

Working Paper Number 13

Developing Deprivation Questions for the Family Resources Survey

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December 2003

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Acknowledgements

This analysis was funded by the Department for Work and Pensions. Liaison was managed by Ashley Kershaw and Anne Mason. Helpful advice was provided by Elaine Squires, Daphne White, Steve Ellerd-Elliott and colleagues. Advice and comments on the first draft were provided by the DWP technical experts group on measuring child poverty.

Data from the Family Resources Survey (FRS) and the Families and Child Study (FACS) were supplied by the Department for Work and Pensions.

The data used in this analysis from the Millennium Survey of Poverty and Social Exclusion (PSE) and the British Household Panel Study (BHPS) were supplied through the ESRC Data Archive at Essex University. We thank them for the supply of data, and thank the data collectors for their efforts. The PSE study was funded through the Joseph Rowntree Foundation, involving teams based principally at Universities in Bristol, Loughborough and York. The BHPS is ESRC-funded through Essex University, Institute for Social and Economic Research. None of these organisations bears any responsibility for the analysis.

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Recommendations on question selection

Overview

There is strong existing literature on the use of deprivation indicators. These appear to be a widely accepted way of analysing deprivation, having strong face validity. They both command academic support, and are explicitly based on a public basis of support (Section 2).

Panel analysis from FACS shows that families that have low incomes, but do not appear to be deprived, are often captured in a temporary downturn in fortunes – or may have incomes that are mis-measured including through imputation. In such cases it seems that deprivation indicators – and some of other kinds of questions we propose – are at least as good a guide to living standards as income (Section 8).

It is not possible to include in FRS the range of deprivation questions that would be used in a special purpose one-off study, such as PSE which included over 80 questions covering both adults and children. However, it is possible to identify as deprived most of the same people using a relatively short series of questions. That much is clear from the analysis conducted (Section 3). Moreover, the group identified as deprived using a shorter series of questions is not clearly different; average incomes and subjective assessments are very similar whether you use the longer or shorter series (Section 3.2).

We therefore recommend including around ten questions relating to adult deprivation indicators. The particular questions may be drawn from the kinds of questions asked in PSE, FACS and BHPS. By taking questions from these surveys we will be able to track progress, at least to some extent, for a longer time period. Some of these questions have been included in the BHPS since the mid 1990s, and in FACS from 1999.

It is current practice to ask respondents for the reason why they do not have particular goods or services. Is it because they “do not want” them or “cannot afford” them? The measure of deprivation is then based only on those saying they cannot afford them. It has been argued that this split can sometimes be misleading, and simply lacking the good or service is more important¹. However, the existing practice remains widely accepted. Moreover, it is clearly still possible to identify that goods are missing from a three-fold coding structure (but not to extract “cannot afford” from a binary set of responses).

The questions we select should be relatively robust to technical innovations and changes in tastes and relative prices. In part they relate to having some slack in budgets – being able to save, being able to maintain stocks of goods. However it is certainly worth reviewing the set of such questions over time. The method of ‘chain linking’ (as used within the Retail Price Index) provides one model of having a single concept with varying components (see section 7.4). This is a possibility worth investigation if analysts are prepared to convert a range of questions into a single index of living standards. It would allow for varying items forming part of an index of wellbeing.

¹ Forthcoming work by McKay.

In a measure of child poverty, we believe it is important to include a series of questions that are, indeed, specifically about children. Questions should try to capture details of *their* poverty and deprivation, not just those of the surrounding family unit. In fact fewer families cite problems affording child items than say they cannot afford adult items. It appears that child deprivation is predominantly a subset of adult deprivation, not a whole new group. Children may be ‘protected’ from some effects of low income through the priorities of their parents and the choices that they make. This point has routinely been made in qualitative work, and now finds support in quantitative analysis. Hence too exclusive a reliance on child-related questions may tend to give a more narrow definition of poverty among families with children. However, we recommend including at least 6 questions of this kind, specifically for families with children.

There is, we think, less experience with child-related deprivation questions. The distribution of responses is fairly uniform, unlike for adults, which may indicate different priorities within families. The ‘reliability’ of the child questions is also somewhat lower, and the different statistical methods do not provide consistent answers as to which questions are, overall, ‘best’. Further work on the child-related questions is likely to be important, and the selection of particular questions involves a larger element of judgement than for the adult-related questions. At present the questions are arguably too much focussed on children of school age, and not sufficiently relevant to pre-school aged children.

By having a reduced set of questions, there may be a significant proportion of families unable to afford a large proportion of them. On a practical level it might be sensible to include a couple of questions that almost all people will be able to answer ‘positively’, particularly if they have a direct bearing on poverty. This must be consistent with not occupying too much space, of course, and providing meaningful information in its own right.

There are different ways in which these subsets of questions may be selected. We have discussed the use of two relatively ‘naïve’ approaches (Section 4). That is, to use those items that families were most commonly unable to afford, or to select those questions with the greatest association with the outcome (the overall index). We have also investigated the correlations between individual questions and income, and how widespread is the agreement that they really are necessities (Section 5). Using more powerful statistical methods we have used factor analysis to consider if there are particular dimensions of poverty, as was used to select questions for the consistent poverty measure in Ireland. A relatively exploratory use of latent class analysis (akin to cluster analysis) was able to indicate a useful set of adult deprivation questions as well (Section 4.1).

Ultimately the different methods mostly point to the same questions as having greatest relevance. A mix of statistical evidence, survey question design experience, and reasonable speculation about the future development of family incomes is needed to arrive at the sets of recommendations used here.

We believe the deprivation indicators should be supplemented in two further ways. First, using subjective assessments of people’s living standards. Subjective questions about living standards have been regularly used in large-scale surveys and are well correlated both with income and sets of deprivation indicators. They may play a useful role in qualifying families’ living standards when income appears to be very low. We therefore propose including at least two such questions (Section 9.3).

We argue that questions on debt provide another particularly useful indicator of living standards (Section 9.2). If people are unable to meet their current spending within their current income, having to borrow – or running down savings – are the logical result. Given that few lower income families have savings of any real kind, then having to borrow is a good indicator of stress in making ends meet. There are important conceptual questions about how to measure borrowing, arrears, problem debt, and so on. We have tried to develop a fairly minimal set of questions based on the FACS series.

It seems clear to us that it is getting into arrears that is the key question, not simply the fact of having outstanding commitments. Indeed the presence of some types of commitments (mortgages and to a lesser extent credit cards) may be indicative of a degree of affluence rather than poverty. We also focus on the current situation, rather than asking questions relating to previous periods. This is therefore fully in line with FRS practice.

However, it is clear that asking about debt consistently and coherently means a series of at least six questions. This is extensive, but we believe both useful and meaningful to respondents. It is possible to replace these with a single question, similar to that used in PSE². If the current suggestions occupy too much space that would be a possible alternative. It might also be possible to reduce the FACS series to a shorter series but this might affect comparability with the FACS questions.

We next section we present the first draft of the questions we proposed for consideration. Tabulations with the proportion with each type of deprivation are shown in Annex B, for each country of Great Britain. The set of questions decided upon by DWP are listed in Annex C. This takes forward the main deprivation questions, and includes a single question on debt situation. We understand there is currently insufficient space to incorporate questions relating to subjective well-being.

Proposed question list

	Do you and your family have... /	
	Are you and your family able to afford...	
	SHOW CARD	
	[1] "We have this",	
	[2] "We would like to have this, but cannot afford it at the moment"	
	[3] "We do not want/need this at the moment"	Source
Adult deprivation	** A holiday away from home for one week a year, not with relatives	PSE/FACS
** represents a core of the six most key questions.	** Replace any worn out furniture	BHPS/PSE
	** A small amount of money to spend each week on yourself, not on your family	PSE
	** Regular savings (of £10 pounds a month) for rainy days or retirement	PSE
	** Insurance of contents of dwelling	PSE

² Along the lines of, “are you behind with repayments for any of these items?” – then have a long list of bills, credit commitments and so on.

	Have friends or family for a drink or meal at least once a month	BHPS
	A hobby or leisure activity	PSE
	** Replace or repair broken electrical goods such as refrigerator or washing machine	PSE
	Keep your home adequately warm	BHPS/PSE
	Two pairs of all weather shoes for each adult	PSE/FACS
	Enough money to keep your home in a decent state of decoration	PSE
Child deprivation	A holiday away from home at least one week a year with his or her family	PSE/FACS
	Swimming at least once a month	PSE
	A hobby or leisure activity	PSE
	Friends round for tea or a snack once a fortnight	PSE
	Enough bedrooms for every child over 10 of different sex to have his or her own bedroom	PSE
	Leisure equipment (e.g. sports equipment or a bicycle)	PSE/FACS
	Celebrations on special occasions such as birthdays	PSE/FACS
	Christmas or other religious festivals	
	Play group at least once a week for pre-school aged children, ELSE: Going on a school trip at least once a term for school aged children	PSE
Subjective assessment	How often, would you say, do you have money over at the end of the week, or if you budget by the month, at the end of the month? Would you say it was ... READ OUT ...	FACS
	Always	
	Most weeks/months	
	More often than not	
	Sometimes	
	Hardly ever	
	Or never?	
	Don't know/too hard to say/varies too much to say	
	Taking everything together, which of the phrases on this card best describes how you and your family are managing financially these days?	FACS
	"manage very well",	
	"manage quite well",	
	"get by alright",	
	"don't manage very well",	
	"have some financial difficulties",	
	"are in deep financial trouble"	
	[or BHPS question – FISIT ³]	

³ How well would you say you yourself are managing financially these days? Would you say you are . . .

Debt Sometimes families are not able to pay every bill when it falls due. May I ask, are you up-to-date with the bills on this card, or are you behind with any of them? FACS

- "behind with the electricity bill",
- "behind with the gas bill",
- "behind with other fuel bills like coal or oil",
- "behind with Council Tax",
- "behind with insurance policies",
- "behind with telephone bill",
- "behind with television/video rental or HP",
- "behind with other HP payments",
- "behind with water rates",
- "not behind with any of these"

Do you use any of the different ways of buying things listed on this card?

- "Credit cards {like Access, Visa etc}",
- "Charge cards {like American Express, Diners Club}",
- "Shop or store cards {like Marks and Spencer, BHS etc}",
- "Catalogues / mail order schemes",
- "none of these"

At the moment are you able to manage the repayments on (*name of card mentioned*). I mean, to meet the minimum amount you have to repay?

- Yes
- No

Over the past 12 months, have you used any of these ways to borrow money? CODE ALL THAT APPLY FACS

- "a bank overdraft",
- "a fixed term loan from the Bank or Building Society (NOT MORTGAGE)",
- "a loan from a finance company",
- "a loan from a money lender or 'tally man'",
- "a loan from a friend or relative",
- "a loan, or advance on wages, from your employer",
- "a Social Fund loan",
- "none of these"

Are you able to keep up with the repayments for the (type of loans mentioned) or are you getting behind? FACS

- "keeping up",
- "getting behind"

READ OUT Living comfortably / Doing alright / Just about getting by / Finding it quite difficult / or Finding it very difficult?

Is your rent/mortgage paid up to date at the moment, or do you have some arrears that will have to be paid?

FACS,
adapted

"Up to date",
"Some arrears"

Revisiting the list of proposed questions

In this section we present further analysis relating to the above proposed list of questions.

Having established this list, a number of more detailed questions were raised as part of the process of drafting a new section for FRS. We have listed these enquiries separately in this section, to enable the logic of the questions' development to be more clearly followed.

First, it was suggested that the two child questions relating to having a hobby and going swimming may be covering similar ground. Analysis showed, indeed, that there was a high degree of correlation between answers given on these two questions ($\rho=0.38$). No other child-level question was so highly correlated with the swimming variable. There is therefore a case for trying to combine these into a single question.

Second, alternative questions relating to debt were proposed, from sources such as BHPS, some of which were also used in the ECHP. This approach would have provided greater time-series consistency. However, the questions referred to dealt only credit commitments (HP, loans) and not other kinds of commitment (utility bills, Council Tax), and therefore have more limited scope.

Third we were asked to consider the scope for having one rather than two questions about holidays. The adult deprivation questions refer to a holiday "away from home for one week a year, not with relatives", whilst the child deprivation questions ask about a holiday "away from home at least one week a year with his or her family". Is there scope to reduce this to a single question? Overall, 23 per cent of families with children said they did not have and could not afford a holiday (adult-version), whilst 18 per cent could not afford a holiday (child-version). The overlap between these two groups was substantial. Of those unable to afford an 'adults holiday', some 65 per cent also could not afford a child holiday (though 30 per cent were able to provide a child holiday, presumably staying with relatives). Conversely, only two per cent of those lacking a child holiday said they had an adult's holiday (two respondents out of 97). Those families with children lacking holidays of both types, compared to those lacking just the 'adult holiday' have slightly lower incomes and rather larger families. The child holiday question is therefore picking up the depth of poverty perhaps more than the incidence of poverty.

It was commented that the answers to some questions assume a degree of access – facilities such as swimming pools may be less easily reached by those in rural areas. This could be one of cause of deprivation. Users with access to detailed survey data, not generally available in public-use version, may be able to explore the consequences of location on deprivation indicators in more detail.

1 Introduction

1.1 Objectives

The aim of this study is to suggest questions on deprivation to be included in the Family Resources Survey (FRS) from April 2004 onwards. The FRS contains the best available income data for a large national sample of the household population. It is the foundation of current statistics on households below average income, for which it replaced the smaller and more consumption focused Family Expenditure Survey (FES). At present, the FRS does not contain questions about deprivation and living standards measures more generally, except for a section on consumer durables. The new questions proposed will mostly replace the section on durable goods.

This investigation is conducted within a number of other constraints. The analysis is based on existing questions that have been implemented in at least one major survey. We make no attempt to design new sets of questions. We do, however, comment on some important issues of question wording, where it varies between surveys or where we think it may be improved. The agencies charged with conducting the fieldwork (ONS and NatCen) may also find ways to enhance issues of question wording and ordering still further. It would be entirely appropriate that they advise on such issues. Piloting and perhaps other forms of testing (such as cognitive testing) may also prove helpful in framing the new section on deprivation.

Questions in the FRS have a distinctive character. Where possible questions relate to facts, not judgements or opinions. They are based, for the most part, on information for the current time rather than being retrospective. Any questions proposed must fit within this broad framework. They must also fit within the household, benefit unit and individual levels of questioning currently used. The existing durables questions are asked within the household block.

There are two main aims for these questions:

- to provide a measure of material deprivation;
- to validate the income data at the bottom of the income distribution.

1.2 Methods

In this investigation, we have not presupposed that any particular methodology for measuring poverty has been selected. Instead we aim to avoid ruling out any options, as far as possible. Some people are likely to continue to believe that income lines, such as 60 per cent of the median, or some threshold set by a budget standards method, represent the ideal means of measuring poverty. Others may incline towards using deprivation indicators, but suggest that some weighting of such indicators is needed. Our aim is to analyse existing data to try to select those questions capable of providing greatest insight into people's living standards and the extent of deprivation. In doing this, we do not wish to remove any existing information that may be exploited within mainstream poverty measurement.

The impetus for this study is, of course, the consultation relating to the measurement of child poverty. The Government has committed to eradicating child poverty within a generation,

with staging posts along the way. We aim to provide a measure that is sensitive to child poverty issues.

We are well aware that income measurement and often poverty measurement for “children” is treated as synonymous with “families containing children”. A direct child focus is rare. Clearly many of the issues relating to child poverty are those of parental income – but by no means all of them. We are therefore likely to want to include questions that pick up the lived experience and possible deprivation of children. However, wherever possible it would be beneficial to include questions that may be answered by all family types. Otherwise the relative position of families with children compared to others will not be amenable to quantification.

The research is based on secondary analysis of a number of large national datasets, principally:

- the Millennium Study of Poverty and Social Exclusion (PSE), 1999.
- the Families and Children Study (FACS) (1999-2002).
- the British Household Panel Study up to wave 10 (BHPS) (1991-2001).
- the Family Resources Survey (FRS) (2001-02).

Annex A outlines their role and coverage for readers unfamiliar with these surveys. A very short description is that the PSE is a small [N=1500 respondents] one-off survey of poverty covering the population in 1999; FACS is a refreshed longitudinal study of families with children started in 1999 [N=7500 families]; BHPS is a household panel covering all individuals since 1991 [N=5500 households]; FRS is a repeated cross-sectional survey covering all population groups, and focussing on incomes [N=25000 households].

Each of these studies interviews only those in private households. By definition those in institutions (such as prisons, care homes) and some others in temporary accommodation are excluded. These groups may be particularly prone to poverty, though they are hard to reach and so excluded from most surveys.

From 2002 the FRS was extended to Northern Ireland. However, most of the analysis conducted in this report is based on data collected for Great Britain. This analysis pre-dated the publication of new survey data in Northern Ireland covering deprivation (Hillyard et al 2003), which found higher rates of poverty than in Great Britain. The methodology employed followed that of the PSE, with strong similarities on items regarded as necessities.

2 Approaches to poverty measurement

2.1 Introduction

There are different ways of measuring poverty. Poverty may be measured in an ‘indirect’ way, using income, or in ‘direct’ ways using questions that measure living standards (Ringen 1988). Using particular income cut-offs to measure poverty, typically based on proportions of the mean or median income, can appear arbitrary in identifying the poor. Moreover, measured income may not always correlate well with people’s standards of living (Perry 2002). Measures based on direct indicators of poverty, or living standards more generally, may be used either instead of, or in combination with, income.

Several publications in Britain have recently raised interest in ‘direct’ measures of poverty, based on different deprivation indicators. These new publications have included, most notably, the Poverty and Social Exclusion Survey of Britain (PSE), conducted in 1999 by three university-based teams (Gordon et al 2000) and funded by the Joseph Rowntree Foundation. At the Policy Studies Institute, a measure of hardship among families with children has been developed largely based on enforced lack of ‘necessities’ (Marsh et al 2001, Vegeris and McKay 2002). At the Centre for the Analysis of Social Exclusion (CASE), various studies have used indicators of social exclusion, using data from the British Household Panel Study (Burchardt et al 1999). Researchers at CRSP have explored a large number of variables, direct and indirect, to identify poor children in BHPS and PSE (Adelman, Middleton and Ashworth 2003).

There has also been clear policy interest in the direct measurement of poverty. The Government’s target is to reduce and ultimately end child poverty, and the Department for Work and Pensions’ public consultations on measuring child poverty have included some emphasis on deprivation indicators (DWP 2002).

There are, of course, many different ways of measuring poverty. They include the use of budget standards, income lines, self-assessments, and other methods. Roll (1992) and Alcock (1997) provide accessible introductions to the definition and measurement of poverty. One important way that poverty may be measured is through the use of ‘(consensual) deprivation indicators’.

2.2 Using deprivation indicators to measure poverty

The idea that indicators of living standards may be used to capture poverty has been associated with the work of Townsend (1979). In that study, a list of 12 items (selected by Townsend) was used to identify a threshold point in the income distribution that could be regarded as indicating poverty.

In this method, people are asked to judge which items all families should be able to afford. People are then poor if they are unable to afford items that the majority in society say are necessary – ‘an enforced lack of socially perceived necessities’ (Mack and Lansley 1985: 39).

The approach may be broken down into a number of different steps. The method generally employed by social scientists to construct deprivation indicators today is as follows:

1. Ask a large group of people which of a number of items they believe to be essential, which everyone should be able to afford.
2. Ask a large sample which of these items they have, which they lack because they don't want them, and which they lack because they can't afford them.
3. Add up the number of items that people can't afford, from the list of those that at least 50 per cent said were essential (alternative [higher] thresholds are possible, though used infrequently).
4. Establish a threshold point at which a shift in the experience of deprivation seems to occur. This may be set using statistical criteria, graphical approaches, or perhaps in other ways.

In arriving at the more modern formulation above, two principal innovations were introduced by Mack and Lansley (1985), over the earlier work of Townsend (1979).

First, rather than using some expert or researcher judgement on which items people should have, they asked people for their opinions about what items everyone should be able to afford. Second, instead of looking simply at non-possession of those items, they checked whether people were lacking items through inability to afford, or choice. These refinements may be seen, at least in part, as a response to various criticisms that had been made of Townsend's approach (such as by Piachaud 1981). In particular, that choosing to do without items could not be regarded as poverty – hence the later emphasis on being unable to afford items, rather than electing to do without them. In more recent studies, people are therefore asked to say either that they don't want items, or alternatively that they cannot afford them (Gordon et al 2000, Vegeris and McKay 2002).

2.3 The 1999 PSE

The study of Gordon et al (2000) found that 35 items were considered 'necessities' by more than half the sample, from a list of 54 presented to them. Among the goods and services described as necessary were having a damp-free home, owning a refrigerator, having home contents insurance, having a television, and having a dictionary⁴ – all of which were classed as 'necessities' by 50 per cent of people or more. The list presented to respondents also included a number of items that fell short of the 50 per cent threshold, including 'new, not second-hand clothes', a car, a tumble dryer, annual foreign holidays and access to the internet.

Six of the 35 items classed as 'necessities' were dropped on statistical grounds from the list used to measure who was poor. A threshold of lacking two items was selected, since that seemed to maximise income differences across the two selected groups (and minimise income differences within the groups). It is possible to discuss the overall statistical strategy taken in dropping these six items, but the effect on the final measure is so small it is not worth a detailed debate. Of those lacking 2 or more items from the 35-item list, 99.3 per cent lacked 2 or more items from the shorter 29-item list. For this reason, and on the grounds of

⁴ Two of the questions concerned 'collecting children from school' and 'visits to school', which might arguably relate to child deprivation as much as to adults.

simplicity and transparency, in the analysis that follows we include the full 35-item list – but no results would be affected by using the alternate shorter list.

The great strength of the PSE lies in the wide range of poverty and deprivation-related information collected. It was able to use the GHS information to collect income data, and the subsequent PSE could then be used to concentrate on a range of questions related to living standards, social exclusion and poverty.

These datasets have since been made available at the ESRC Data Archive at Essex University, with serial numbers 4349 (PSE) and 4384 (ONS Omnibus).

2.3.1 MEASURING CHILD POVERTY USING THE PSE

The PSE contained questions about 30 child-related items, asking families whether they had or could afford a range of items. These ranged from swimming once a week, to celebrations on special occasions, to stocks of clothing.

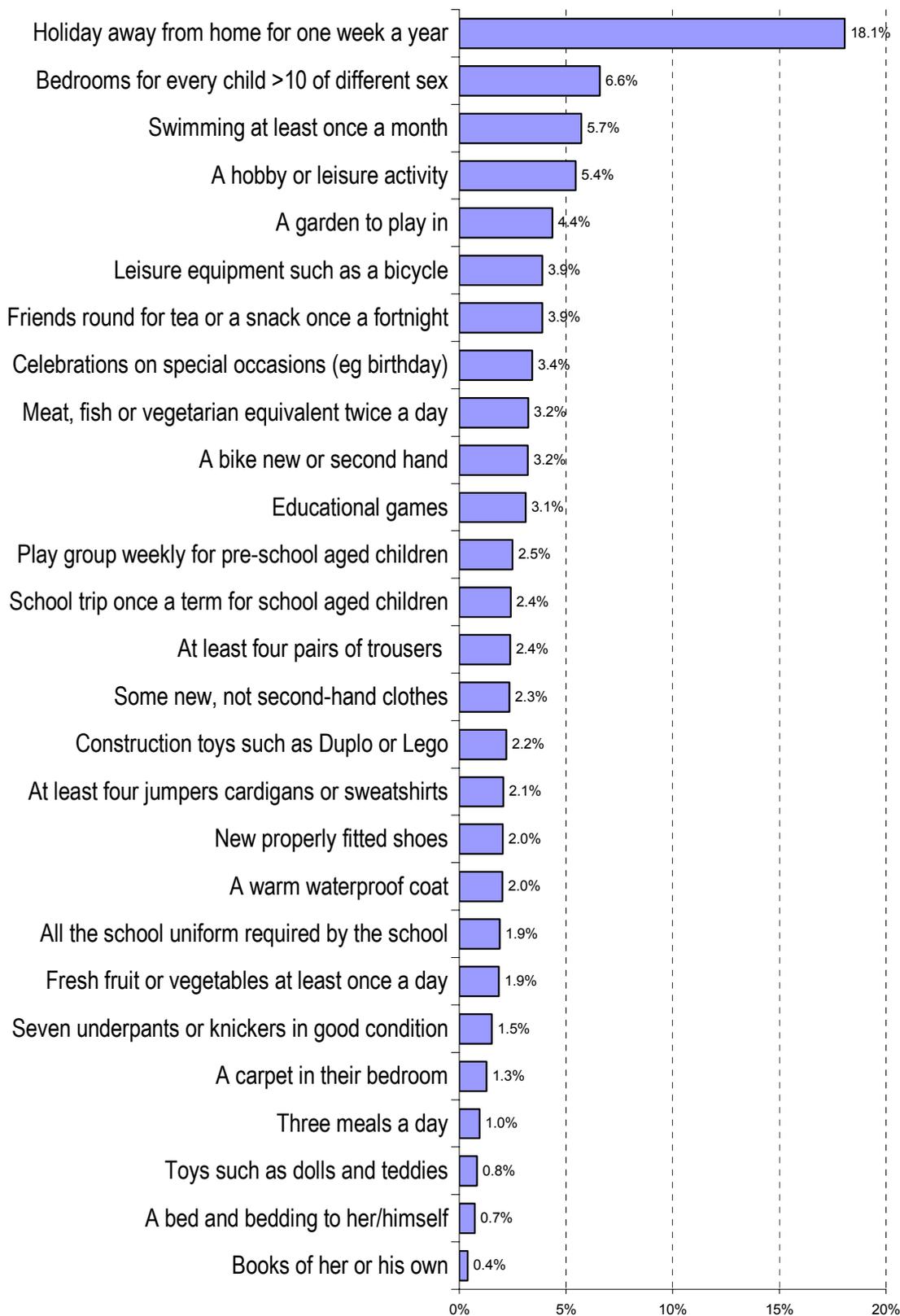
In the published report, the data is recast at child-level. Then, a few questions are ignored if they do not relate to particular age ranges. Answers at the family level, which is how the questions were asked, are assumed to relate to each child in a given family.

Unfortunately, it has not been possible from the published data to replicate this approach. So the analysis in this section is based at the family level. There are differences between the family-level distribution and the figures in the PSE report, which is based on child-level analysis. This is to be expected. Larger families tend to be poorer on average than smaller families (Willits and Swales 2003), so a higher proportion of children are poor than families.

The list of 30 items was reduced to 27, by excluding three questions that families did not regard as essential. These were computer games, a computer for school work and 50p a week for sweets. The numbers of families unable to afford the remaining items are shown in Figure 2.1, in order.

One item, being unable to afford a holiday of at least a week away from family, was reported by 18 per cent of families, or nearly three times as often as any other. The other items that families most commonly could not afford were having bedrooms for each child older than ten of a different sex (seven per cent), swimming at least once a month (six per cent), and the child having a hobby or leisure activity (six per cent). Even so, it is noticeable that only one question reached double figures, and for only a further three activities were more than five per cent of families unable to afford it. These are rather lower than the figures for adults, where there were six items that could not be afforded by 10 per cent or more of respondents.

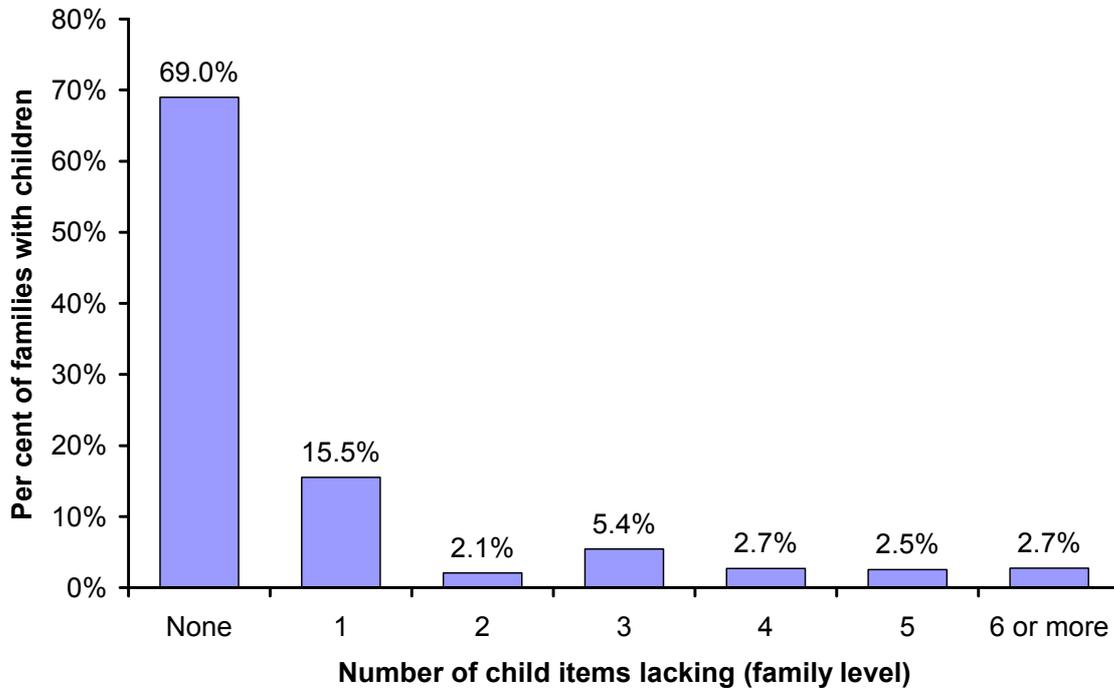
Figure 2.1 Child-related items that families were unable to afford



Source: PSE, family-level analysis

A classification at 1+ items yields 31 per cent of families with children deprived; or at 2+ produces half that number (15.5 per cent). These compare with figures of 34 per cent and 18 per cent for the PSE report based on children. Most of those lacking just one item were going without a holiday.

Figure 2.2 The number of child items that families could not afford



Source: PSE, family-level analysis

In the PSE analysis the authors had to consider where to put the threshold to define child poverty. Some relatively formal statistical analysis suggested that lacking one or more items was most appropriate. However, with one particular question dominating the list of items that could not be afforded, there were also grounds for looking at the group lacking two or more items. The authors of the report therefore looked both at those lacking one or more items, and those lacking two or more.

3 Effects of having shorter sets of questions

3.1 Introduction

The traditional approaches to measuring poverty using deprivation indicators require using a relatively long set of questions – in the PSE study 29 separate questions for adults and 27 questions for children. It is not feasible to include such lengthy lists in the FRS where competition for space is fierce. How much of the usefulness of the approach is retained using fewer questions? Alternatively, how many questions are needed to capture most of the same people as poor? We seek answers to these questions in this section.

3.2 Adults

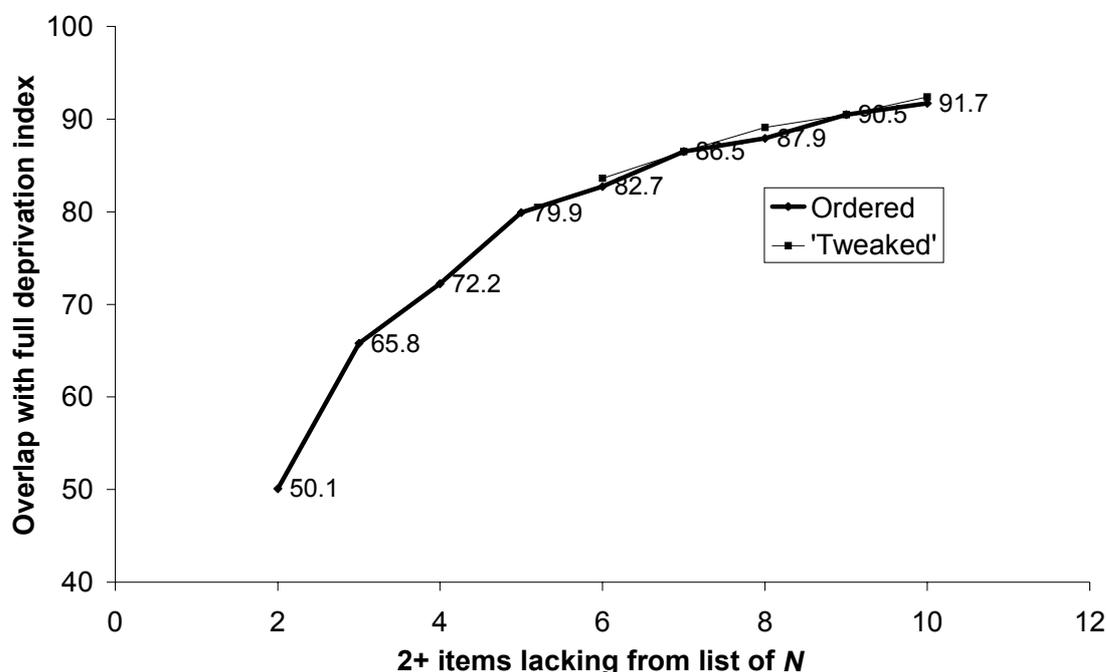
The question we now consider is how far a shorter list of questions may adequately reflect the longer list. Or, how many questions are needed to give a defensible coverage of the main list.

The simplest test of this is to take various subsets of the full scale, and investigate how many of the ‘truly’ deprived (lacking 2+ of 29 items) would be identified as deprived using a threshold of 2+ of a shorter list of items. The subsets we selected initially were based on the frequency of people being unable to afford them. This ‘ordered’ set of questions takes in questions relating to:

- Having a comfortable home environment, including being able to replace worn out furniture and replacing or repairing broken electrical goods.
- Taking part in social and hobby/leisure activities.
- Having adequate food and clothing.
- Being able to go on holiday.
- Having spare money to spend on oneself or to put into savings.
- Having home contents insurance.

As shown below, using two questions is sufficient to identify just over half of those who appeared to be poor with the full scale. Increasing this to six questions extends the reach to almost 80 per cent, with progressively smaller gains from increasing the list of questions asked.

Figure 3.1 **Overlap between full deprivation scale and reduced subsets of 2-10 questions**



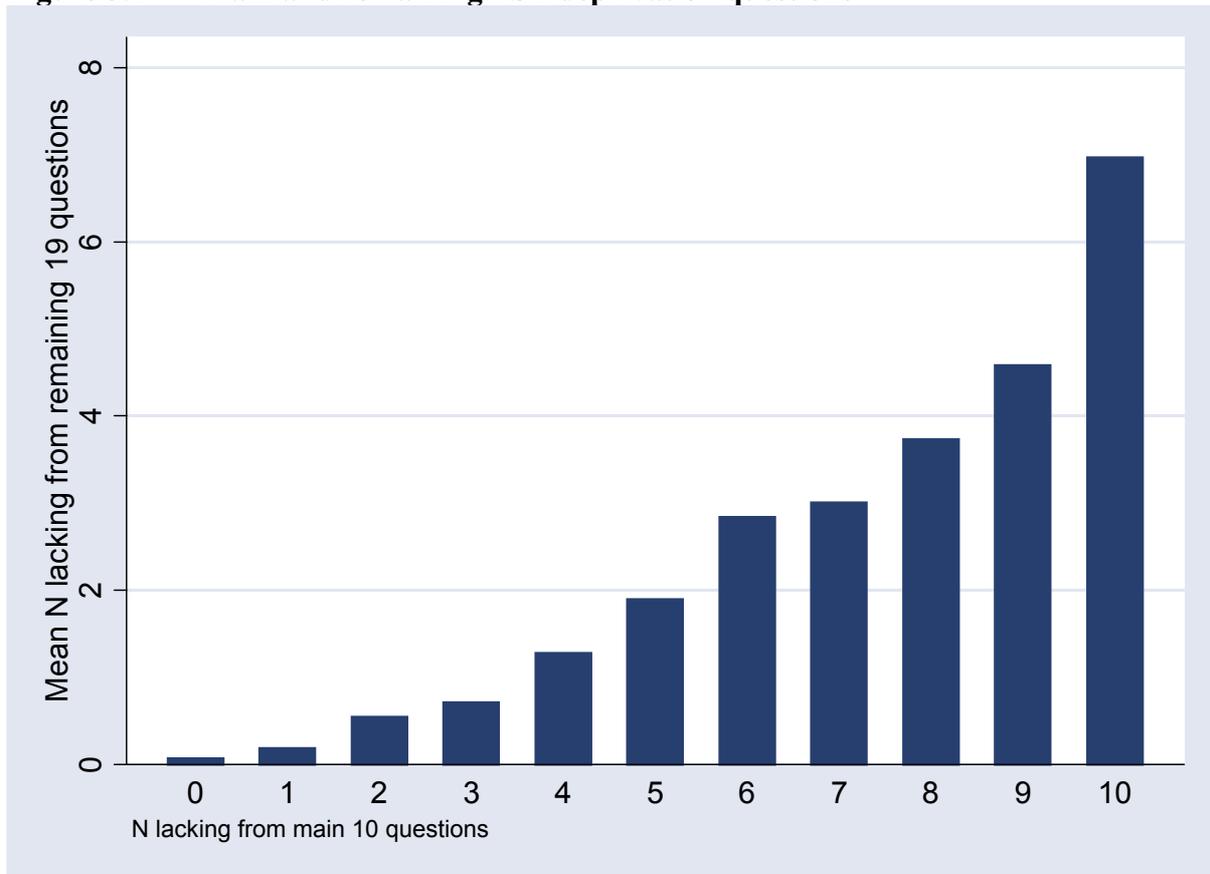
It is, however, possible to improve on the coverage by ‘tweaking’ the set of items included. For example, by including for the 10 question option the question ‘dryhome’ rather than ‘fammeal’. Having a dry home correlates less well with the other items than does family meal. It appears to improve the fit between the shorter subset and the full index because it is better at picking up groups not already identified in the ‘ordered’ measure.

The above analysis suggests that just six questions can accurately reflect 80 per cent of the ‘full’ picture. We should also inquire whether those identified from fewer questions are a biased set of those identified from the full set. Some tests of this are shown in Table 3.1. This looks at overlapping groups, defined as deprived on the basis of differing numbers of questions – but with the same threshold of lacking two of those items on the grounds of being unable to afford them.

By definition, the shorter lists will identify fewer people as deprived if we retain the same threshold. So, the full list of 29 questions is associated with a deprivation rate of 27.5 per cent. With just six questions this falls to around 23 per cent, with figures in between for varying number of questions.

Another way of testing the robustness of the selected question is to take the ten selected questions, and plot their distribution against that of the remaining questions – 19 from the set used in the PSE report. As shown in Figure 3.2, the greater the number of items lacking from the main set of ten, the greater the number of items that people could not afford from the remainder of the list (19 questions from the set used in the PSE report). This confirms the high degree of overlap and hence consistency between the shortened set of questions and the overall set.

Figure 3.2 Main and remaining PSE deprivation questions



The average incomes of those unable to afford 2+ items are relatively similar whether we base this on 29 questions, 20 or 10. Using just six, the average income of the deprived group is actually lower than this. We also explored the effect on subjective assessments of poverty. Again there seems to be no or relatively little information loss by adopting a shorter set of questions in preference to a much longer set. If anything, poverty is more severe when a more minimal set of questions is used. It would seem that the most ‘efficient’ reduced set of questions would be between six and ten.

Table 3.1 Validity of reduced scale in PSE: lacking two items

	Column percentages				
	Full scale (29 items)	20 items	Reduced scales 10 items	6 items	All respondents
<i>Do you think you could genuinely say you are poor now...</i>					
All the time	21	22	23	25	7
Sometimes	44	44	44	43	20
Never?	35	33	33	32	73
Equivalised income per week	£250	£248	£251	£238	£381
Per cent 'deprived' on this measure	27.5	26.5	25.4	22.7	-
Unweighted base	595	575	552	512	1534

Source: PSE

It is also possible to explore any differences in the composition of those deprived using different sets of questions. Given the high degree of overlap between shorter and longer sets, we would expect the composition of deprivation under each definition to be relatively similar. Some key characteristics are shown in Table 3.2. There were some differences, but these tended to be rather minor. If anything, the shorter series of questions identified a higher proportion of families with children as being deprived, and a few more with a long-standing illness or disability.

Table 3.2 Composition of deprivation (lacking two items) using shorter series of questions

	Column percentages			
	Full list (29 items)	10 items	6 items	All respondents
Lone parent	10	11	12	6
Couple with children	36	38	39	31
Single person	21	20	20	17
Couple no children	33	32	29	47
Has no educational qualifications	36	35	35	24
Has a long-standing illness	46	48	49	38
Average number of adults	2.1	2.1	2.1	2.1
Average number of children	1.0	1.1	1.1	0.7
Unweighted base	595	552	512	1534

Source: PSE

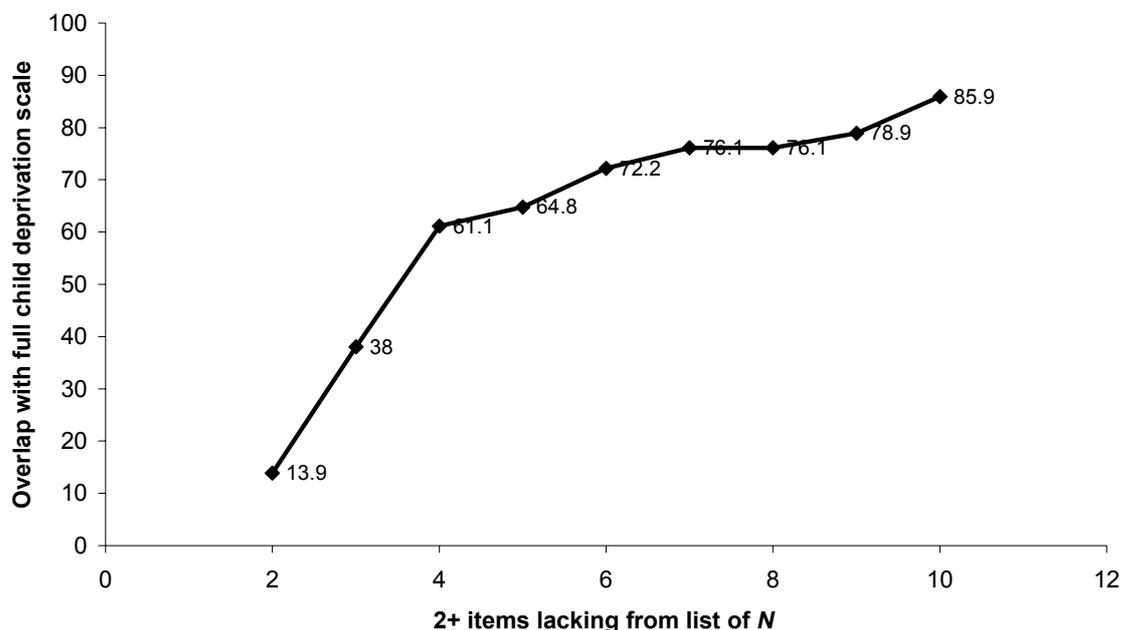
3.3 Children

The coherence of the child deprivation scale is, perhaps, not so clear as for adults. Work analysing the reliability of the scale, in particular, gives less grounds for confidence than it did among adults.

Subsetting the questions gives reasonable coverage of the whole scale, at least once six or more questions are included. Those lacking two or more of the six items constitute 72 per cent of those lacking two or more items from the full 27-item list.

This chart is based on taking the most frequently missing items. The ‘bowed-in’ elements of the line indicate that there is scope to improve on the overall overlap by using the component variables in a different way. This feature arises through the various links between lacking different of the groups of items.

Figure 3.3 **Overlap between full child deprivation scale and reduced subsets of 2-10 questions**



3.3.1 FACS

The FACS data contains a range of deprivation indicators with seven questions specific to children, or mostly relevant to them. In 2002 the proportions of families unable to afford them ranged from nearly one in five (money for trips, outings, etc) to one in fifty (weatherproof coat for each child). The first two questions (Table 3.2) are potentially helpful to measuring deprivation, in that they are not concentrated in a small group of the population. However, the first question contains rather too many elements to carry complete confidence. It would be better expressed in more than one question – perhaps one relating to holidays, another to school trips, another for day trips, and so on.

None of the questions have exact parallels in PSE. However, for comparison in PSE 2.0 per cent of families could not afford a ‘warm, waterproof coat’ (the same as here), whilst the same proportion could not afford ‘new, properly fitted shoes’ (much lower than the alternative version used in FACS). Some 3.6 per cent, in PSE, could not afford “celebrations on special occasions”.

Table 3.3 Proportions of families unable to afford child-related items

Item	Cell percentages Unable to afford
Money for trips, holidays, outings or going with gifts to parties	19.7
Good quality new brand name clothes or shoes for children	14.9
Two pairs of all weather shoes for each child	6.4
Celebration with presents at special occasions	6.0
Best outfit for children	5.8
Toys and sports gear for children	5.4
Weatherproof coat for each child	2.1

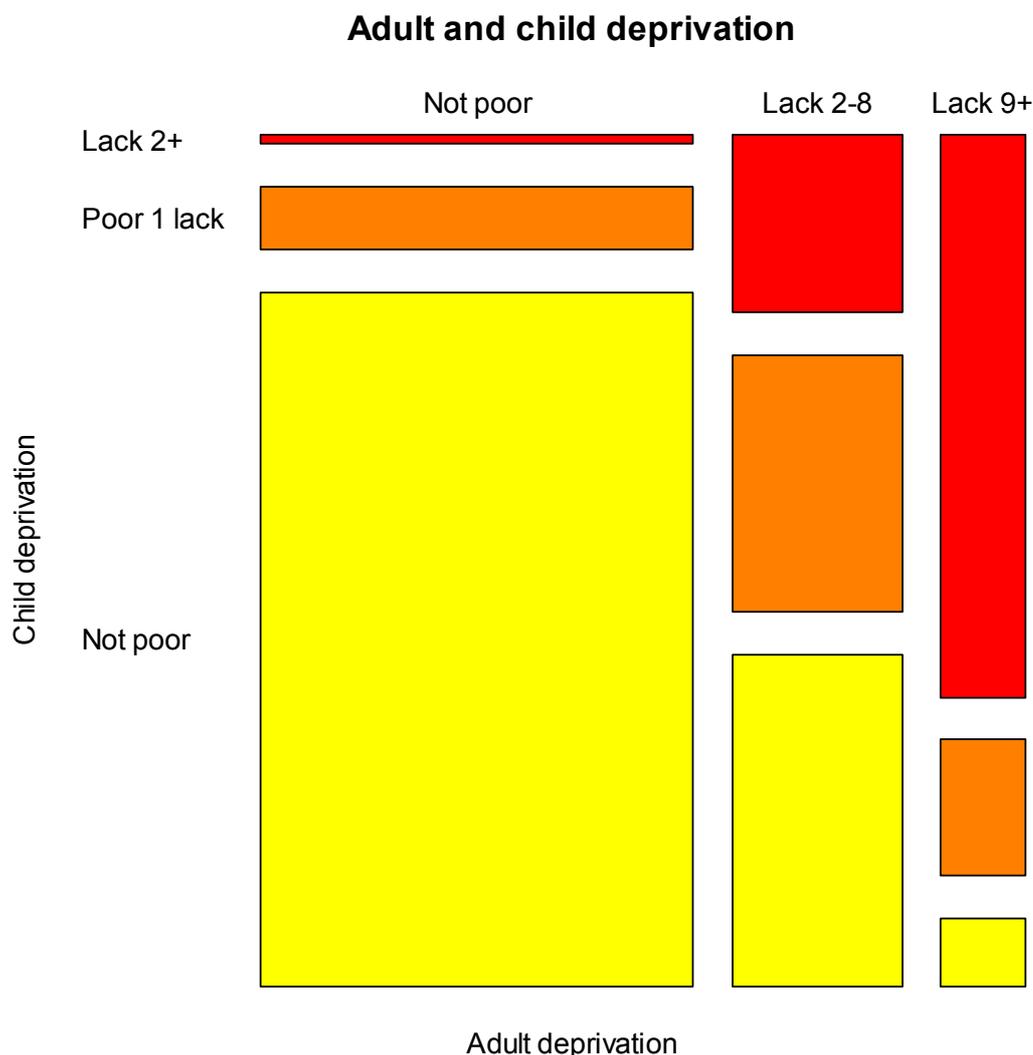
Source: FACS 2002

3.4 Connecting parental and child deprivation

Families who were not in poverty (on the basis of the adult list of goods and services) occasionally lacked child items through not being able to afford them, although this was rare. Among families lacking none or only one of the adult necessities, just one per cent lacked two or more of the child items. Conversely, some 26 per cent of those not experiencing child deprivation were lacking two or more of the adult-based items. A ‘mosaic’ plot of this data is shown below (Figure 3.4). For those more accustomed to traditional scatterplots, the same overall patterns are shown in Figure 3.5 in the annex at the end of this chapter.

The conclusion that may be drawn is that families only tend to lack child items, on the grounds of inability to afford, once they are lacking several adult items. Even among those parents lacking between two and eight adult items, the upper end equating to severe hardship, still 77 per cent were not suffering from child deprivation (defined as being unable to afford two or more of the child items). However, when adult poverty reaches a very severe extent then child poverty very often accompanies it.

Figure 3.4 Distribution of parental and child poverty in families, using deprivation indicators ('mosaicplot' for banded groups)



A particular example are the different questions asked about holidays, relating to the whole family and then to children. Respondents were asked if they had '*A holiday away from home for one week a year, not with relatives*'. Families with children were asked if children had '*A holiday away from home at least one week a year with his or her family*'. A cross-tabulation appears in Table 3.4. Obviously the questions are not identical, and the question relating to children may perhaps be satisfied in a less costly way by staying with other family members. But for many families each question would presumably be satisfied by the same trip – the nuclear family participating in a holiday.

Among families who could not afford an annual holiday, away from the family, still one in three (31 per cent) did manage a holiday including their children. Similarly, for the small number of families not wanting a holiday, two thirds (62 per cent) went on a family holiday that included the children. The balance of evidence is of children receiving a holiday of some kind, when resources do not allow for a fully independent parents and children break.

Table 3.4 Holidays for adults and children, in families with children

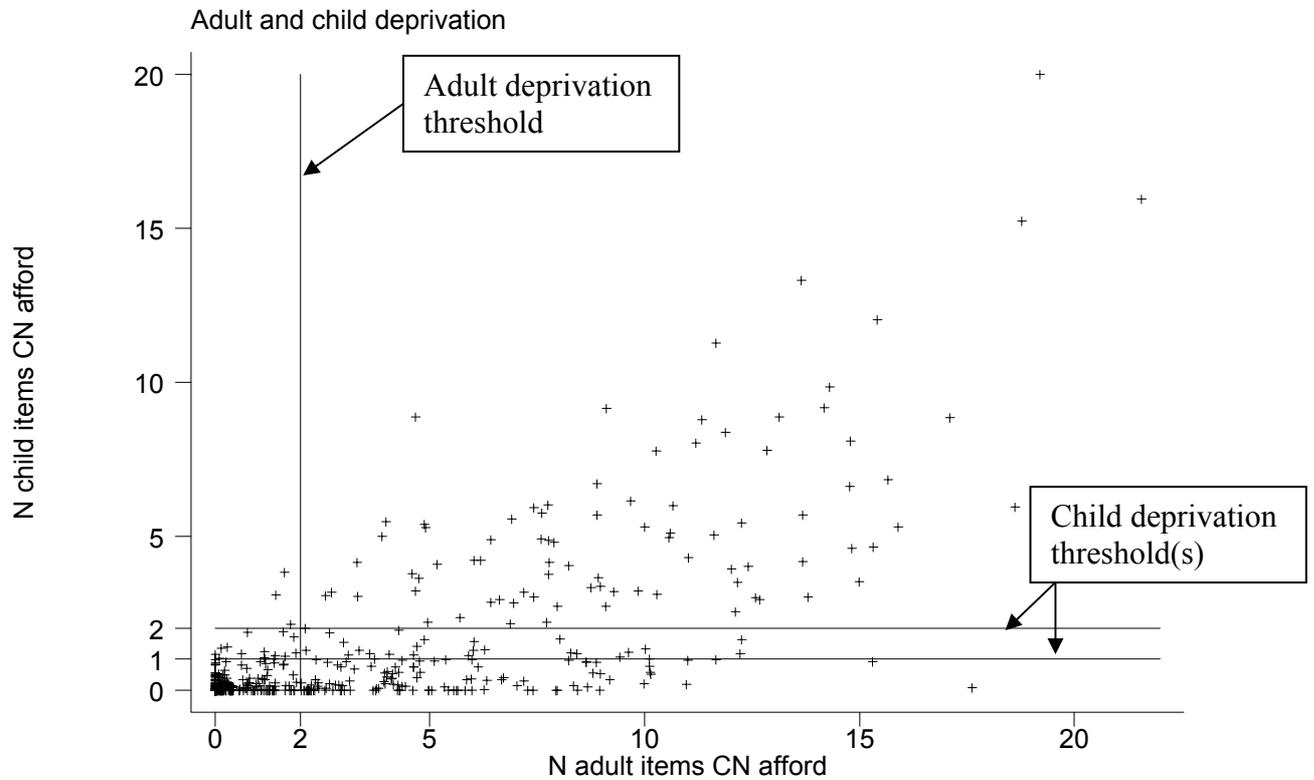
Column percentages

	Do this	Annual week's holiday not with family		All families
		Do not want this	Cannot afford it	
<i>Child has week's holiday with family?</i>				
Do this	98	62	31	78
Do not want this	1	21	4	3
Cannot afford it	1	18	66	19
Unweighted base	224	31	147	402

Note: 'not applicable' codes dropped.

Annex: detailed comparison and adult and child poverty measures

Figure 3.5 Adult and child deprivation scales (scatterplot with small ‘jittering’)



A small amount of random ‘noise’ or jitter has been added to each point. This is to prevent points over-plotting each other, since the data are categorical. Without adding this randomness the cloud of points at [0,0] would appear as a single point.

4 Reducing sets of questions – naïve approaches and latent class analysis

4.1 Adult poverty

An obvious or naïve approach to selecting questions might be to show which were most strongly associated with being deprived. In other words, among those classified as deprived, which items could they most often not afford? So, for instance, 74 per cent of those lacking two or more items could not afford regular savings for rainy days, whilst 66 per cent could not afford to replace worn out furniture, and 51 per cent were unable to find the money for an annual holiday (Table 4.1). Conversely, six per cent of the non-deprived could not afford savings, and four per cent each for the other two items just mentioned. The ordering of items in this list is related to, but slightly different from their frequencies of not being affordable. For instance, overall 12 per cent could not afford to replace furniture compared with 18 per cent unable to afford a holiday. This perhaps indicates that being unable to afford a holiday appeared as the single item lacking more often than some of the other questions.

Table 4.1 Unconditional analysis of adult poverty questions

		Cell percentages	
		Lack 2+ items	Not deprived
Class probabilities		27.5%	72.5%
SAVINGS	Regular savings for rainy days or retirement	74%	6%
FURNITUR	Replace any worn out furniture	66%	4%
ANHOLS	Holiday away from home for one week a year not with relative	51%	4%
DECORATE	Enough money to keep home in decent state of decoration	47%	1%
MONEYSEL	Small amount of money to spend each week on yourself	46%	1%
ELECGOOD	Replace or repair broken electrical goods	40%	*
INSURANC	Insurance of contents of dwelling	28%	1%
HOBBY	A hobby or leisure activity	23%	*
TWOSHOES	Two pairs of all weather shoes	21%	*
FAMMEAL	Friends or family round for a meal, snack or drink	21%	*
DRYHOME	Damp-free home	17%	1%
OUTFIT	An outfit to wear for social or family occasions	14%	*
COAT	A warm waterproof coat	13%	*
ROAST	A roast joint or its equivalent	11%	*
HOSPVIS	Visiting friends or family in hospital or other institutions	11%	*
HEATING	Heating to warm living areas	9%	*

An alternative approach to ostensibly the same question is to use latent class analysis (Bartholomew et al 2002). Under this approach it is assumed that we do not observe the true variable, ‘deprived’. It is hidden, or latent. Instead we observe a series of manifest or

observed variables – the deprivation indicators – which only correlate with each other because of the latent variable. Otherwise they are independent (known as local independence).

The variables we observe (the deprivation indicators) are categorical. Moreover, it is reasonable to assume that poverty is categorical and indeed dichotomous – certainly that is how most studies perceive it. Bartholomew et al (2002) suggest the following applications for different kinds of latent variable models, depending on the data structure. Using this schema suggests we use a latent class analysis approach. Later in the report we resort to the more familiar factor analytical approach – in line with other studies if not wholly in keeping with this particular statistical advice based on the data types.

<i>Latent</i> variable(s) is(are):	<i>Observed</i> variables are:	
	Interval/ratio scale	Categorical/ordinal
Interval/ratio scale	<i>Factor analysis</i>	<i>Latent trait analysis</i>
Categorical/ordinal	<i>Latent profile analysis</i>	<i>Latent class analysis</i>

The results from a LCA are shown in Table 4.2. The analysis suggests that the deprivation group was around 29 per cent of the sample. The LCA builds this from the individual questions, and it is reassuring that this proportion is very similar to the proportions based on the thresholds identified by Gordon et al (2000). Given the subject matter a two class solution is appropriate.

Table 4.2 Latent Class Analysis – 2 class solution⁵

Variable	Class probabilities	X 1 'poor'	X 2 'not poor'
		28.8%	71.2%
SAVINGS	Regular savings for rainy days or retirement	82%	14%
FURNITUR	Replace any worn out furniture	78%	7%
ANHOLS	Holiday away from home for one week a year not with relative	65%	7%
DECORATE	Enough money to keep home in decent state of decoration	61%	2%
ELECGOOD	Replace or repair broken electrical goods	59%	2%
MONEYSEL	Small amount of money to spend each week on yourself	56%	3%
INSURANC	Insurance of contents of dwelling	40%	3%
HOBBY	A hobby or leisure activity	28%	1%
TWOSHOES	Two pairs of all weather shoes	26%	0%
FAMMEAL	Friends or family round for a meal, snack or drink	26%	1%
OUTFIT	An outfit to wear for social or family occasions	22%	1%
DRYHOME	Damp-free home	20%	2%
ROAST	A roast joint or its equivalent	18%	1%
COAT	A warm waterproof coat	18%	0%
HEATING	Heating to warm living areas	13%	1%
HOSPVIS	Visiting friends or family in hospital or other institutions	10%	1%

4.2 Child poverty

We may also analyse the child deprivation questions to check their usefulness against the overall scale. In Table 4.3, below, we show rates for those lacking just one item out of 27, and those lacking two or more⁶. The patterns suggest the authors were probably right to go with their judgement that two or more items was the appropriate threshold, despite some of the statistical analysis that suggests a threshold at just one.

Among those lacking two or more items, 70 per cent could not afford a holiday. This was also among the most important indicators for adult poverty, of course. Children having a hobby, and participating in monthly swimming sessions, were the next most important indicators of child deprivation. The relative contributions of the other questions were less important. Compared to adult deprivation, there was greater diversity in the kinds of items that the families were unable to afford.

⁵ This model was run in IEM.

⁶ By definition a column where people lacked no items – those clearly not deprived – would score 0% against each question.

Table 4.3 Unconditional analysis of child poverty questions

	Cell percentages	
	Lack 1 item	Lack 2+ items
Class probabilities	15.7%	15.5%
Holiday	46%	70%
Child's hobby	-	36%
Swimming monthly	7%	31%
Bedroom for child of each sex over 10	17%	24%
Friends round for tea	-	24%
Leisure goods	-	24%
Celebrations	-	21%
Meat/fish etc	-	20%
Bike	-	19%
Educational games	3%	16%
School trips	-	16%
4 pairs trousers	-	15%
Construction toys	-	13%
Some new clothes	-	13%
Play group	4%	13%

Source: PSE 1999

5 Checking validity of individual questions

5.1 Introduction

Several sections in this report provide statistical grounds for selecting questions. This section provides more detail about individual questions. How far, among the deprivation indicators, do they command assent among different groups? And how well are they correlated with income?

5.2 Perceptions of necessities

AS outlined previously, in the first stage of the *1999 Poverty and Social Exclusion Survey*, respondents were asked to identify which of a list of items and activities that they considered 'necessary, which all adults should be able to afford and which they should not have to do without'. Of 54 adult items and activities, 35 were thought necessary by more than 50 per cent of the population. Similarly, respondents were asked to distinguish items and activities that they considered necessary for their children. Of 30 items and activities, 27 were thought to be necessities by over 50 per cent of parents.

If some of these perceived necessities are to be included in a measure of deprivation, they should ideally be relevant to different sections of the population. The following sections therefore explore how much consensus exists between (a) families and the population as a whole; (b) different income groups; (c) different regions; and (d) different ethnic groups, about the items and activities that they consider to be essential. Analysis of this kind, including by age group, may also be found in Bradshaw, Williams and Middleton (2000) for child-related items.

5.2.1 FAMILIES COMPARED WITH THE POPULATION AS A WHOLE

On the whole, families with children held fairly similar views to the general population as to the type of items and activities that are essential.

For half the items and activities asked about, there was less than three percentage points difference between the proportion of people with children who considered these to be essential and the population as a whole. As Table 5.1 shows, for the remaining items and activities the difference was three or more percentage points and, for the most part, people with children were somewhat *less* likely to consider these items and activities to be essential than the population as a whole. Where people with children were *more* likely to consider items and activities to be essential, these tended to be child-focused, e.g. construction toys or visits to school such as parents evening (Table 5.1).

Table 5.1 Items and activities considered essential by people with families compared with the general population (differences of 3% or more)

	% essential - all	% essential - families	% Difference between families and all
<i>Items considered less essential by families</i>			
Money to spend on self weekly	58.9	42.0	-16.9
Telephone	71.1	62.7	-8.4
A dressing gown	33.7	25.6	-8.1
A holiday away from home (child)	70.5	63.4	-7.1
Coach/train fares to visit family/friends	38.2	31.4	-6.8
Two pairs of all weather shoes	63.9	57.1	-6.8
Having a daily newspaper	30.3	23.7	-6.6
An outfit for social occasions	50.6	44.1	-6.5
Friends round for tea or a snack (child)	58.7	52.8	-5.9
Attending place of worship	41.5	35.8	-5.7
A evening out once a fortnight	38.9	33.5	-5.4
Going to the pub once a fortnight	19.9	15.2	-4.7
A roast joint/vegetarian equivalent weekly	55.6	51.3	-4.3
At least 50p a week for sweets (child)	49.2	44.9	-4.3
Computer games (child)	17.7	13.4	-4.3
Visits to friends or family	84.1	79.8	-4.3
A holiday away from home	54.8	50.6	-4.2
A hobby or leisure activity	78.3	74.2	-4.1
Insurance of contents of dwelling	79.0	75.0	-4.0
Swimming at least once a month (child)	74.6	70.8	-3.8
Presents for friends/family yearly	56.0	52.5	-3.5
New, not second hand, clothes	47.7	44.4	-3.3
Replace worn out furniture	53.9	50.6	-3.3
Attending weddings, funerals	80.2	76.9	-3.3
Celebrations on special occasions	83.0	79.8	-3.2
A dictionary	53.4	50.2	-3.2
Computer suitable for school work (child)	41.4	38.2	-3.2
Regular savings for rainy days	65.9	62.9	-3.0
A television	55.5	52.5	-3.0
Some new, not second-hand clothes (child)	70.0	67.0	-3.0
<i>Items considered more essential by families</i>			
A bed and bedding to her/himself (child)	92.8	95.8	3.0
A home computer	11.4	14.8	3.4
Construction toys such as Duplo or Lego (child)	62.1	65.8	3.7
Carpets in living rooms and bedrooms	67.2	71.5	4.3
At least four pairs of trousers (child)	68.8	73.5	4.7
A bike, new or second hand (child)	54.4	59.7	5.3
Collect children from school (child)	74.6	81.2	6.6
A carpet in their bedroom (child)	66.8	74.5	7.7
Visits to school, e.g. sports day (child)	81.0	90.6	9.6
Weighted base*	1,782	481	-
Unweighted base*	1,785	461	-

Source: ONS Omnibus Survey, 1999

* The base varied slightly between different items because of missing data

This seems to indicate that, for people with children, having disposable income and taking part in family and social life is rather less important than it is for the population as a whole. In particular, having money to spend on themselves every week is far less of a priority for people with children than it is for the general population. So, while nearly 60 per cent of the population consider having spare money for themselves to be essential, this is true of only 42 per cent of families. This is particularly significant when we consider that Gordon *et al* (1999) defined a necessity as any item or activity that more than 50 per cent of the population thought was essential. According to this definition, while the general population consider having spare money to be essential for all adults, this is not true of people with children. This also applies to having an outfit for social occasions, although the difference is not as pronounced.

5.2.2 COMPARISON ACROSS INCOME GROUPS

To facilitate comparison, respondents were divided into three groups of roughly equal size according to their gross household income. As Table 5.2 shows, household income seems to have a greater effect than family status upon people's views of necessities. In particular, there are several items and activities that the majority of low-income households consider to be essential that most households with middle-to-high incomes do not (Table 5.2, top section).

Table 5.2 Items and activities by gross household income (excluding refused/DK)

	% essential -all	Low income*	Medium income*	High income*	% diff between med and low income	% diff between high and low income
<i>Items classed as necessities</i>						
A television	55.5	64.7	53.9	41.3	-10.8	-23.4
An outfit for social occasions	50.6	55.0	47.5	43.6	-7.5	-11.4
Replace worn out furniture	53.9	61.2	51.7	46.6	-9.5	-14.6
A bike, new or second hand	54.4	60.6	54.0	49.9	-6.6	-10.7
At least 50p a week for sweets	49.2	59.8	52.2	33.8	-7.6	-26.0
Computer suitable for school work	41.4	50.7	40.2	32.4	-10.5	-18.3
<i>Other items</i>						
A dressing gown	33.7	46.9	27.3	27.5	-19.6	-19.4
Two pairs of all weather shoes	63.9	70.5	63.3	58.5	-7.2	-12.0
A roast joint/veg equivalent wkly	55.6	60.9	55.2	50.9	-5.7	-10.0
Carpets in living rooms and bedrooms	67.2	72.5	67.2	61.5	-5.3	-11.0
A car	37.7	30.7	42.1	36.0	11.4	5.3
Having a daily newspaper	30.3	34.6	24.4	28.6	-10.2	-6.0
A evening out once a fortnight	38.9	43.5	35.3	31.3	-8.2	-12.2
Visits to school, e.g. sports day	81.0	73.9	86.4	84.8	12.5	10.9
Enough bedrooms for every child	77.5	83.3	78.4	72.0	-4.9	-11.3
Computer games	17.7	25.5	15.6	8.1	-9.9	-17.4
A garden to play in	68.1	77.5	68.7	55.1	-8.8	-22.4
Swimming at least once a month	74.6	85.3	75.1	68.1	-10.2	-17.2
A school trip at least once a term	73.7	80.7	73.3	65.9	-7.4	-14.8
Friends round for tea or a snack	58.7	67.6	53.6	51.5	-14.0	-16.1
Weighted base**	1,782	436	452	454	-	-
Unweighted base**	1,785	617	443	376		

Source: ONS Omnibus Survey, 1999

* Low income: Less than £14,560 gross per year; Medium income: £14,560-£31,200 gross per year; High income: More than £31,200 gross per year

** The base varied slightly between different items because of missing data

The most pronounced differences relate to:

- Children having at least 50 pence a week for sweets, which six in ten low-income households considered to be essential, compared with around half the general population and only a third of high-income households;
- A television, regarded as a necessity by nearly two-thirds of low-income households in contrast to just over half of the population as a whole and four in ten of high-income households;
- A computer suitable for school work, considered to be a basic requirement by half of low-income households but only four in ten of the general population and just a third of high-income households.

The different attitudes towards children having money to spend on sweets probably reflects different cultural values between low and high-income households. Parents from higher

income households, for example, may wish to discourage their children from eating sweets on health grounds, and instead encourage them to eat more healthy (and usually more expensive) snacks such as fresh fruit. Conversely, lower-income parents may regard sweets as the most affordable treat for their children, and one that is easily accessible.

As earlier research has indicated, for lower-income households who cannot afford to go out or pursue hobbies and leisure activities, television represents a relatively low-cost form of entertainment (Mack and Lansley, 1985, cited in Pantazis et al, 1999). In contrast, television may be regarded by some people on higher incomes as a ‘dumbing down’ of culture, which they frown upon. There does not seem to be an easy explanation as to why more low-income than high-income households consider a computer to be essential.

The bottom section of Table 5.2 lists the items and activities where there was at least a 10 percentage point difference in opinion between the income groups as to what constitutes a necessity. In all but two instances, a higher proportion of low-income households regarded these items and activities as essential than either other households or the population as a whole. The exceptions were car ownership and school visits.

5.2.3 REGIONAL DIFFERENCES

There are some significant regional differences of opinion about essential items and activities. As earlier research has noted, people living in Wales are generally less likely than elsewhere to consider items as necessities (Pantazis et al, 1999). In the case of eleven items and activities, majority opinion about whether these are essential is divided across the regions (Table 5.3, top section), and the greatest differences are indeed between Wales and the rest of Britain. For example, only 48 per cent of people in Wales consider having money to spend on themselves to be essential, compared with 69 per cent in London and 59 per cent of the general population. In contrast, having a roast joint or its equivalent once a week is regarded as a necessity by over 70 per cent of Welsh people, but just 56 per cent of the population as a whole and only 41 per cent of people in Scotland.

Moreover, for over half of items and activities, the proportion of people who think they are essential varies regionally by 10 percentage points or more. Again, the differences are most marked between Wales and the other regions, and the bottom section of Table 5.3 gives some examples of this.

Table 5.3 Items and activities by region

	% essential	North	Mids and E.Anglia	London	South East	South West	Wales	Scotland
New, not second hand, clothes	47.7	54.4	46.2	42.9	43.1	40.8	56.8	46.3
A television	55.5	58.8	54.4	58.3	52.2	46.1	59.6	58.9
A roast joint/veg equivalent weekly	55.6	60.1	55.5	57.4	46.0	61.6	71.6	41.4
A dictionary	53.4	48.8	51.8	65.1	53.4	55.6	58.4	54.6
Presents for friends/family yearly	56.0	59.2	51.6	66.3	59.8	55.0	44.9	50.0
An outfit for social occasions	50.6	52.5	47.3	56.2	46.0	52.0	53.4	53.4
Replace worn out furniture	53.9	59.8	50.9	53.0	48.4	58.3	50.6	53.1
Money to spend on self weekly	58.9	57.3	62.1	69.0	58.1	58.3	48.3	51.9
Attending place of worship	41.5	42.2	36.0	54.2	36.3	39.1	53.4	46.0
A bike, new or second hand	54.4	54.0	55.9	53.6	57.4	55.0	49.4	49.4
At least 50p a week for sweets	49.2	55.3	48.2	49.7	41.8	48.3	44.2	48.5
Two meals a day	90.6	91.9	90.7	95.2	89.6	91.4	75.0	90.8
Beds and bedding for everyone	95.3	95.0	94.8	97.6	96.0	98.0	85.2	96.3
Money to keep home decorated	82.3	83.3	81.8	85.8	82.7	83.4	71.6	81.5
Visits to school, i.e. sports day	81.0	83.3	81.8	85.7	80.3	78.3	65.9	77.3
A warm waterproof coat (child)	94.6	95.6	94.6	92.3	96.0	96.0	81.4	86.9
At least four pairs of trousers (child)	68.8	71.2	68.1	76.3	67.9	67.5	54.7	66.0
Meat, fish or equivalent twice a day	76.5	73.8	81.2	81.7	78.2	70.2	65.1	74.2
Fresh fruit/vegetables once a day	93.1	93.3	92.8	96.4	95.6	95.3	76.7	92.6
A carpet in children's bedroom	66.8	72.1	68.5	69.2	60.5	57.6	55.8	66.7
A bed and bedding for each child	92.8	94.4	90.9	95.8	94.4	96.7	77.9	92.0
Play group for pre-school aged children	87.7	85.6	89.8	93.5	92.0	82.1	74.4	87.1
Weighted base*	1,782	480	482	168	249	152	88	163
Unweighted base*	1,785	484	468	176	254	149	90	164

Source: ONS Omnibus Survey, 1999

* The base varied slightly between different items because of missing data

5.2.4 DIFFERENCES BETWEEN ETHNIC GROUPS

Detailed analysis of how different ethnic groups perceive necessities is precluded by the fact that nearly all respondents to the ONS Omnibus Survey described themselves as white - 1,744 respondents out of 1,855, or 94 per cent of the unweighted numbers. The highest number of respondents from any other single ethnic group was only 20, and these were people who described themselves as Indian.

In order to be able to carry out some analysis by ethnic group, we created a single category for people from black ethnic minority groups, which comprised respondents who described themselves as Black Caribbean, Black African or from other Black groups. We also combined the two categories of Indian and Pakistani into one group. Even so, the number of people in these two combined categories remains small, with 23 people classified as Black and 36 as Indian or Pakistani (unweighted numbers). For this reason, we have simply looked at whether people who are Black, or who are Indian or Pakistani are more or less likely to consider things to be essential than the (white) population (Table 5.4). These findings should still be treated with caution.

As Table 5.4 indicates, there are a considerable number of items and activities that Indians/Pakistanis tend to be more likely to consider essential than either the population as a whole or respondents from Black ethnic groups. These include:

- new, not second hand, clothes;
- a car;
- regular savings for rainy days;
- Internet access;
- an evening out once a fortnight; and
- a range of consumer durables including video cassette recorder, home computer, microwave oven, tumble dryer, satellite TV and CD player.

In addition, there are a small number of items and activities that both Indians/Pakistanis and people from Black ethnic groups are more likely to regard as necessities than the general population, namely a dishwasher; holidays abroad once a year; attending place of worship; visits to school; computer suitable for school work and a school trip once a term. A higher than average proportion of people from black ethnic groups feel that having money for fares to visit their family and friends was essential; this is not the case for Indians/Pakistanis.

Of the six items and activities that Indians/Pakistanis are less likely to consider essential than the general population or people from Black ethnic groups, it is notable that four are child-focused (toys; enough bedrooms for every children over 10 of different sex; at least seven pairs of underpants; having friends round for tea or a snack). The remaining two comprise having meat, fish or a vegetarian equivalent twice a day and having a damp-free home.

In contrast, of the eight items and activities that people from Black ethnic groups are less likely to regard as necessities than other respondents, only two are specifically related to children (educational games and having at least four jumpers). Among other things, the remaining items and activities include having new rather than second hand clothes and having a car, both of which are felt to be of above-average importance by Indians/Pakistanis. Finally, there are a number of items and activities that both ethnic minority groups are less likely to deem essential than is the case generally— having a warm waterproof coat (adult), a washing machine, a holiday away from home, and going to the pub once a fortnight.

Table 5.4 Items and activities by ethnic group

	Proportion regarding this as a necessity	Black	Indian /Pakistani
Meat, fish or vegetarian equivalent twice a day	79.4		x
A dressing gown	33.7	x	
New, not second hand, clothes	47.7	x	✓
Damp-free home	93.4		x
A car	37.7	x	✓
Presents for friends/family yearly	56.0	✓	
A warm waterproof coat	85.0	x	x
A washing machine	76.4	x	x
A dishwasher	7.1	✓	✓
Regular savings for rainy days	65.9		✓
A video cassette recorder	18.9		✓
Insurance of contents of dwelling	79.0	x	
A home computer	11.4		✓
Microwave oven	22.9		✓
Tumble dryer	20.4		✓
Satellite TV	4.9		✓
CD player	11.8		✓
Replace broken electrical goods	84.7	x	
Access to the Internet	6.3		✓
An evening out once a fortnight	38.9		✓
A hobby or leisure activity	78.3	x	
A holiday away from home	54.8	x	x
Holidays abroad once a year	18.8	✓	✓
Coach/train fares to visit family/friends	38.2	✓	
Going to the pub once a fortnight	19.9	x	x
Attending place of worship	41.5	✓	✓
Visits to school, i.e. sports day	81.0	✓	✓
Toys (e.g dolls, play figures, teddies)	83.4		x
Enough bedrooms for every child >10 of different sex	77.5		x
Computer games	17.7		✓
Construction toys such as Duplo or Lego	62.1	✓	
Educational games	82.6	x	✓
At least seven pairs of underpants	82.8		x
At least four jumpers, cardigans	72.6	x	
Computer suitable for school work	41.4	✓	✓
Play group for pre-school aged children	87.7		✓
A school trip at least once a term	73.7	✓	✓
Friends round for tea or a snack	58.7		x
Unweighted base	1,708	23	36

Source: ONS Omnibus Survey, 1999, using recoded ethnicity variable

✓ More likely than general population to consider this item or activity to be essential

x Less likely than general population to consider this item or activity to be essential

5.3 Correlations with income

The kinds of questions we have been discussing all have significant correlations with income. This is a basic test of their validity as questions for measuring living standards. Some of the questions correlating most highly with income are shown in Table 5.5. Notable among them are: having a week's holiday not with relatives; money for trips, holidays, etc.; swimming at least once a month for children; and being two months in arrears with housing payments.

Table 5.5 Correlation between questions and various income concepts

			Income variables	Correlation coefficients (signs ignored)
Holidays and discretionary spending				
BHPS 10	JHSCANB	Pay for annual holiday	JEQMINC	0.230
BHPS 10	JHSCNTB	Would like to pay for annual holiday	JEQMINC	0.200
FACS 4	DEXPHOL	One week holiday, not with relatives	DAHCINC	0.325
PSE	H6ABROAD	Holidays abroad once a year	MCCINC	0.261
PSE	H3HOL	A holiday away from home	MCCINC	0.222
PSE	J5HOL (CHILD)	A holiday away from home (child)	MCCINC	0.206
PSE	GONEWA9	Gone without: Holiday	MCCINCF	0.212
PSE	H7FARES	Coach/train fares to visit family/friends	MCCINCF	0.229
FACS 4	DEXPTRIP	Money for trips, holidays, outings or going with gifts to parties	DAHCINC	0.294
PSE	G38MONEY	Money to spend on self weekly	MCCINCF	0.204
FACS 4	DEXPNIGH	Night out once a month	DAHCINC	0.225
PSE	H5MEAL	A meal in a restaurant/pub once a month	MCCINC	0.215
PSE	H10PUB	Going to the pub once a fortnight	MCCINCF	0.202
PSE	GONEWA7	Gone without: Visits to pub	MCCINCF	0.215
PSE	J3SWIM (CHILD)	Swimming at least once a month (child)	MCCINC50	0.327
Subjective views of financial situation				
BHPS 10	JFISIT	Change in financial position last year	JEQMINC	0.270
BHPS 10	JLFSAT2	Satisfaction with income of household	JEQMINC	0.220
FACS 4	WORRY	Worried about money almost all time	DAHCINC	0.218
PSE	GENPOR	Consider to be poor	MCCINC	0.247
Food and clothes				
FACS 4	DEXPBOFO	Good quality brand name food for family meals most days	DAHCINC	0.217
FACS 4	DEXPNEWC	New not second-hand clothes for family when needed	DAHCINC	0.203
FACS 4	DEXPBCLO	Good quality new brand name clothes/shoes for children	DAHCINC	0.239
Car				
FACS 4	DEXPCAR	Car or van	DAHCINC	0.206
PSE	G14CAR	Car	MCCINCF	0.204
FRS 2002	USEVCL	No. of vehicles owned/used	AHCINC ALL	0.206
Credit and debt				
BHPS 10	JXPHSDB	Been 2+ months late with housing payment	JEQFINC	0.570
FACS 4	UTDEBT	Debt: utilities	DAHCINC	0.207
FACS 4	ANYHH	Any HH debts	DAHCINC	0.232
PSE	ANYDEBTS	Whether any debts	JEQINC50	0.220
PSE	ANYBORR	Whether any informal borrowings	JEQINC50	0.218
Savings				
BHPS 10	JSAVE	Saves from current income	JEQMINC	0.220
BHPS 10	JSAVREG	Saves on a regular basis	JEQMINC	0.230
FACS 4	DSAVMM8	Whether a regular saver	DAHCINC	0.275
PSE	G20REGSA	Regular savings for rainy days	MCCINC	0.240
Use of financial products				
FACS 4	NOACC	No current or savings account	DAHCINC	0.218
PSE	NOCURRAC	No current account	MCCINC50	0.213
PSE	G23INSUR	Insurance of contents of dwelling	MCCINC50	0.213

6 Exploring dimensions of deprivation using factor analysis

6.1 Introduction

There are different ways to reduce a large set of variables to a smaller set with nearly as much information. Exploratory factor analysis is one technique that can be used to investigate if a wider range of questions may be reduced to a smaller number, with the smaller set of questions explaining variation in the larger set. Put simply, it is a way of analysing the correlations between a large number of observed variables in order to reduce them to a smaller number of unobservable underlying dimensions or factors, and to determine the relationship of the original variables to each factor.

However, as Everitt and Dunn (2001) note, '*Factor analysis has probably attracted more critical comment than any other statistical technique*'. The main reasons for this are, first, that the researcher has to employ a certain amount of judgement in order to carry out factor analysis. There are no hard and fast rules about what variables should be included in the analysis, the most appropriate method of factor analysis, the number of factors that should be used to explain the underlying structure of the data, or how those factors should be defined (Calandrino, 2003). Second, because factor analysis is entirely data driven, different solutions are likely to be obtained from different samples or from the same sample over time (ibid).

Factor analysis provided key results in the construction of the Index of Multiple Deprivation. Again, this aroused criticism – as indeed did many of the steps in its construction. Longford (2001) pointed out that the existence of a factor does not mean that what is measured is what is desired: '*... why should that factor be exactly what we want it to be? I recommend Gould's (1987) answer, summarized as "There is no scientific reason."*'

Despite its limitations, factor analysis remains a useful tool for exploring the underlying structure of data. It was used by researchers in Ireland as part of a study that led to the development of a measure of 'consistent poverty' (Callan et al 1993). Using data from the 1987 *Survey of Poverty, Income Distribution and Usage of State Services*, factor analysis was carried out which identified three underlying aspects of deprivation. These were called the 'basic', 'secondary' and 'housing' dimensions. There were eight questions in the basic deprivation domain which related to goods or activities that most people had. Along with relative income, these types of questions (including whether people had two pairs of shoes, new rather than second-hand clothes, a weekly 'roast' or similar each week) formed part of the consistent poverty measure that was monitored as part of the National Anti-Poverty Strategy.

Subsequent research examined trends in poverty in Ireland between 1987 and 1997 and found that, although relative income poverty had increased, there had been a decrease in deprivation (Layte et al, 2000). Confirmatory factor analysis was then carried out to discover whether this decrease was due to the fact that the deprivation measures had not been updated to take account of changes in living standards and expectations. The results indicated that this was not the case, and that the structure of deprivation in Ireland had changed little over the previous ten years (Table 6.1). The researchers emphasized, however, that the basic

dimension of deprivation might have to be revised in the future if the structure of deprivation changed.

Table 6.1 Unconstrained confirmatory factor analysis, oblique three-factor solutions (Layte et al, 2000)⁷

	1987 Survey of Poverty, Income Distribution and Usage of State Services	1997 Living in Ireland Survey
<i>Basic dimension</i>		
A meal with meat, chicken or fish	0.60	0.47
A warm, waterproof overcoat	0.52	0.54
Two pairs of strong shoes	0.59	0.61
A roast joint of meat or its equivalent once a week	0.57	0.49
New, not second-hand clothes	0.50	0.58
Go without a substantial meal	0.38	0.44
Go without heat	0.42	0.51
Go into debt for ordinary living expenses	0.31	0.42

Using data from FACS, exploratory factor analysis has been carried out to examine whether the ‘consistent poverty’ approach employed in Ireland could be applied to Britain (Calandrino, 2003). Four factors were identified, consisting of food items; clothing items; consumer durables; and leisure/social activities. It was not possible, however, to distinguish any one dimension as ‘basic deprivation’.

6.2 Methodology

As outlined in Section 1.1, the overall aim of this study is to identify a set of questions that measure material deprivation. In order to facilitate this, factor analysis was carried out using data from the PSE survey, FACS and BHPS to try to identify a small number of underlying dimensions of deprivation. If, as with the Ireland data, we could extract a single main dimension of deprivation we would be a large part of the way towards question selection. As well as questions relating to goods and activities, the analysis included questions about subjective financial well-being and indebtedness where these were asked.

Separate factor analyses were run using the following subsets of the PSE survey data⁸:

- Adult items and activities (54 questions).
- Adult items and activities considered as necessities by 50 per cent of the population (35 questions).

⁷ We have not reported estimates for the housing dimension and secondary poverty dimensions that were identified in this source.

⁸ Attempts at combining some of these elements in a single model proved unworkable.

- Child items and activities (30 questions asked of all parents)⁹.
- Questions relating to debt, borrowing to make ends meet, and items and activities that people had gone without because they could not afford them.

Like the PSE survey, FACS asks about a range of items and activities, although it includes a smaller number of child-focused questions. People are also asked whether they are able to keep up with their household and credit commitments, and how they feel they are managing financially. All these elements were included in the factor analysis carried out on the FACS data.

The BHPS asks people about their ability to afford a range of items (mostly consumer durables) and about one or two social activities. It also includes questions about money owed, typically on consumer credit commitments, and people's financial situations. It does not contain any strongly child-focused questions.

To assist anyone wishing to replicate this work more technical details about the type of factor analysis carried out are given in the annex to this chapter.

6.3 Findings

Although the results of the factor analysis are driven by the data used, there appears to be some common dimensions that can be identified from the different analyses. These relate in particular to family and social life, having disposable income, food and clothes, durable goods and financial difficulties.

Table 6.2 shows the factors extracted from analysis of the PSE survey, when all 54 adult items and activities used to measure material deprivation were included in the analysis. The first factor comprises two distinct elements: questions relating to family and social life (an evening out, going to the pub, having a meal out, visiting family or friends), and having disposable income to spend (going on holiday, having money to spend on oneself or to put aside in savings, being able to replace worn out furniture). When we include in the analysis only those items and activities that were considered necessities by 50 per cent or more of the population, disposable income remains a prominent factor (Table 6.3).

Analysis of FACS data produces similar results (Table 6.6), so that the first factor comprises aspects of family and social life (e.g. celebrations with presents at special occasions). Having spare money to spend also features in this dimension, and it includes several child-specific questions (e.g. a best outfit for children). Added to this, the PSE data on child items and activities indicates that parents consider social activities for their children to be an important part of non-deprivation (Table 6.5).

As requirements for everyday life, it is not surprising that food and clothing factors were extracted from both the PSE and the FACS data, in relation to adults and children alike. In some cases, these items appear separately (Table 6.5 and Table 6.6) while in other they appear together (Table 6.2) or combined with other factors (Table 6.3). It is notable that having an outfit to wear for social or family occasions loads particularly highly on the

⁹ All but three of these items and activities were thought to be necessities by over 50 per cent of parents, and consequently all were retained in the factor analysis.

clothing factors extracted from the PSE data (Tables 6.2 and 6.3) indicating again that being able to take part in social activities and family events is an important aspect of perceived non-deprivation.

Ownership of consumer durables emerges as a further factor that could be included in a measure of deprivation (Tables 6.2, 6.6 and 6.7). Not surprisingly, given the questions asked in the survey, durables feature particularly strongly in analysis of the BHPS (Table 6.7). Generally speaking, the factors relating to consumer durables include domestic consumer durables (washing machines etc.) as well as home entertainment equipment such as satellite TV and CD players.

As well as questions about particular items and activities, the PSE survey also asked a series of questions about how people had been managing financially in the past year, which included:

- whether they had been seriously behind in paying household and credit commitments;
- whether they or their children had had to go without items because they could not afford to buy them; and
- whether they had had to borrow from a pawnbroker, moneylender or from friends or family to pay for day-to-day needs.

In addition, respondents were asked to say whether they now considered themselves to be poor.

Factor analysis carried out on this data identified four underlying factors (Table 6.4). The first factor mostly concerns being behind with priority commitments such as utility bills, mortgage and Council Tax, while the fourth mainly relates to non-priority debts. The remaining two factors comprise questions about items and activities that adults and children have had to go without because of lack of money.

The FACS survey also asks people whether they are able to keep up with their household and credit commitments, and how they feel they are managing financially. As Table 6.6 indicates, three factors relating to these questions are distinguished by the analysis. Two of these (factors four and seven) relate to debt problems, while the third mostly comprises people's views about how they are coping financially.

The BHPS survey asks similar types of questions about whether people owe money on commitments including consumer credit, student loans and Social Fund loans, and about their financial situation - past, present and future. Two factors can be identified from the analysis - the first (factor 3) relates mostly to money owed on consumer credit commitments, while the second (factor 7) relating to people's financial situation (Table 6.7).

6.4 Implications

The findings from the factor analysis have a number of implications. Firstly, the analysis indicates that interpretable factors can indeed be derived from the datasets. None of these factors, however, equates to the type of basic deprivation measure that was found in the study carried out in Ireland (Callan et al, 1993). Second, the results suggest that there is a case for including questions about how people are managing financially and their subjective views about this. Finally, where questions are asked about debt and the ability to keep up with

financial commitments, this tends to reveal an underlying dimension separate from other forms of deprivation.

Annex: Results from the factor analyses

Table 6.2 PSE survey, all items and activities

	Factor loadings
<i>Factor 1: Family and social life, disposable income</i>	
An evening out once a fortnight	.939
Going to the pub once a fortnight	.898
A meal in a restaurant or pub once a month	.883
Holidays abroad once a year	.716
Holiday away from home for one week a year, not with relatives	.586
Coach or train fares to visit family or friends	.535
Small amount of money to spend each week on yourself	.433
Regular savings for rainy days or retirement	.412
Replace any worn out furniture	.338
<i>Factor 2: Mixed</i>	
Having a daily newspaper	.873
Fresh fruit and vegetables every day	.796
Carpets in living rooms and bedrooms	.750
Visiting friends or family in hospital or other institution	.663
A warm, waterproof coat	.639
Friends or family round for a meal, snack or drink	.547
A hobby or leisure activity	.542
A dishwasher	.422
Insurance of contents of dwelling	.375
A car	.368
Replace or repair broken electrical goods	.325
<i>Factor 3: Food and clothes</i>	
Meat, fish or vegetarian equivalent every other day	.596
An outfit to wear for social or family occasions	.561
Appropriate clothes for a job interview	.541
A roast joint or vegetarian equivalent once a week	.531
Two pairs of all weather shoes	.498
Two meals daily	.469
New, not second hand clothes	.440
<i>Factor 4: Computer-related</i>	
Access to the internet	.836
A home computer	.827
<i>Factor 5: Consumer durables</i>	
Mobile phone	.725
CD player	.635
Tumble dryer	.570
Satellite TV	.457
Kaiser-Meyer-Olkin Measure of Sampling Adequacy .934 ¹⁰	

¹⁰ The following interpretation is proposed by the originators of this measure <0.50—"unacceptable" (the categories are independent); 0.50 to 0.59—"miserable" ; 0.60 to 0.69—"mediocre" ; 0.70 to 0.79—"middling" ; 0.80 to 0.89—"meritorious" ; 0.90 to 1.0—"marvellous." A high value indicates low partial correlation coefficients between each pair of variables.

Table 6.3 PSE survey, items and activities considered as necessities

	Factor loadings
<hr/>	
<i>Factor 1: Disposable income</i>	
Small amount of money to spend each week on yourself	.849
Regular savings for rainy days or retirement	.780
Replace any worn out furniture	.760
Replace or repair broken electrical goods	.678
Enough money to keep home in decent state of decoration	.652
Holiday away from home for one week a year, not with relatives	.613
Insurance of contents of dwelling	.559
A hobby or leisure activity	.517
Friends or family round for a meal, snack or drink	.341
<i>Factor 2: Clothes</i>	
An outfit to wear for social or family occasions	.736
Appropriate clothes for a job interview	.643
Two pairs of all weather shoes	.613
Meat, fish or vegetarian equivalent every other day	.350
Washing machine	.322
<i>Factor 3: Food and social life</i>	
Two meals daily	.918
Presents for friends or family once a year	.505
Celebrations on special occasions	.475
A roast joint or its equivalent	.457
Meat, fish or vegetarian equivalent every other day	.405
A dictionary	.351
All medicines prescribed by your doctor	.326
<i>Factor 4: Social and family life</i>	
Attending weddings, funerals and other such occasions	.945
Visiting friends or family in hospital or other institution	.710
Visits to friends or family	.482
A hobby or leisure activity	.306
<hr/>	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy .878	
Some cross-loadings are present (eg for meat, fish or vegetarian equivalent every other day)	

Table 6.4 PSE survey, additional questions relating to deprivation

	Factor loadings
<i>Factor 1: Priority debts</i>	
Debt: Electricity	.955
Debt: TV licence	.923
Debt: Gas	.901
Debt: Telephone	.731
Debt: Mortgage	.719
Debt: Credit card	.622
Borrowed from friends	.612
Debt: Water	.601
Borrowed from family	.525
Consider self poor	-.486
Debt: Council Tax	.388
<i>Factor 2: Adult items and activities gone without</i>	
Gone without clothes	.849
Gone without shoes	.781
Gone without going out	.750
Gone without hobby or sport	.743
Gone without visits to the pub	.723
<i>Factor 3: Child items and activities gone without</i>	
Child gone without clothes	.964
Child gone without shoes	.893
Child gone without a hobby or sport	.738
Child gone without pocket money	.642
<i>Factor 4: Non-priority debt</i>	
Borrowed from moneylender	.955
Debt: HP payments	.763
Debt: Mail order	.534
Debt: Other loan	.339
Kaiser-Meyer-Olkin Measure of Sampling Adequacy .843	

Table 6.5 PSE survey, children's items and activities

	Factor loadings
<i>Factor 1: Social activities</i>	
Play group at least once a week for pre-school aged children	.850
Friends round for tea or a snack once a fortnight	.831
Going on a school trip at least once a term for school aged children	.630
Swimming at least once a month	.579
<i>Factor 2: Toys and clothes</i>	
Construction toys such as Lego or Duplo	.815
Educational games	.735
Some new, not second hand or handed-on clothes	.668
<i>Factor 3: Clothes</i>	
At least four pairs of trousers, leggings, jeans or jogging bottoms	.783
At least seven pairs of underpants or knickers in good condition	.716
All the school uniform required by the school	.675
At least four jumpers, cardigans or sweatshirts	.504
Leisure equipment such as sports equipment or a bicycle **	.320
Toys such as dolls and teddies	.314
<i>Factor 4: Leisure</i>	
Leisure equipment such as sports equipment or a bicycle **	.819
A new or second-hand bike	.802
A warm, waterproof coat	.556
At least 50p a week to spend on sweets **	.302
<i>Factor 5: Family and social life</i>	
Celebrations on special occasions such as birthdays	.908
A hobby or leisure activity	.877
A holiday away from home at least one week a year with family	.638
<i>Factor 6: Food</i>	
Fresh fruit or vegetables at least once a day	.863
At least 50p a week to spend on sweets **	.642
Meat, fish or vegetarian equivalent at least once a day	.606
<i>Factor 7: Computer-related</i>	
Computer suitable for school work	.867
Computer games	.844
Kaiser-Meyer-Olkin Measure of Sampling Adequacy .690 ¹¹	
** Cross-loading	

¹¹ Families with children comprised only 30 per cent of the total sample for the PSE survey, which may explain why the measure of sampling adequacy is considerably reduced.

Table 6.6 FACS survey

	Factor loadings
<i>Factor 1: Family and social life, disposable income</i>	
Celebration with presents at special occasions	.773
Toys and sports gear for children	.759
Good quality new brand name clothes or shoes for children	.707
Money for trips, holidays, outings or going with gifts to parties	.608
Have friends or relatives for a meal once a month	.590
Night out once a month	.586
Best outfit for children	.556
New not second-hand clothes	.555
Good quality brand name food most days	.468
One week holiday, not with relatives	.424
<i>Factor 2: Consumer durables</i>	
Tumble drier	.687
Dishwasher	.684
Separate deep freeze	.621
Cable, satellite or digital TV	.557
Home computer	.483
Car or van	.480
<i>Factor 3: Food</i>	
Fresh vegetables most days	.763
Meat or fish every other day	.707
Fresh fruit most days	.643
Cooked main meal every day	.640
Roast or similar at least once a week	.539
Cakes and biscuits most days	.536
<i>Factor 4: Debt</i>	
Debt: TV/video rental or HP	.790
Debt: Loan	.550
Debt: Council Tax	.515
Debt: Other HP payments	.504
Debt: Phone bill	.469
Debt: water rates	.467
Have problems with debt almost all the time	.360
<i>Factor 5: Money problems</i>	
Never have money left over	.858
Always run out of money	.819
Has overdraft and uses it	.574
Worried about money almost all the time	.394
Not managing financially	.361
Not a regular saver	.350
Financial situation has got worse in past 12 months	.316
<i>Factor 6: Clothes</i>	
Weatherproof coat for each child	.740
Two pairs all-weather shoes for each child	.679
Two pairs all-weather shoes for each adult	.604

	Factor loadings
Weatherproof coat for each adult	.566
<i>Factor 7: Debt</i>	
Debt: gas	.797
Debt: electricity	.791

Kaiser-Meyer-Olkin Measure of Sampling Adequacy .934

Table 6.7 BHPS survey

	Factor loadings
<i>Factor 1: Consumer durables</i>	
Colour TV in accommodation	.770
Telephone in accommodation	.686
Freezer in accommodation	.627
Washing machine in accommodation	.587
Video recorder in accommodation **	.519
Microwave oven in accommodation **	.384
<i>Factor 2: Consumer durables</i>	
Home computer in accommodation	.742
Dishwasher in accommodation	.715
CD player in accommodation	.588
Tumble drier in accommodation	.581
<i>Factor 3: Debt</i>	
Repayments on hire purchase or loans	.788
Owe money-personal loan	.702
Owe money-hire purchase	.645
Owe money-credit card(s)	.587
<i>Factor 4: Mixed</i>	
Buy new clothes	.676
Replace furniture	.647
Eat meat on alternate days	.645
Pay for annual holiday	.568
Feed visitors once a month	.562
<i>Factor 5: Housing and environment</i>	
Street noise	.787
Pollution/environmental problems	.721
Vandalism or crime	.593
Noise from neighbours	.512
<i>Factor 6: Housing and environment</i>	
Damp walls, floors, etc.	.698
Rot in windows, floors	.643
Leaky roof	.614
Condensation	.574
<i>Factor 7: Financial situation</i>	
Change in financial situation last year	.794
Financial expectations for year ahead	.698
Satisfaction with income of household	-.605
Financial situation	.575

Kaiser-Meyer-Olkin Measure of Sampling Adequacy .788

** Cross-loading

Annex: Technical details of the factor analyses conducted

The method of extraction was principal components analysis. An oblique rather than orthogonal rotation was used (promax with kappa=4), as the dimensions of deprivation are very likely to be correlated. Different methods of extraction and rotation were tried, including orthogonal rotations (such as varimax). These did not yield substantially different results.

Selection of the numbers of factors presented in Tables 4.2 to 4.6 was based upon:

- consideration of the eigenvalues (necessary condition, >1, the so-called ‘Kaiser criterion’);
- inspection of the scree plots (taking factors before any ‘elbow’);
- overall interpretability (meaningfulness of the variables in any factor).

The results reported are taken from SPSS output. Some of the key analyses were also re-run with stata and R to confirm their overall veracity. The results were very similar – however, to quote from the R documentation, “*There are so many variations on factor analysis that it is hard to compare output from different programs*” (Ripley, ‘factanal’ in package ‘mva’). .

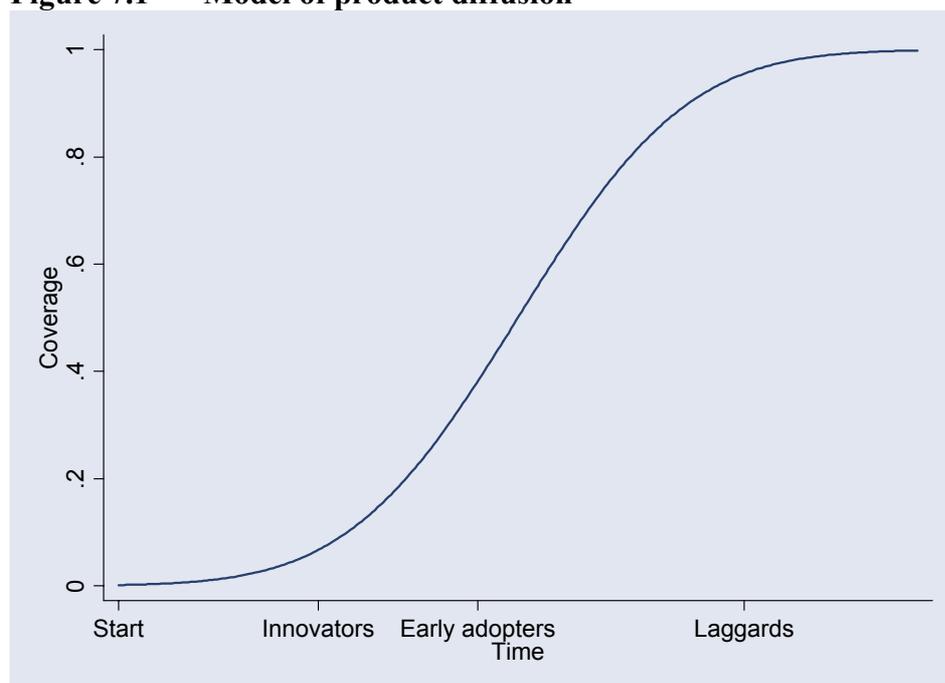
7 Longitudinal analysis

7.1 Introduction

Most work on measuring living standards has been based on snapshot pictures from cross-sectional data. When looking over time, it is apparent that ownership of some goods grows rapidly (eg mobile phones), while most people already own other goods, such as VCRs, and so growth is much slower.

Rogers' (1983) model of diffusion suggests that products follow an s-shaped pattern during their life-span, as shown in Figure 7.1. Over time coverage starts low, has a period of rapid rise, before tailing off in maturity – perhaps with coverage even falling at this point. The adoption of, say, video recorders and their maturity phase with the increasing take-up of DVD players may be an example of such a pattern. Products are said to follow this life cycle pattern for a number of reasons, including technological changes leading to reduced prices, and personal interactions between people¹².

Figure 7.1 Model of product diffusion



When choosing a set of deprivation questions durable goods and some other products will be at different stages of their life-cycle. If the measure is not to be overtaken by events, some consideration needs to be given to this. Of course, in a period of rising living standards we would anyway expect people to be buying more products. We may also consider if there are

¹² In the original formulation people's product adoption traits are normally distributed, and so this diffusion curve is a cumulative normal function. This model is, of course, subject to various criticisms that we do not discuss here. The general points made in this section do not depend on the precise model.

questions which are not linked to goods and hence not quite so sensitive to being at different stages of their product life cycle.

7.2 Aggregate trends over time

In this section we analyse trends in deprivation questions over time. Has deprivation and poverty been declining in recent years, as the income data tends to show?

The picture for lone parents is illustrated in Table 7.1, since for this group we have consistent coverage in FACS for all four years. Over this period the financial resources available to lone parent families increased substantially, in particular with the replacement of Family Credit by Working Families' Tax Credit and increases in Income Support scale rates. Child Benefit has also increased in real terms.

All measures have shown improvement over this time, whether based on enforced lack of goods/services, debt (arrears) situation, or subjective view about living standards. It is promising that each type of measure shows the same basic picture.

Table 7.1 Trends over time in deprivation questions - FACS

		Cell percentages				Change 1999- 2002
		Lone parents				
Proportions that can't afford items over time		1999	2000	2001	2002	
expmain	Cooked main meal every day	7.5	5.7	4.5	3.0	-4.5
expmeat	Meat or fish every other day	17.9	15.7	11.8	10.0	-7.9
expmeat	Roast meat joint or similar at least once a week	20.4	18.9	14.1	11.4	-9.0
expvege	Fresh vegetables most days	16.7	13.1	10.8	9.0	-7.7
expfrui	Fresh fruit most days	16.9	14.4	10.7	8.6	-8.3
expcake	Cakes and biscuits on most days	19.8	16.5	13.1	9.5	-10.3
expbfoo	Good quality brand name food for family meals most days	40.0	36.5	29.2	25.5	-14.5
excoata	Weatherproof coat for each adult	23.4	20.0	17.2	14.1	-9.3
excoatc	Weatherproof coat for each child	9.0	6.9	6.3	5.0	-4.0
exshoea	2 pairs all-weather shoes for each adult	32.8	27.8	22.9	21.2	-11.6
exshoec	2 pairs all-weather shoes for each child	24.6	18.9	15.3	13.3	-11.3
expnewc	New not second-hand clothes for family when needed	41.1	35.1	28.4	24.9	-16.2
expbest	Best outfit for children	20.1	19.0	15.2	12.8	-7.3
expbclo	Good quality new brand name clothes/shoes for children	45.2	39.0	32.1	30.7	-14.5
expcele	Celebration with presents at special occasions	27.0	22.7	17.1	14.0	-13.0
exptoys	Toys and sports gear for children	24.4	21.1	15.1	11.9	-12.5
exptrip	Money for trips, holidays, outings or going with gifts to parties	58.6	52.4	46.0	40.6	-18.0
expchol	One week holiday, not with relatives	74.0	68.5	62.1	58.1	-15.9
expnigh	Night out once a month	45.6	44.0	34.8	29.0	-16.6
expfrie	Have friends/rels for meal once a month	33.9	29.0	22.5	19.8	-14.1
exptv	Colour TV	1.6	1.0	0.3	0.5	-1.1
expcabl	Cable, satellite or digital TV	38.7	34.4	28.9	27.9	-10.8
expfrid	Fridge (inc. fridge freezer)	1.6	1.1	0.6	0.6	-1.0
expfree	Separate deep freeze	17.9	16.1	11.9	9.2	-8.7
expwash	Washing machine	4.2	3.6	2.0	2.0	-2.2
exptumb	Tumble drier	30.7	27.1	24.2	21.8	-8.9
expphon	Phone, inc. mobile	9.0	6.7	5.1	4.0	-5.0
expdish	Dishwasher	36.3	34.8	30.6	29.8	-6.5
expvide	Video recorder	11.1	8.8	6.9	6.1	-5.0
expcent	Central heating	8.5	7.5	6.3	5.3	-3.2
expmicr	Microwave	11.8	8.8	6.5	4.4	-7.4
expcar	Car or van	33.7	30.4	25.9	23.8	-9.9

		Lone parents				Change 1999- 2002
Proportions that can't afford items over time		1999	2000	2001	2002	
expmusi	Music system (tape or CD)	11.5	9.0	6.5	4.7	-6.8
expcomp	Home computer	50.3	46.3	37.7	31.9	-18.4
<i>Average change deprivation indicators 1999-2002</i>						-9.5
debt1	Debt: electricity	7.9	7.3	6.0	6.3	-1.6
debt2	Debt: gas	14.9	12.1	8.8	8.1	-6.8
debt3	Debt: other fuel bills	0.4	0.5	0.3	0.3	-0.1
debt4	Debt: council tax	15.6	14.9	12.3	10.9	-4.7
debt5	Debt: insurance policies	1.0	0.8	0.7	0.7	-0.3
debt6	Debt: phone bill	15.7	14.5	12.1	11.4	-4.3
debt7	Debt: TV or video rental or HP	3.2	3.0	2.2	2.2	-1.0
debt8	Debt: other HP payments	5.5	5.2	5.0	5.0	-0.5
debt9	Debt: water rates	17.4	14.9	12.7	12.6	-4.8
debt10	Debt: cards or MOC	6.4	4.8	4.6	3.4	-3.0
debt12	Debt: loan	8.1	8.6	6.8	5.0	-3.1
<i>average change, debts</i>						-2.7
debtprob	Probs with debts almost all time	14.5	13.3	10.2	12.2	-2.3
nomoney	Never have money left over	47.9	40.4	34.2	17.4	-30.5
runout	Always run out of money	27.1	24.1	21.0	19.3	-7.8
worry	Worried about money almost all time	44.7	38.1	32.6	29.8	-14.9
manage	Not managing financially	34.7	30.1	24.1	18.3	-16.4
finsit	Situation worse in past 12 months	29.0	27.1	24.2	22.6	-6.4
<i>Average change, subjective statements</i>						-13.1

For the population as a whole, we may consider trends from the BHPS (Table 7.2). The pattern of improvement is not as clear. Obviously whilst average incomes have been rising, it is likely that policy changes have been most effective at increasing lower incomes among families with children.

Table 7.2 Trends over time in deprivation questions – BHPS

	1996	1997	1998	1999	2000	2001	<i>Change 2001- 1996</i>
wHSCANA Keep home adequately warm	3.2	2.5	1.6	1.7	1.6	1.7	-1.5
wHSCNTA Would like to keep home warm	1.9	1.9	1.1	1.1	0.9	1	-0.9
wHSCANB Pay for annual holiday	31.7	27.8	25.1	24.6	23.7	27.8	-3.9
wHSCNTB Would like to pay for annual holiday	19	16.4	14.5	13.6	13.4	16.7	-2.3
wHSCANC Replace furniture	24.4	20.3	17.5	17.9	17.5	14.8	-9.6
wHSCNTC Would like to replace furniture	12.6	11.3	9.9	9.9	9.7	8.4	-4.2
wHSCAND Buy new clothes	9.6	8.1	7.6	6.8	7	6	-3.6
wHSCNTD Would like to buy new clothes	4.9	4.5	4.3	3.5	3.3	3.4	-1.5
wHSCANE Eat meat on alternate days	11.8	9.9	8.8	8.9	7.7	7.9	-3.9
wHSCNTE Would like meat on alternate days	2.7	2.4	1.6	1.6	1.6	1.9	-0.8
wHSCANF Feed visitors once a month	32.5	27.4	25.9	23.9	24.5	25.9	-6.6
wHSCNTF Can't afford visitors once a month	6.3	5	4.5	4.5	4.8	5.3	-1
wFISIT Financial situation (quite or very bad)	8.7	8	6.9	6.9	6.9	7.4	-1.3

7.3 Individual-level analysis

As incomes have grown, the different measures of living standards in FACS have reflected this improvement at the aggregate level. In this section we consider how well some particular measures respond to improved fortune at the level of the individual family. Four such measures are shown in Table 7.3.

At the individual level, we examine those moving into and out of receipt of Income Support during 2001-02. This creates four groups. In the first row we then show the proportion of those with a 'poor' score who continued to have a 'poor' score after than IS transition. The second row shows the proportion of those with a 'good' score who moved to have a 'poor' score, after the IS transition.

So, among those leaving IS in 2001 who were not managing, 21 per cent were also "not managing" in 2002. This is the lowest figure among the transition groups. It indicates the kind of effect of leaving Income Support that we would expect. Conversely, those moving to

IS were the most likely to have persistent problems (of not managing) and least likely to leave such problems behind – again in line with expectations.

The next three panels of Table 7.3 examine other measures of living standards. They behave much as we would expect.

Table 7.3 IS dynamics and living standards measures

Cell percentages

Receipt of Income Support in 2001 and 2002					
	IS both years	Left IS	Moved to IS	Not IS either year	All
Subjective assessment of financial situation					
Not managing both years	49%	21%	63%	40%	43%
Managing→not managing	13%	10%	23%	3%	5%
Utilities debt					
	IS both years	Left IS	Moved to IS	Not IS either year	All
In debt both years	61%	49%	71%	58%	52%
Not in debt→debt	23%	10%	32%	3%	6%
Affording toys for children					
	IS both years	Left IS	Moved to IS	Not IS either year	All
Can't afford both years	31%	25%	37%	27%	29%
Afford→can't afford	14%	10%	12%	2%	4%
Affording holidays					
	IS both years	Left IS	Moved to IS	Not IS either year	All
Can't afford both years	82%	70%	84%	58%	68%
Afford→can't afford	42%	18%	54%	8%	10%

7.4 A case for 'chain-linking'?

As part of the theory of index numbers, a series of short-run indicators is sometimes converted to a single longer-run series. This is known as 'chain linking'. When different indices are changed, it is vital there is a 'link year', where both bases are known. This provides a 'link factor' to use in producing new indices by multiplying rates of change. A simple example is shown in Table 7.4. Effectively each index is recalculated with new weights each year.

We would recommend statistical advice on whether these concepts would be applicable to a weighted index of living standards. Index numbers are based around quantities and prices. A welfare index would consist of quantities (proportions lacking through inability to afford) and 'weights', where such weights could be based on public perception of necessities, proportion owning, etc. This is somewhat different. However, such a methodology if acceptable would permit re-basing the index on a regular basis, even as often as annually though less frequently would probably be appropriate.

Table 7.4 'Chain-linking' different index series

Year	Index A	Index B	Index C	Overall index	Derived
2003	100			100	
2004	90	100		90	=90*100/100
2005 (discontinued)		95	100	85.5	=90*95/100
2006		(discontinued)	97	82.935	=85.5*97/100
2007			92	78.66	=82.935*92/97

8 Validating low incomes

8.1 Introduction

In most cross-sectional studies there is a group of low income families that do not appear to be 'poor'. That is, despite their low incomes they have living standards rather higher than most low income groups – avoiding debt, able to afford more goods and services, stating satisfaction with their standards of living. Often, indeed, the lowest income 10 per cent of the population appears to be better off, in some senses, than the second decile.

Various explanations have been put forward for this. Often it is self-employed people in this situation, and some evidence suggests they have spending patterns more typical of the average than the poorest. This is one reason that the self-employed are often dropped from the base of income statistics – their incomes are not reflective of their 'true' living standard.

There is a range of other explanations. These relate to mis-measurement of income, use of savings/credit, money management, and longer-term status.

It is possible that some incomes have not been properly measured. Perhaps there are sources of income not accounted for, or sources of income not even asked about (perhaps money from family). As partial evidence of this, there was a higher rate of imputation of missing income data for the non-deprived group (16 per cent, compared with three per cent for the deprived group). This could indicate that there is disproportionate measurement error for this group.

Another possible explanation is that some low-income families are able to live off accumulated savings, or maintain a better standard of living through using credit. The credit explanation is less convincing, because this group generally has lower credit use. However, people in the non-deprived group often do have higher savings than those in the deprived group, who tend to have little if any money saved.

Those living on a low income with apparently adequate living standards may have very good budgeting skills, superior to the deprived group. This may explain, for instance, the apparent success of low-income pensioners in maintaining their living standard. It is less likely to be a useful explanation among families with children. It is worth noting that the low income (measured AHC) but not deprived group have rather different family characteristics. A much higher proportion of the non-deprived group were owner-occupiers, compared to the deprived subset of those on a low income (63 per cent compared to 27 per cent). And twice as many were couples rather than lone parents (64 per cent compared with 31 per cent). Both points may be indicative of higher longer-term income among the non-deprived group, which we explore below in section 8.2.2.

A final explanation, perhaps linked to the availability of savings, is that the non-deprived group on low incomes are in transition. They are accustomed to higher incomes in the past enabling them to build up savings, and stocks of durable goods. In due course they will move out of low incomes into higher incomes.

8.2 FACS panel analysis

We can shed some light on the previous discussion using the FACS panel families. This section is based on those in the bottom fifth of incomes (AHC) in 2001. We use the penultimate wave to investigate how circumstances had changed by late 2002, the most recently available information.

We define as ‘deprived’ those lacking three or more items from the full list of deprivation indicators, through being unable to afford them. This represents about one-third of families with children in 2001, and closer to two thirds among the lowest income quintile¹³.

8.2.1 MONEY MANAGEMENT AND SAVINGS

Those families in the bottom quintile, but not ‘deprived’ on our broad definition, were more likely than deprived families to have a bank account, and to be regular savers. Among those with savings they had appreciably more saved.

More than half (56 per cent) of the non-deprived group said they were managing quite or very well, contrasted with 15 per cent of the deprived group. They were also much more likely to say they had money left over each week or month, though 41 per cent hardly ever or never did so (compared, however, with 74 per cent of the deprived group).

These figures suggest that various measures of material deprivation provide consistent results. Some families with incomes in the bottom quintile do not report high levels of hardship, and this may be identified by a range of different questions and pieces of information.

¹³ We could alternatively use the PSI hardship scale, but do not because we wish to analyse by some of its constituent elements (such as savings and subjective well-being).

Table 8.1 Saving, managing and deprivation status: bottom FACS quintile
Column percentages

	Deprived group	Not deprived	All – in bottom 20% of incomes
Has current account or savings account	56	84	64
<i>Do you save regularly?</i>	10	39	18
Median saving level (with accounts)	£100	£1500	£450
<i>Taking everything together, how are you and your family managing financially these days?</i>			
Very well	2	18	7
Quite well	13	38	21
All right	46	36	43
Not very well	11	3	8
Some difficulties	21	4	16
Deep problems	6	-	4
<i>How often, would you say, do you have money over at the end of a week?</i>			
Always	2	12	5
Most weeks/months	3	10	5
More often than not	2	9	4
Sometimes	17	24	19
Hardly ever	30	22	28
Never	44	19	37
DK, etc.	1	4	2
Unweighted base	978	413	1391

Base: bottom 20 per cent of equivalised incomes, AHC.

8.2.2 LOW INCOME – TRANSITORY OR LONG TERM?

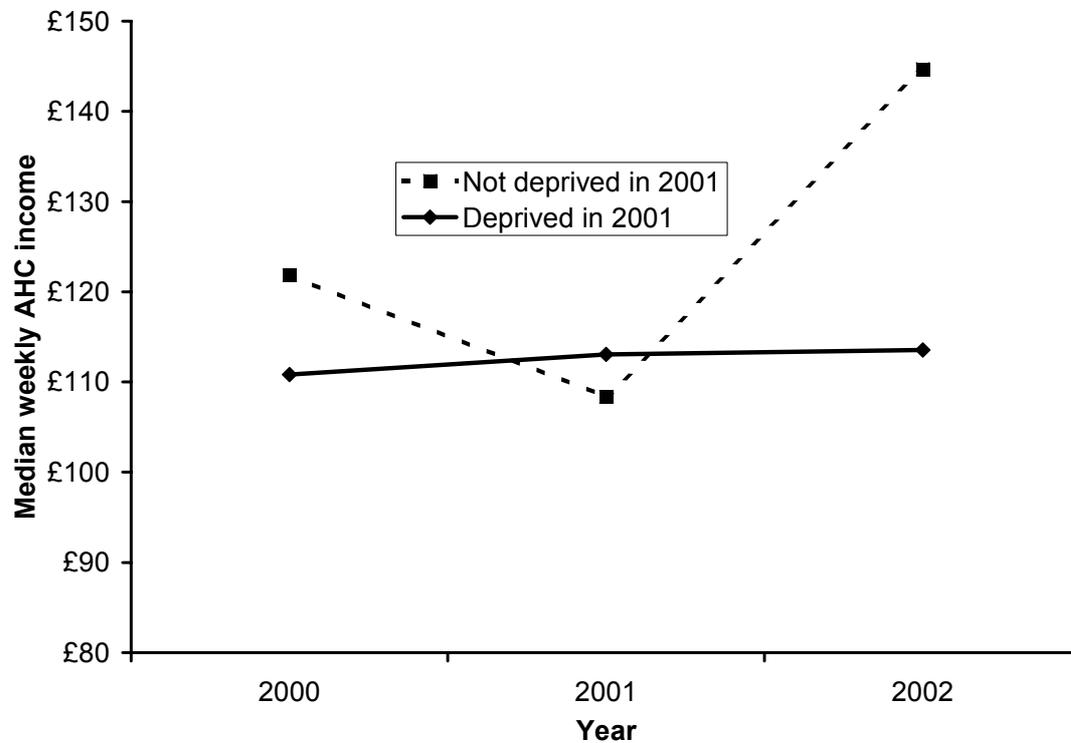
It is possible that the non-deprived group among those on low incomes are observed as poor only for a short time. Instead, they generally have higher incomes and they are observed in a short dip. Whether that dip is real or measurement error is harder to say. To investigate this we take those on low incomes in 2001, and then look at the incomes of the ‘deprived’ and ‘non-deprived’ in the previous year, and following year¹⁴.

Those in the bottom quintile, but not deprived, appeared to be just visiting low income temporarily. Their incomes were somewhat higher in the previous year (where known) and substantially higher in the following year. By contrast, those both deprived and on a low income had quite flat income trajectories over the same period. For whatever reason, the deprivation indicators appear to be distinguishing shorter-term from longer-term poverty.

¹⁴ This is based on those respondents with valid income data for both 2001 and 2002. The 2000 data is only available for lone parents and those couples on a low income in 2000. The income comparison 2001-2002 is more meaningful than 2000-2001. However, the picture is substantially unchanged if the base is reduced to those with valid income data in all three years.

This may be a helpful feature, although in any case the persistence of poverty is best measured by a panel study than through cross-sectional surveys

Figure 8.1 Incomes histories of those in the bottom quintile in 2001



9 Topic areas

9.1 Introduction

This investigation has affirmed the usefulness and coherence of deprivation indicators as a route to identifying material hardship, and validating links between truly low incomes and living standards. We propose that they are used to supplement the FRS income data. The focus on child poverty leads us to also propose the inclusion of specifically child-focused questions. However, these will tend to show lower levels of deprivation than even similar questions asked of the parents.

Detailed investigation has found that the presence of debt provides another useful set of information. We explore the effect of including debt-related questions in section 9.2. A further set of questions we propose are those relating to subjective assessments of well-being.

9.2 Debt

The rather emotive term ‘debt’ is used to describe two quite different situations. First, it is often used to refer to use of consumer credit. So someone is said to be ‘in debt’ if they, say, have a personal loan from a bank, a Social Fund loan, owe money on a credit card, or have bought goods on hire purchase or through a mail order catalogue. (In principle this could also include having a mortgage, though research tends to exclude such commitments.) At any one time half the population owes money on consumer credit and 94 per cent of credit borrowers are up to date with the repayments.

At the same time, debt is also used to refer to financial difficulties and people are said to be ‘in debt’ if they have fallen into arrears with the payments on any of their household bills or other commitments. Applying this definition, in mid 2002 around three in ten families with children (31 per cent) were in financial difficulty, compared with two in ten (20 per cent) of all households (Kempson 2002). Moreover, lone parents have a much higher likelihood of financial problems than other family types.

The types of financial difficulties that were most strongly linked to low income included arrears on the main household bills - gas, electricity, water and council tax (Berthoud and Kempson, 1992; Gray et al 1994; Herbert and Kempson, 1995; Rowlingson and Kempson, 1993). In contrast drops in income were most associated with mortgage arrears and problem overdrafts (Berthoud and Kempson, 1992; Ford et al, 1995).

It is clear from qualitative research that *fears* about getting into difficulty are also quite common when people face the transition into work from a spell of claiming benefits (Farrell and O’Connor, 2003; Ford et al, 1995; Harries and Woodfield, 2002).

We turn now to examine levels of debt (defined as being in arrears with financial commitments) in FACS, and how this relates to income and deprivation. For this purpose, we have counted as deprived those people lacking three or more of the main indicators – this

is too broad a definition (including 31 per cent of families), but is useful for looking at the overlaps between deprivation and debt.

As Table 9.1 shows, those people not lacking items through being unable to afford them (hence clearly not deprived) were unlikely to be in arrears. In contrast, 33 per cent of those unable to afford at least three of the list of items were in arrears with some form of payment.

Table 9.1 Deprivation and Debt (FACS 2002)

	Column percentages		
	Deprived – lacking 3+ items as unable to afford	Not deprived	All families with children
Utilities debt	28	3	11
Credit debt	10	*	3
HP style debt	8	*	3
Any of these debts	33	4	13
Unweighted base	2608	5275	7883

Among those both in arrears, and deprived, average incomes were lower than for those deprived and not in arrears (Table 9.2). Looking just at those lacking deprivation indicator goods, more of those with arrears never had money left over (53 per cent compared with 32 per cent); more were worrying about money almost all the time (57 per cent compared with 26 per cent); and more said they were not managing (nearly half compared with one in six).

However, there were relatively few families with children who were in arrears, but not also deprived. As with child deprivation, debt appears to be a subset of deprivation (it is, after all less common using the definitions here). It is a strong measure of the depth of deprivation or poverty but it does not identify a different group of people from the deprivation indicators, at least among families with children.

Table 9.2 Deprivation, debt and poverty (FACS 2002)

	Column percentages				
	Deprived and indebted	Deprived, no debt	Debt, not deprived	No debt, not deprived	All
Median weekly income AHC	£147	£174	£188	£294	£244
Lone parents	59	44	44	13	25
Never have money left over	53	32	28	13	22
Worried about money almost all the time	57	26	24	4	15
Not managing	49	16	16	2	10
Unweighted base	903	1705	196	5079	7883

A similar picture is found among respondents to PSE, a survey of the general population not just families with children (Table 9.3). Again, there were relatively few people who were in arrears but not deprived (two per cent of the sample). But those with debts were more likely to rate themselves as poor than others who were deprived. Their incomes were very similar.

Table 9.3 Deprivation, debt (and informal borrowing) and poverty (PSE 1999)

	Column percentages				
	Deprived and indebted	Deprived, no debt	Debt, not deprived	No debt, not deprived	All
Median [PSE] income	£175	£181	£323	£323	£283
Are you poor now ...					
All the time	31	19	3	1	7
Sometimes	44	44	34	10	20
Never	25	37	63	89	73
Unweighted base	91	497	31	902	1521

Nevertheless, being in debt remains a subset of those classified as deprived. There were few who were in debt, but not also showing up as deprived (on the basis of being unable to afford a number of items). This again suggests that being in arrears with financial commitments, on top of deprivation, provides some information about the overall depth of poverty experienced by particular families.

The proportion of people having arrears reduces with income, more quickly it seems than the incidence of deprivation (see Figure 9.1 and Figure 9.2).

Figure 9.1 Debt and deprivation by income level (AHC)

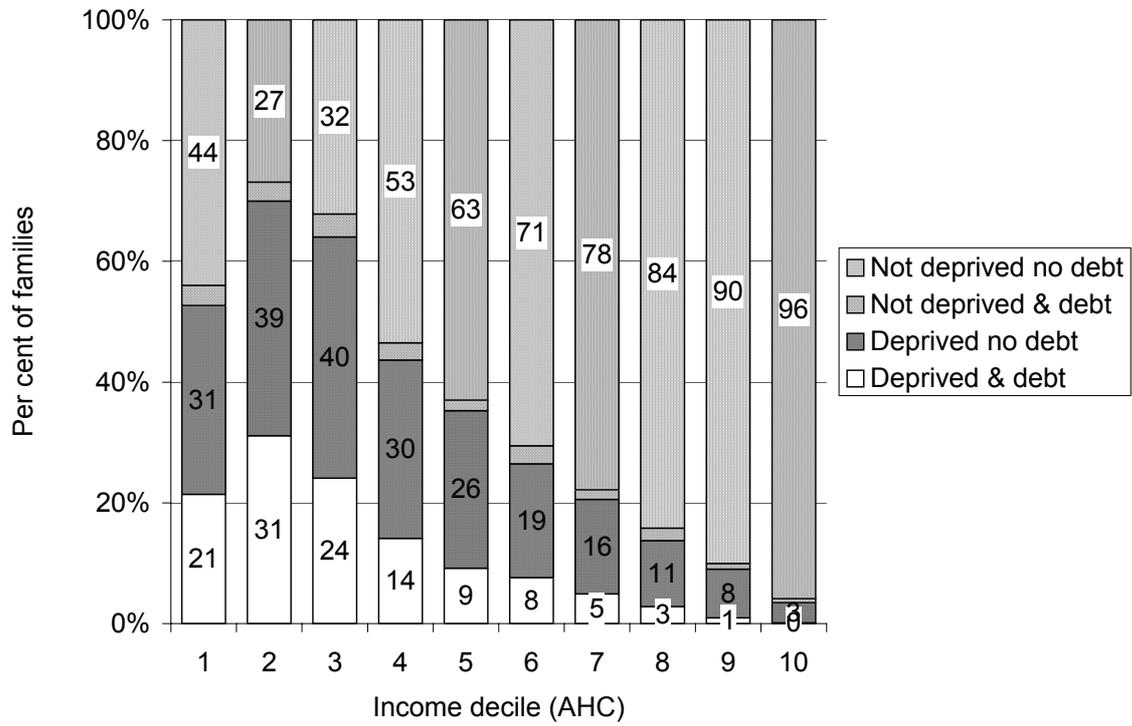
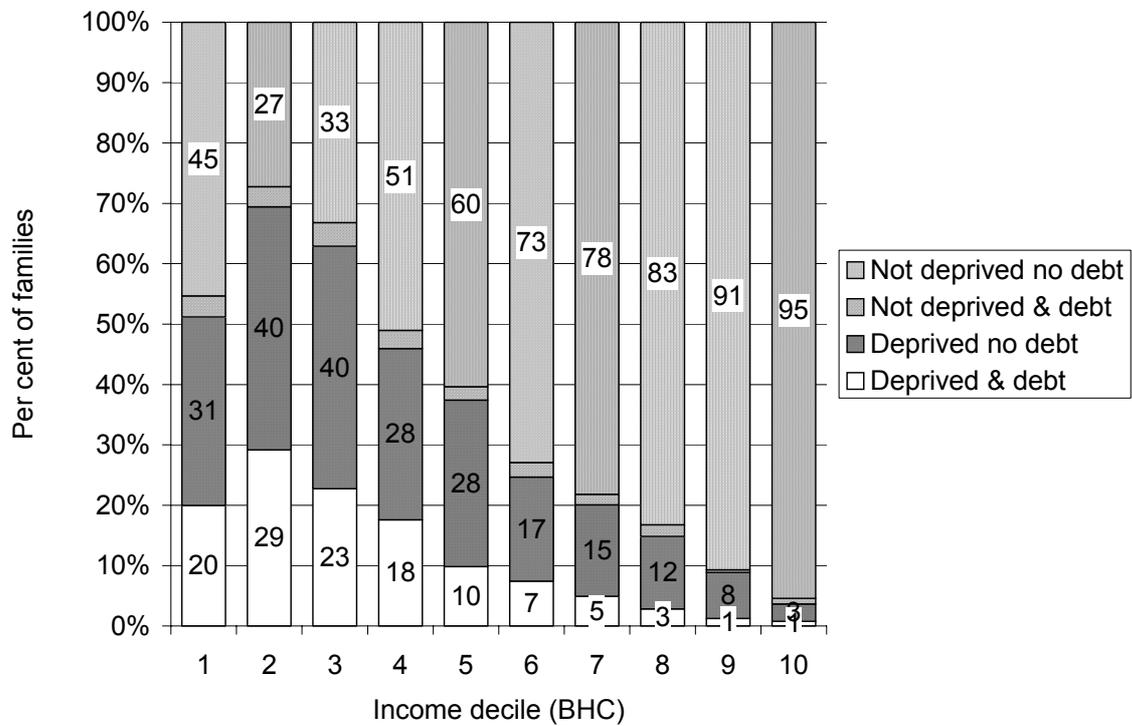


Figure 9.2 Debt and deprivation by income level (BHC)



9.3 Subjective well-being

Subjective questions can provide further information about poverty. The incomes of those both deprived, and saying they are poor, are significantly lower than those who appear deprived but say they are never or only sometimes poor¹⁵. As shown in Table 9.4, among those deprived (enforced lack of two or more necessities), it is those with the worse subjective assessments that have the lowest incomes.

Table 9.4 Deprivation, subjective well-being and average equivalised incomes (PSE 1999)

	Do you think you could genuinely say you are poor now...			Column percentages
	All the time	Sometimes	Never	All PSE respondents
Lacking 2+ items	£120	£155	£257	£179
Not deprived	£217	£251	£335	£323
All PSE respondents	£130	£204	£318	£284

The evidence base on subjective measures in the UK could be stronger. It seems that the subjective impressions give further evidence on material situation, over and above income and deprivation indicators. However there are likely to be important associations between subjective assessments and socio-demographic characteristics. In Table 9.5 we restrict attention to the bottom third of equivalised incomes (using the PSE study's preferred definition). Among this group, 12 per cent described themselves as poor all the time, and a further 32 per cent said they were poor sometimes. There was a sharp difference, however, between those aged 65 (or more) and younger groups. The older group were much less likely to say they were poor, despite being on the same level of incomes. This might reflect a reluctance among older people to say that they were poor. Alternatively, since the older group were among those most commonly on low incomes, they could have been making a personal judgement based on those of the same age group. We cannot be sure from such evidence.

¹⁵ We are not convinced of how coherent it is to be "poor, genuinely, now, sometimes" – but this is the main PSE subjective question available.

Table 9.5 Subjective well-being by age group, in the bottom third of equivalised incomes (PSE 1999)

	Column percentages				
	16-34	Age group			All
		35-49	50-64	65+	
<i>Do you think you could genuinely say you are poor now</i>					
All the time	15	15	20	6	12
Sometimes	43	50	30	19	32
Never	42	35	51	75	56
Unweighted base (=100%)	158	148	165	413	884

The replies of those of working age were much more similar. Most families with children will be of working age, so it is possible that such associations will not be so relevant. It is possible to conduct the same analysis comparing families with children with others. However, clearly this puts pressure on the definition of the equivalence scale being right. An analysis based on those of working age (but using the same income break as before) is shown in Table 9.6. A rather odd result is that families with one child were most likely to say they were poor all the time, and those with two or more children less likely; those without children appear in between. In none of these cases is the sample particularly large. Those with children had similar rates of saying they were never poor, in each case lower than among families without children.

It is difficult to explain this result. The process of equivalisation affects which families with (and without) children are placed in the bottom third of the income distribution. Hence, some of the differences might change if alternative equivalence scales were used. Analysis showed that those with one children were slightly more likely to be classified as poor, than those with two or more children, among those with low incomes.

Those respondents on a low income but in paid work were less likely to say they were poor than those not in paid work.

Table 9.6 Subjective well-being by family status, in the bottom third of equivalised incomes (PSE 1999) – those aged 16-64

	Column percentages			
	Number of dependent children			All
	None	1	2+	
<i>Do you think you could genuinely say you are poor now</i>				
All the time	16	28	9	17
Sometimes	38	33	52	41
Never	47	39	39	43
Unweighted base (=100%)	236	102	133	471

In Table 9.7 we try to show the how well different ethnic groups say they are managing, with a limited control for income group (splitting equivalent incomes into upper and lower halves). For each group, those in the half with more income clearly report better circumstances than those in the lower half of incomes. There was, however, some tendency for ‘black’ families¹⁶ to report rather worse financial circumstances, within each income group. Only ten per cent of black respondents with above-median equivalised incomes said they were ‘living comfortably’, compared with around 40 per cent for other groups. There may also be evidence of greater problems among some of the groups. Obviously the small sample sizes here raise concerns, suggesting that some attention is paid to other evidence that accumulates on this association.

Table 9.7 Subjective well-being by ethnic status, by halves of equivalised income (BHPS wave 11)

	Column percentages							
	White		Black		Indian		Pakistan / Bangladesh	
	1	2	1	2	1	2	1	2
<i>Financial situation (kFISIT)</i>								
Living comfortably	26	42	8	10	17	44	14	[33]
Doing all right	36	41	2	50	44	31	38	[53]
Just about getting by	29	14	28	27	24	23	30	[13]
Finding it quite difficult	6	2	26	14	11	3	13	[-]
Finding it very difficult	3	1	11	1	4	-	4	[-]
Unweighted base (=100%)	9175	8113	55	56	60	50	74	18

9.4 Issues of question wording – consensual deprivation indicators

Whilst BHPS, FACS and the PSE each asked about deprivation, the manner of questioning was very different. PSE used a ‘shuffle card’ approach, getting people to put relevant cards into differently defined boxes. FACS uses a single showcard, from which people answer about a series of questions. BHPS asks two questions for each item, establishing first whether people have that item. If they do not, they are asked whether the absence of that item is matter of being unable to afford it. Examples of the wordings used are shown in Table 9.8.

The FACS approach was chosen, after piloting the BHPS version, because it seemed quicker and less intrusive for respondents. The PSE approach may make sense for a very large number of questions, but is less useful with a shorter series of questions. We therefore

¹⁶ The BHPS codes amalgamated here are ‘black – Caribbean’, ‘black – African’ and ‘black – other’.

propose taking a FACS-style approach for questions in FRS. This will also be familiar territory to NatCen researchers and many of its interviewers.

Table 9.8 Deprivation indicators: different approaches

PSE	FACS	BHPS
<p>Now I'd like to show you a list of items that relate to our standard of living. Please tell me which item you have or do not have by placing the cards on the base card that applies to you. Please put the items into three piles A, B or C. INTERVIEWER PLACE CARDS A, B AND C DOWN AND GIVE RESPONDENT SET E (PINK CARDS) [HaveNec] Now could you please put the items on card set E into three piles A, B and C? Pile A is for the items you have. Pile B is for items you do not have but don't want. Pile C is for items you do not have and can't afford.</p>	<p>SHOW CARD M1 Do you and your family have...A cooked main meal every day? THIS IS RESPONDENT'S OWN INTERPRETATION. "We have this", "We would like to have this, but cannot afford it at the moment", "We do not want/need this at the moment"</p>	<p>Here is a list of things which people might have or do. Please look at this card and tell me which things you (and your household) have or do? CODE IN GRID BELOW ASK H59 FOR EACH ITEM CODED 2 'No' AT H58 H59 Would you like to be able to . . . but must do without because you cannot afford it?</p>

The approaches taken to question wording in other areas – debt, subjective well-being – also varied across surveys.

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Annex A: Data sets used in this study

PSE

The Millennium Study of Poverty and Social Exclusion (PSE) was a one-off study with interviews taking place in 1999. It may be regarded, in part, as an update to the 'Breadline Britain' studies conducted in 1983 and 1990. Funding was provided by the Joseph Rowntree Foundation, and the project led by a number of teams at the Universities of Bristol, Loughborough and York. There were two components to the data collection.

In June 1999 a number of questions were included in the Omnibus Survey of the Office for National Statistics (ONS). These asked a random sample of the population for their views on which items were 'necessities of life'. Those goods and activities rated as necessary by 50 per cent or more of the sample (of 1,855) formed the building blocks for the poverty measure in the main survey.

The main PSE survey took place in 1999, and was based on a follow-up to the 1998-99 General Household Survey. The respondents were selected to include a much higher proportion of lower income than higher income households, sampling 40 per cent from the lowest income quintile, 30 per cent from the fourth quintile, and 10 per cent from the highest 60 per cent of equivalised households incomes. ONS conducted the fieldwork for the PSE, as they had for the earlier GHS interviews. The sample size was 1,534.

The questions in the main PSE included two long sets of deprivation questions. These comprised

- 54 items relating to adults (eg. having two meals a day, a washing machine, two pairs of all-weather shoes);
- 30 items relating to children asked only of families (eg. a garden to play in, some new clothes, fresh fruit or vegetables daily).

Beyond that a number of other sections of the interview included questions relating to poverty, social exclusion or living standards more generally. The principal topics were:

- Satisfaction with housing.
- Health and disability.
- Social networks and support.
- Debts, utility bills.
- Going without items when money is short.
- Subjective assessments of living standards.
- Area/neighbourhood satisfaction.

FACS

'Families and Children Study', or FACS. This series of surveys have now taken place in 1999, 2000 and 2001 (three more years are planned). However, the composition of each year's survey has changed considerably over time. In each year (1999, 2000 and 2001) a sample of lone parents has been interviewed. In 1999 and 2000, only low/moderate income

couples with children were interviewed¹⁷. Interviews were extended to all couples, across the income distribution, in 2001 to create a representative sample of all families with children.

These surveys have several aims. The most important are to analyse the effectiveness of work incentive measures, and the effects of policy on families' living standards. The main sample in 1999 consisted of lone parents, and those couples with children who were not in paid work of 16 or more hours, receiving Family Credit, or whose income was within 35 per cent of the limit for Family Credit.

The main sample in 2000 consisted of all families interviewed in 1999, plus booster and re-screened samples whose income was within 10 per cent of the limit for WFTC (plus childcare) – or who were not in paid work of 16 or more hours, or were receiving WFTC, or lone parents of any level of income. Had the limit used in 1999 been adopted for 2000 the cut-off would have been around four per cent above WFTC. So, the 2000 survey introduced a group of slightly higher income couples to the sample.

The main sample in 2001 was drawn from all families previously interviewed (in 1999 or 2000), plus booster samples to extend the sample to families of all income levels. This meant going back to couples who had previously been screened out as having higher incomes, as well as interviewing samples of new Child Benefit recipients in each sampled area.

BHPS

The BHPS contains individuals of all ages, interviewing those aged 16+ in each year. It was designed as an annual survey of each adult (aged 16+) member of a nationally representative sample of more than 5,000 households, making a total of approximately 10,000 individual interviews in its first year, 1991. The same individuals were then re-interviewed in successive waves and, if they split-off from original households, all adult members of their new households were also interviewed. Children are interviewed once they reach the age of 16. The sample remains broadly representative of the population of Britain as it changes through the 1990s.

Recent top-ups to the sample have meant that the number of interviews with lower-income families, and with families in Wales and Scotland, have been increased. This is accounted for in the way the data is weighted, to arrive at conclusions representative of all individuals and households.

In 1995 and 2000, additional questions were asked about people's savings (and debts). These included questions about the amount of savings and investments that people had acquired.

FRS

The Family Resources Survey (FRS) is a continuous survey of around 25,000 households each year. Fieldwork interviews are carried out by the Office for National Statistics and the National Centre for Social Research using computer-assisted personal interviewing.

The survey began in October 1992 and is designed to meet the information requirements of analysts in the Department for Work and Pensions (DWP). Households interviewed in the

¹⁷ The income threshold for including couples with children was expanded somewhat in 2000 compared to 1999 (see section 1.3.2)

survey are asked a wide range of questions about their circumstances with a focus on areas relevant to DWP policy such as income, including receipt of Social Security benefits, housing costs and savings.

Like all the datasets analysed here, the data is available from the ESRC Data Archive at Essex University. Wave 4 of FACS will be deposited later in 2003; waves 1-3 are currently available.

Annex B: Main tabulations by country

Debt and deprivation

	England	Wales	Scotland	GB
Regular savings for rainy days or retirement	24	27	22	24
Replace any worn out furniture	21	30	18	21
Holiday away from home for one week a year not with relatives	17	24	16	17
Enough money to keep home in decent state of decoration	13	18	13	14
Small amount of money to spend each week on yourself	13	22	10	13
Replace or repair broken electrical goods	11	20	11	12
Insurance of contents of dwelling	8	12	7	8
A hobby or leisure activity	6	16	4	7
Two pairs of all weather shoes	5	12	6	6
Friends or family round for a meal, snack or drink	5	12	5	6
Has any debts	13	21	16	14
<i>Max. unweighted base: adult questions</i>	<i>1224</i>	<i>108</i>	<i>202</i>	<i>1534</i>
Leisure equipment such as sports equipment or a bicycle	3	[6]	5	4
Enough bedrooms for every child over 10 of different sex	7	[3]	5	6
A hobby or leisure activity	6	[3]	7	6
Celebrations on special occasions such as birthdays	4	[0]	2	4
Swimming at least once a month	6	[11]	2	6
Play group at least once a week for pre-school aged children	2	[11]	5	3
A holiday away from home at least one week a year with his or her	17	[31]	19	18
Going on a school trip at least once a term for school aged children	1	[17]	2	3
Friends round for tea or a snack once a fortnight	3	[14]	2	4
<i>Max. unweighted base: child questions</i>	<i>333</i>	<i>31</i>	<i>57</i>	<i>421</i>

Numbers in [] are percentages based on fewer than 50 cases and should be treated with caution as they may be unreliable. Source: PSE

Subjective well-being (families with children)

	England	Wales	Scotland	GB
<i>Which of the phrases on this card best describes how you and your family are managing financially these days?</i>				
Manage very well	23	18	19	22
Manage quite well	36	30	36	36
Get by alright	31	40	35	32
Don't manage very well	3	3	4	3
Have some financial difficulties	6	8	5	6
Are in deep financial trouble	1	1	1	1
<i>How often, would you say, do you have money over at the end of the week (or month)?</i>				
... always,	16	13	15	16
most weeks/months,	12	11	13	12
more often than not,	8	8	5	7
sometimes,	22	24	22	22
hardly ever,	19	23	25	20
or never?	22	21	19	22
Don't know, too hard to say/varies too much to say	1	1	*	1
<i>Unweighted base</i>	6238	457	664	7359

Source: FACS 2002 '*' means less than 0.5%, but more than zero

Annex C: Agreed question list for Family Resources Survey

Do you and your family have... /

Are you and your family able to afford...

SHOW CARD

[1] "We have this",

[2] "We would like to have this, but cannot afford it at the moment"

[3] "We do not want/need this at the moment"

Adult deprivation A holiday away from home for one week a year, not with relatives

Replace any worn out furniture

A small amount of money to spend each week on yourself, not on your family

Regular savings (of £10 pounds a month) for rainy days or retirement

Insurance of contents of dwelling

Have friends or family for a drink or meal at least once a month

A hobby or leisure activity

Replace or repair broken electrical goods such as refrigerator or washing machine

Keep your home adequately warm

Two pairs of all weather shoes for each adult

Enough money to keep your home in a decent state of repair

Child deprivation A holiday away from home at least one week a year with his or her family

Swimming at least once a month

A hobby or leisure activity

Friends round for tea or a snack once a fortnight

Enough bedrooms for every child over 10 of different sex to have his or her own bedroom

Leisure equipment (e.g. sports equipment or a bicycle)

Celebrations on special occasions such as birthdays Christmas or other religious festivals

Play group/nursery/toddler group at least once a week for pre-school aged children,

ELSE: Going on a school trip at least once a term for school aged children

Debt

"Are you behind with repayments for any of these items?" – then have a long list of bills, credit commitments and so on.