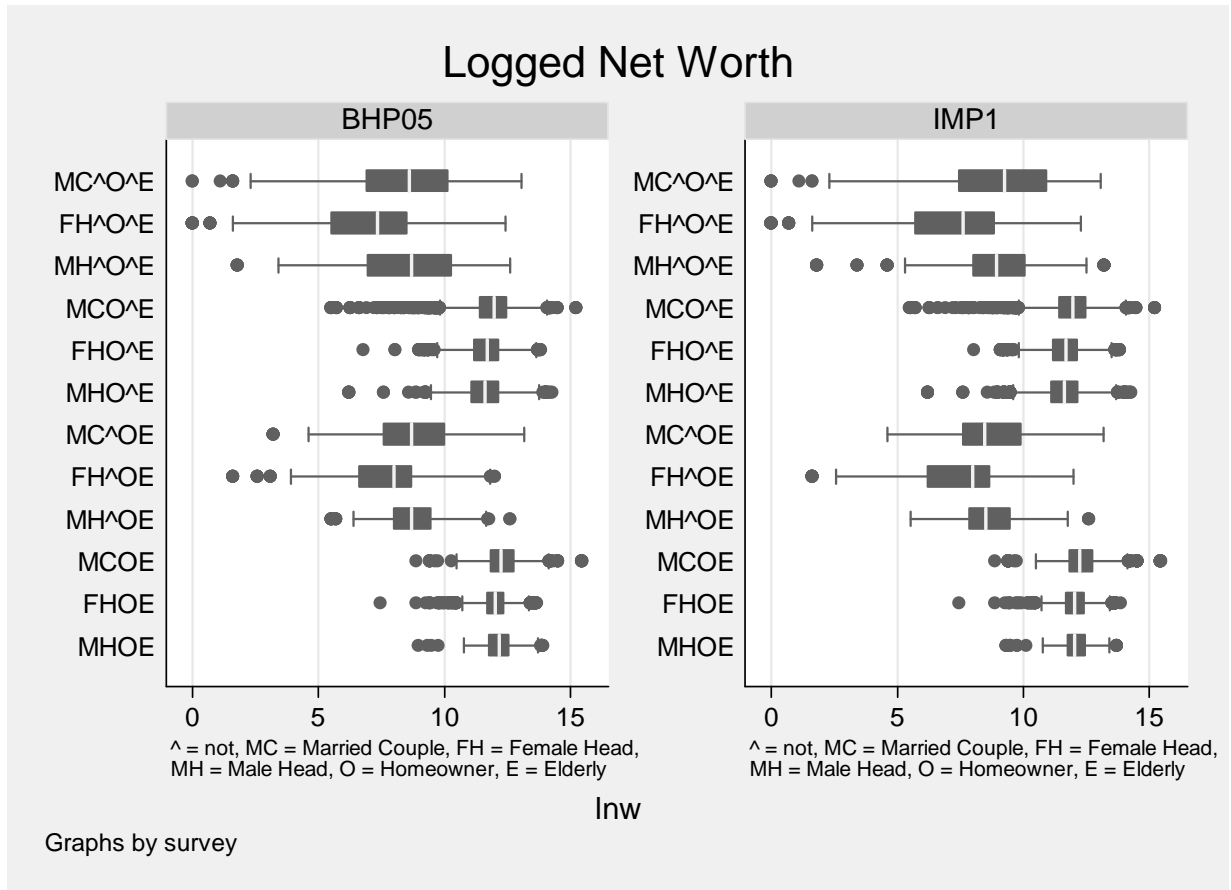
**Figure 9. Ratio of Mean HH Production by Category (Match/UKTUS 2000)**

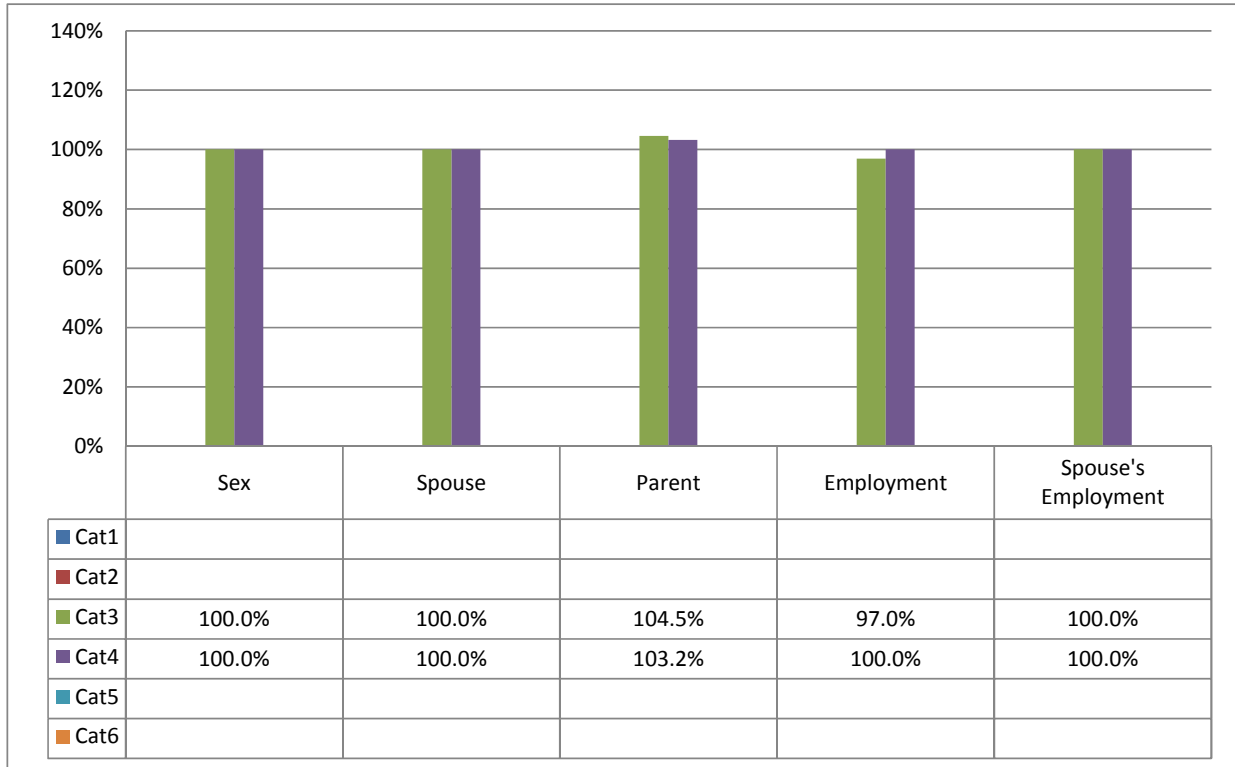| | Sex | Spouse | Parent | Employment | Spouse's Employment |
|---|---|---|---|---|---|
| Cat1 | | | | | |
| Cat2 | | | | | |
| Cat3 | 100.0% | 100.0% | 104.5% | 97.0% | 100.0% |
| Cat4 | 100.0% | 100.0% | 103.2% | 100.0% | 100.0% |
| Cat5 | | | | | |
| Cat6 | | | | | |

**Figure 10. Household Production by Matching Cells, 2000 UKTUS and Matched File**



Hours of HH Production

hhprod_wh

Graphs by survey