From PAPI to CAPI: consequences for data quality on the British Household Panel Study

Heather Laurie

Institute for Social and Economic Research

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- ESRC Research Centre on Micro-social Change. Established in 1989 to identify, explain, model and forecast social change in Britain at the individual and household level, the Centre specialises in research using longitudinal data.

- ESRC UK Longitudinal 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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The British Household Panel Survey is one of the main instruments for measuring social change in Britain. The BHPS comprises a nationally representative sample of around 5,500 households and over 10,000 individuals who are reinterviewed each year. The questionnaire includes a constant core of items accompanied by a variable component in order to provide for the collection of initial conditions data and to allow for the subsequent inclusion of emerging research and policy concerns.

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BHPS data provide the academic community, policymakers and private sector with a unique national resource and allow for comparative research with similar studies in Europe, the United States and Canada.

BHPS data are available from the Data Archive at the University of Essex
http://www.data-archive.ac.uk

Further information about the BHPS and other longitudinal surveys can be obtained by telephoning +44 (0) 1206 873543.

ABSTRACT

This paper describes the conversion from PAPI to CAPI of the British Household Panel Survey (BHPS) and examines the implications of the move to CAPI for data quality. The BHPS is a panel survey of some 10,000 individuals in 5,000 households in Britain carried out by the Institute for Social and Economic Research (ISER) based at the University of Essex in the UK. Wave 9 of the BHPS went into the field using a CAPI mode of data collection for the first time in September 1999. Moving to CAPI midway in the life of a panel survey presents particular challenges including comparability of questionnaire design, secure fieldwork and sample management procedures, minimising mode effects, maintaining data quality, ensuring a positive response from respondents, adequate interviewer training and experience, and having secure data output routines in place. The paper describes the procedures adopted by the BHPS, including the design conventions implemented to maintain comparability between the PAPI and CAPI instruments, and the procedures used in the field to minimise any adverse reaction from panel respondents. The paper then assesses whether any mode effects are apparent within the data. The paper examines monetary amounts such as reported housing costs and income, the consistency of some key measures such as economic activity status, occupation and industry, as well as questions requiring verbatim text entry and post-field coding. Using the PAPI data from earlier waves and the CAPI data from Wave 9, the data are compared to assess both cross-sectional consistency in the distributions as well as longitudinal comparability.

1 Strategy for moving the BHPS from PAPI to CAPI

1.1 The British Household Panel Survey

The British Household Panel Survey is a national household panel survey of over 10,000 individuals in some 6,000 households in Britain which is carried out by the Institute for Social and Economic Research (ISER) based at the University of Essex. ISER is an interdisciplinary academic social research unit primarily funded by the Economic and Social Research Council of the UK. One of the main tasks of ISER is to manage the BHPS and provide high quality panel data for the wider user community including academic researchers, government departments and independent social policy research institutes. The interviews for the BHPS are conducted by NOP Research, a commercial research organisation based in London, UK who are contracted by ISER to carry out the fieldwork. The BHPS commenced in September 1991 and returns to re-interview panel members on an annual basis using face to face interviews. The sample was drawn from the small users file of the Postcode Address File and covers non-institutional residences in England, Wales and Scotland. The fieldwork for the ninth wave began in September 1999 and we will be returning to our respondents for the tenth time in September 2000. At Wave 9, new samples in Scotland and Wales, comprising 1500 households in each country, were added to the BHPS sample, primarily as a response to devolution.

1.2 Making the move

In 1998, it was decided to move the BHPS to a CAPI mode of collection. It was also decided that the whole sample would be moved to CAPI at one time rather than introducing the CAPI methodology gradually to the sample over two or more years. This decision meant that we did not attempt to implement any large-scale experiments at the point CAPI was introduced. Large-scale methodological experiments are always tempting. However, we were concerned that we could a) potentially damage our response rates and b) end up with data that looked very different from the two methods of data collection. Our users would not have thanked us for this and we were fairly confident that experimental research on mode effects conducted by others had not produced evidence of significant adverse effects by moving to CAPI.

There were three main reasons for making the move to CAPI. The first and most important reason was the potential for improving data quality that would be offered by a CAPI system. The BHPS individual paper questionnaire runs to 45 minutes and contains some complex routing which inevitably produces errors from interviewers. The simple fact that the routing would be enforced consistently and correctly throughout the questionnaire would bring benefits in data quality and a reduction in data cleaning and editing post fieldwork. This does not of course mean that the data will necessarily be error free, but that the types of problems to be dealt with during data cleaning and editing are of a somewhat different nature.

The second reason was a longer term aim to speed data turnaround and release of the data to the user community. At Wave 9 we expected no increase in data turn around times as systems needed to be rebuilt to deal with the CAPI environment. But nor have we seen any delay in our normal data release schedule. The Wave 9 data will be

deposited for public use by December 2000 as usual. In the future, we would hope that as the post field data processing systems become more streamlined we will see improvements in this area.

The final reason for shifting the BHPS to CAPI was that significant savings in our fieldwork costs were being offered by our fieldwork agency if we moved to CAPI. While ISER has had to bear some of the development costs, the agency were also prepared to absorb a considerable element of this cost in order to make the transition and develop their capacity to run large scale complex surveys using CAPI. As the BHPS is expected to continue for at least the next five years with a questionnaire which changes relatively little year on year, it is in theory an ideal vehicle for CAPI as the initial development costs can be recouped over the whole period of the survey.

The move from PAPI to CAPI was subject to a number of requirements specific to the panel in terms of design, data quality needs, existing fieldwork practice and established data processing conventions and procedures. In particular we were concerned to:

- minimise potential mode effects
- ensure a positive reaction to CAPI from interviewers and respondents
- ensure adequate interviewer training
- maintain high response rates
- choose software which had the capability to handle a lengthy and complex questionnaire design
- maintain a secure sample management system
- have adequate debugging and code checking facilities within the software
- develop a CAPI system compatible with existing data processing procedures at ISER
- have sufficient hardware capabilities
- ensure data security at all times

2   Questionnaire design

The BHPS has used a standardised questionnaire format using 'traditional' pen and paper collection in face to face interviews since 1991. In many respects the design is quite straightforward with relatively simple routing patterns. But in a number of regards the questionnaire contains complex routing patterns which rely on information collected earlier in the interview schedule. For example, the annual job history is triggered by the start date of the current job, information which is collected in and earlier section of the questionnaire.

The BHPS collects information at both the household and individual level and is therefore hierarchical in structure. There are seven questionnaire documents;

- Coversheet
- Household questionnaire
- Individual questionnaire
- Self-completion questionnaire
- Proxy questionnaire

- Telephone interview
- Youth questionnaire.

The questionnaires contain a set of core questions that are repeated at every wave of the survey with a 'variable component' on a particular theme or topic being included at every wave. In designing the CAPI questionnaires, the basic aim was to translate the existing paper questionnaire document to CAPI with minimal design changes, even though in reality during writing the script some design changes were introduced in order to fully exploit the capabilities of the CAPI system.

As with any CAPI questionnaire, the design possibilities were governed to some extent by the software, in this case In2itive, a product of SPSS MR. The interviewers used touch screen lap-tops to administer the survey. We established clear conventions for screen layouts, colours and fonts to produce a questionnaire with a consistent look and feel for interviewers. We also established standard types of error messages and provided on-screen information to guide the interviewer through complex sections. For example, an annual education history collects repeated education or training events over the past year, and these events were displayed on screen to help the interviewer navigate through the section.

One key decision taken very early in the conversion process was to limit the CAPI elements to the two main questionnaire documents – the household questionnaire and the individual questionnaire. The Coversheet remained on paper as the complexity of designing a full sample management system in CAPI midway through the panel posed considerable challenges and carried significant risks. The software being used did not support the types of facilities that would be needed to script a full sample management system for the panel which implied that any such system would need to be written outside the software - a major development task in itself. The ability to manage the sample accurately during fieldwork is critical for the panel and could not be compromised. We therefore took the view that we would build our CAPI capability gradually, starting with the main questionnaires where the greatest benefits in terms of data quality and speed of data turn around would be gained. The decision to carry both paper and CAPI elements in itself produced a set of problems to resolve. The different data streams had to be accurately matched on receipt for each household and respondent and systems for dealing with inconsistencies developed.

We also adopted a 'keep it simple' strategy in terms of limiting the extent of plausibility checks built into the programme for this initial CAPI year. The checks that were incorporated were those we considered essential. These included checks to ensure the correct identification of households and individuals, valid ranges of responses, and date checks to ensure the consistency of date reporting. At Wave 10 we have included more extensive consistency and plausibility checks. In particular we have included various 'soft checks' which ask the interviewer to confirm what they entered if it is an unlikely response e.g. very high or very low amounts. We hope that these additional checks will further enhance the quality of the data at the point of data collection.

3 Fieldwork procedures

We aimed to maintain the same fieldwork procedures as in earlier years of the survey, procedures which had proved successful in achieving high response rates and producing quality data in a timely fashion.

3.1 *Interviewer training*

Interviewer experience of CAPI and good training were critical elements in a successful transition to CAPI. The interviewers used touch-screen lap-tops to administer the interview and the fieldwork agency was responsible for providing specific training for interviewers on using the lap-tops. The touch screen lap-tops offer a good screen size with clear resolution, are light to carry, and are robust. They are also easy to use and do not rely on interviewers having keyboard skills. Interviews are dialled back to a central server via a modem.

The BHPS has a policy of sending the same interviewer back to households they have previously interviewed in order to maintain continuity and a rapport with respondents. As there is evidence that maintaining the same interviewer for respondents has been beneficial to response rates over the life of the survey (see Laurie et al, 1996), we were concerned we might have a higher turn-over rate of interviewers than usual producing possible effects on response as a result. We were also concerned that some of the interviewers working on the BHPS survey would not necessarily be those who had been trained and had experience of using the fieldwork agency's CAPI system in the field. In fact, our fears proved to be ungrounded as the majority of the BHPS interviewers had prior experience of using the CAPI system in the field and very few of our regular interviewers dropped out due to the shift to CAPI. Of the 220 interviewers working on the main survey only 16 were newly recruited to the BHPS for Wave 9 and all had prior CAPI experience.

3.2 *Respondent reactions*

How respondents would react to the move to CAPI, particularly in relation to concerns about confidentiality and sensitivity, were also of greater concern in the context of the panel than in a cross-sectional survey. While there is a body of evidence which shows that the vast majority of both interviewers and respondents react very favourably to CAPI (Wojcik and Baker, 1991; Edwards et al, 1993; Couper and Burt, 1994) a drop of even one per cent in our wave on wave re-interview response rates would be unwelcome. The reaction from both interviewers and respondents during the pre-testing and piloting of the CAPI questionnaire was very positive. This gave us confidence and during the mainstage fieldwork all comments from respondents were carefully monitored with no evidence of an adverse reaction to the laptops.

Interviewers are required to complete interviewer observations at the end of each individual interview. They are asked to code the co-operation of the respondent, whether other people were present during the interview and if so, whether they influenced the responses of the respondent. If the respondent was influenced at all, the interviewer writes in how the respondent was influenced. The distributions for these observations show little difference over the last three waves (see Table 1). Respondents

were recorded as being slightly more co-operative at the CAPI wave than in the previous two paper waves and they were no more likely to be influenced by others present than in previous waves.

Table 1 Respondent co-operation during the interview, BHPS 1999

	Wave 7 %	Wave 8 %	Wave 9 (CAPI) %
Co-op respondent			
Very good	87.4	86.9	88.7
Good	10.6	11.3	9.6
Fair	1.8	1.7	1.5
Poor	0.2	0.1	0.1
Very poor	0.1	--	0.1
Others present			
Yes	42.7	42.6	37.9
No	57.3	57.4	60.3
Others influence			
A great deal	0.5	0.3	0.4
A fair amount	1.1	1.2	1.1
A little	7.8	7.5	7.5
Not at all	90.7	90.9	91.1

4   Response rates

In terms of respondent co-operation and the possible effect of the lap-top on responses within the interview, there is no evidence from interviewer reports at least, of any problems. While the co-operation of respondents within the interview might have been unchanged we were also most concerned to maintain high unit response rates and minimise item non-response within the interview. Indeed, minimising item non-response was one of the data quality improvements we hoped for with the shift to CAPI.

4.1   Unit non-response

The BHPS has achieved high year on year re-interview rates in recent years. In any panel the worst attrition is suffered at the second follow-up and thereafter tends to level out. Table 2 below shows the year on year individual re-interview rates for the BHPS sample. The first column is all respondents interviewed at Wave 1 and re-interviewed at every subsequent year of the survey. These respondents represent the core longitudinal sample that it is critically important to maintain for longitudinal analyses. The second column are those Wave 1 respondents who were also interviewed at the previous year of the survey. This group includes some sample members who have responded intermittently, missing one or more years of the survey for various reasons. The final column is all respondents interviewed at the previous

wave, including new entrants to the survey and sample member children who have turned sixteen and become eligible for interview during the life of the panel.

Table 2   BHPS individual wave-on-wave re-interview rates, 1991 to 1999 (eligible respondents)

	W1 respondents interviewed all waves	W1 respondents interviewed at previous wave	All interviewed at previous wave (inc. new entrants)
Wave			
2	87.7	87.7	87.7
3	90.3	90.4	90.2
4	94.9	94.6	94.1
5	94.8	94.0	93.6
6	97.7	97.2	96.9
7	97.6	96.9	96.6
8	97.3	96.4	94.8
9 (CAPI)	**97.1**	**96.0**	**95.0**

The individual re-interview rates at Wave 9 show no significant differences to the previous paper waves. For the core BHPS longitudinal respondents, there is no evidence the response was affected by the move the CAPI, while the response for all respondents interviewed at the previous wave is virtually identical to the previous paper wave.

4.2   Item non-response

One of the improvements in data quality we hoped would result from the introduction of CAPI was a reduction in item non-response of two main types. The first source of item non-response in a PAPI environment is where interviewers make routing errors which result in missing data for the items they simply failed to ask as they should. The second source of item non-response is a refusal from the respondent to a particular question or a 'don't know' response of some kind. While this second type of item non-response should not change with the introduction of CAPI it is possible that respondents may be less willing to give responses to certain types of questions e.g. income questions, when the data are being entered onto a computer.

On each CAPI screen there was either a 'don't know', 'refused' or 'not answered' code available to the interviewer. The 'don't know' and 'refused' codes were present on all questions where the paper questionnaire had carried them in previous rounds of the survey. The 'not answered' codes were on all other screens to enable interviewers to continue where a respondent genuinely could not, or would not, respond to a given question. In this case the interviewer was required to enter a comment to explain why the question was not answered.

If we take the first of these cases, CAPI has reduced the level of missing data while significantly reducing the extent of post field editing required to correct interviewer

errors of this type. When we look at the second type of item non-response, that resulting from refusals or 'don't know' responses to particular questions, the distributions on key measures show some differences for the CAPI wave for some types of respondents.

One key area for the BHPS is the collection of income from employment data, questions which can be sensitive for some sample members. While the distributions for the sample as whole show few differences, there is some evidence that for particular groups within the sample there may be some reluctance to answer income questions when they are being recorded on the lap-top. Table 3 shows the level of item non-response for employees gross pay amount at Waves 8 and 9 for all respondents, respondents ever interviewed previously on the survey, 16 year old sample members eligible for interview for the first time, adult sample members never interviewed previously, and new entrant adults being interviewed for the first time.

Across the sample as a whole there is a slight increase in the level of refusals and 'don't know' responses. For those interviewed previously, the levels of refusal and 'don't know' are virtually identical at the paper and CAPI waves. This suggests that the majority of the core sample 'trust' the survey regardless of the data collection method. But within the core sample group there are certain respondents who never give their income details regardless of whether it is being collected on paper or using CAPI. However, it seems there may be an issue of 'trust' for respondents who are being interviewed for the first time. For our new 16 year old sample members being interviewed for the first time, there were no refusals at either year and the level of 'don't know' responses actually halved under CAPI. This may be because younger sample members have greater familiarity with computers and accept the technology more easily. But it is probably also due to the fact that these children have been in sample households, most since 1991, where other family members have been interviewed and a degree of trust has developed.

Table 3 Item non-response on employees gross pay amount
BHPS 1998 and 1999.

	All respondents		Interviewed before		New 16 year old sample member		Adult sample member never int		New adult never interviewed	
	W8 %	**W9 %**	**W8 %**	**W9 %**	**W8 %**	**W9 %**	**W8 %**	**W9 %**	**W8 %**	**W9 %**
Refused	2.9	3.1	3.1	3.1	--	--	6.3	9.5	--	1.3
Don't Know	5.9	6.1	5.7	5.8	15.0	7.4	6.3	14.3	8.2	12.8
Amount given	91.2	90.8	91.2	91.1	85.0	92.6	87.5	76.2	91.8	85.9
N	*5009*	*4967*	*4739*	*4714*	*60*	*68*	*16*	*21*	*195*	*156*

In contrast, adult sample members who have never been interviewed before have the highest levels of item non-response and these are higher under CAPI than PAPI. These respondents are some of the least co-operative within the sample, and despite being members of previously interviewed sample households, have never participated

themselves. The numbers are extremely small, but on this limited evidence it seems that CAPI may make it more difficult for interviewers to gain the trust of these respondents on certain sensitive items. A similar, if less marked, pattern can be seen for new entrant adults to the survey. These respondents have no prior knowledge of the survey at all and CAPI may make them slightly more hesitant about providing information on personal items such as income. The slight increase in refusals and 'don't know' responses for the sample as a whole seems entirely due to these never interviewed respondents rather than the core sample.

5   Mode effects on key measures?

The key concern in shifting to CAPI midway in the life of the panel was the danger of introducing unexpected mode effects that could compromise longitudinal comparability of the data. While maintaining comparability with the design of the paper questionnaire, fieldwork procedures and data collection had been central aims in making the transition, it was always possible that we could inadvertently introduce an element which produced markedly different responses under CAPI.

5.1   *Distributions on key items*

The BHPS has numerous instances where the interviewer asks for a 'Yes/No' response to an intial question which acts as a filter to route respondents to the next relevant section of the questionnaire. On the lap-top screen the 'Yes' response appeared above the 'No' response, introducing a possibility that interviewers might be more inclined to hit the 'Yes' response on the screen simply because it was first. Table 4 gives the distributions for a selection of some 'Yes/No' questions for Waves 7, 8 and 9 and there is no evidence that interviewers systematically coded 'Yes' more frequently in CAPI than on the paper questionnaire.

Table 4 Distributions of selected 'Yes/No' responses, BHPS 1997,1998 and 1999

	Wave 7	Wave 8	Wave 9 (CAPI)
	% 'Yes'	% 'Yes'	% 'Yes'
Likes neighbourhood	91.0	92.4	92.5
Resident last year	85.5	88.5	87.4
Moved for employment	11.8	11.9	10.4
Marital status change last year	4.7	4.5	4.7
Full time education last year	2.1	2.0	2.3
Provides care outside hhold	10.0	9.9	10.8
Did paid work last week	58.7	59.7	60.3
Saves from current income	42.0	43.4	40.6

Table 5 gives the distributions for some key measures on the BHPS. Once again the CAPI responses are consistent with previous paper waves with no indication of any mode effects.

Table 5 Distributions on key items, BHPS 1997, 1998 and 1999.

	Wave 7	Wave 8	Wave 9 (CAPI)
	%	%	%
Economic activity			
Self-employed	7.0	6.8	6.8
Employed	52.0	53.1	53.3
Unemployed	3.5	3.1	2.9
Retired	18.6	18.8	19.3
Maternity leave	0.2	0.4	0.4
Family care	8.1	8.1	7.3
Student	6.7	5.7	5.6
Long term sick	3.6	3.7	3.6
Other	0.3	0.2	0.8
Marital status			
Married	53.8	54.0	53.8
Separated	2.0	1.8	1.7
Divorced	7.5	7.8	8.1
Widowed	7.6	7.6	7.8
Never married	29.2	28.8	28.7
Job status			
Employee	88.0	88.3	88.4
Self-employed	12.0	11.7	11.6
Managerial duties			
Manager	19.6	19.8	20.5
Foreman/sup	15.3	15.6	15.0
Not manager/sup	65.1	64.6	64.5

The touch screen lap-tops have no standard keyboard for the entry of amounts or verbatim responses. When entry of an amount was required a pop-up keypad appeared on the screen and when verbatim text was required a pop-up keyboard would appear for the interviewer. Accurate entry of amounts is clearly essential in a panel such as the BHPS where the data are used for tracking income transitions such as moves into and out of poverty for example and we had some doubts about the accuracy of entry using the pop-up keypads. Further work is needed to fully assess the quality of the entry of amounts under CAPI but the distributions in themselves do not suggest any cause for concern. Table 6 below gives the means for the value of the current house (if owned or mortgaged), monthly rent paid and usual gross monthly pay for those in current employment.

Table 6   Mean values for housing and usual monthly gross pay, BHPS 1997, 1998 and 1999

	Wave 7	Wave8	Wave9
House value	£	£	£
Mean	81,991 (n=3481)	88,197 (n=3500)	96,359 (n=3351)
Std Dev	59,217	67,473	85,777
Rent paid			
Mean	155 (n=1141)	164 (n=1063)	163 (n=1036)
Std dev	292	352	275
Monthly gross pay			
Mean	1,173 (n=5001)	1,228 (n=5010)	1,344 (n=4967)
Std dev	993	1,341	1,491

5.2   *Verbatim responses and coded items*

In addition to the entry of amounts, we were also concerned about the entry of verbatim responses using the pop-up keyboard, particularly where these were items to be coded post field, such as occupation and industry. Our first concern was that interviewers may truncate their verbatim entries on CAPI and our second, that this would produce variations in the post field coding carried out using these responses. If we compare the length of verbatim responses entered under PAPI and CAPI, there is some evidence of truncation on some items, in particular the occupational descriptions. Other items were not markedly shorter in length. Table 7 gives the average number of words for several of the main verbatim questions on the BHPS.

Verbatim responses were coded post field via an on-line coding system. This coding system picked up the verbatim responses for each respondent from the central server holding the CAPI interviews dialled in by interviewers. The responses were displayed on screen for the coders together with appropriate identifiers and surrounding information and the coders entered the correct code directly on screen. The coders reported that this system worked well as they were less likely to fail to code a response as they simply reappeared on screen until they were coded. However, they also reported that it was more difficult to code accurately without the wealth of contextual information that was normally available to them when they had access to the full paper questionnaire.

Table 7 Average number of words entered on verbatim questions, BHPS 1998 and 1999.

	PAPI average n words	CAPI average n words
Reasons for moving house	7.0	5.9
Occupation	10.5	7.4
Industry	3.5	3.1
Reasons better/worse off	8.0	6.7
Purpose of savings	3.0	3.2
Important events in last year (Last asked at W5)	11.8	11.7

When we look at the distributions of the coded items there is no evidence of systematic differences on the cross-sectional distributions between PAPI and CAPI. (see Table 8).

Table 8 Occupation and Industry major groups, BHPS 1997, 1998 and 1999

	Wave 7	Wave 8	Wave 9 (CAPI)
	%	%	%
Occupation (SOC)			
Managers/admin	14.7	14.5	14.1
Professionals	10.1	10.7	10.5
Assoc prof/technical	11.0	10.7	11.1
Clerical/secretarial	16.8	16.8	18.9
Craft and related	11.4	11.3	9.6
Personal services	11.5	11.3	11.8
Sales occupations	7.8	8.2	7.0
Plant operatives	9.2	8.8	9.1
Other occupations	7.4	7.7	7.9
Industry (SIC)			
Agriculture/forestry	1.6	1.6	1.7
Energy and water	1.3	1.3	1.3
Extraction of minerals	2.8	2.9	2.6
Metal goods, engineer	8.1	8.0	7.4
Other manufacturing	8.7	8.3	8.1
Construction	5.1	5.2	5.4
Distribution, hotels	21.7	21.3	21.0
Transport /comm	5.8	6.4	6.5
Banking, finance	13.8	13.9	14.4
Other services	31.1	31.0	31.6

The cross-sectional distributions for the occupation and industry coding are consistent across the three years. Another means of assessing the effect of the different coding method for CAPI is to look at the consistency of the occupational coding across pairs

of waves of the survey. The BHPS has never used any form of dependent interviewing when collecting occupational descriptions. Respondents who are in the same job year on year will tend to describe their jobs differently at different years. This inevitably leads to some inconsistencies in the occupation and industry coding at the finer levels of distinction across pairs of years. Table 9 gives the percentage of cases who, despite reporting being in the same job at each pair of years, are coded differently at the major group level for occupation and industry.

**Table 9   Cross-wave inconsistency of occupation and industry coding,
BHPS 1997, 1998 and 1999 (employees with no reported job change)**

	Wave 6/7	Wave 7/8	Wave 8/9
	%	%	%
Occupation (SOC)	16	16.2	18.7
Industry (SIC)	11.4	10.3	11.2

The industry coding shows little difference in the level of inconsistencies at each pair of years. The occupational coding between Wave 8 and 9 does show more inconsistencies than in the previous waves. This suggests that the combination of less details recorded by interviewers together with the coders reported experience of having less information than usual to code with may be reflected in the accuracy of the final codes.

Conclusion

The transition to CAPI has been a major methodological change for the BHPS and one that was not without risk. Further work remains to be carried out assessing in greater detail the effect on data quality of the move to CAPI. But at this stage, it would appear that we have made the shift without adversely affecting our response rates or introducing gross mode effects. Interviewers and respondents have reacted positively to the lap-tops, our levels of missing data have been reduced as has the extent of post field cleaning of the data. Despite the positive outcome, the transition midway in the life of the panel was by no means an easy task. CAPI software always presents technical challenges and problems for a complex survey, new systems for checking and receipt of data needed to be built and the data processing and checking tasks differ within the CAPI environment. Interviewers inevitably introduce human error by behaving in ways you least expect and the Wave 10 CAPI system now in the field has built on our experience at Wave 9 bringing, we hope, greater benefits for the survey in the future.

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