Recurrent poverty: the impact of family and labour market changes

Mark Tomlinson and
Robert Walker

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This report offers a statistical analysis of how labour market disadvantage and household changes affect the recurrent experience of poverty in Great Britain.

It is now understood that poverty is not a once in a lifetime experience. Once poor, it is likely that a person will suffer poverty repeatedly throughout their life. Therefore, a deeper understanding of this recurrence is required if policy is to have a significant impact on poverty reduction.

The report:

- Considers why the problem of recurrent poverty is important for policy-makers.
- Identifies different types of recurrent poverty and measures their prevalence over time.
- Presents a detailed analysis of some of the root causes of recurrent poverty, such as labour market disadvantage and household-level change.
- Offers conclusions and implications for policy.

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It has come to be understood that poverty is not a once in a lifetime experience. Once poor, the chances are high that a person will suffer poverty repeatedly throughout their life. Therefore, a deeper understanding of the recurrent nature of this phenomenon is required if policy is to have the greatest impact on poverty reduction. To this end, a detailed study of recurrent poverty is reported based on an analysis of the British Household Panel Survey (BHPS), a representative longitudinal survey of households and individuals in Great Britain.[1]

The study had a strong methodological component, to explore the best ways of investigating the complex processes that generate recurrent poverty. However, this report is devoted primarily to the substantive findings. It outlines the results of an exercise to measure and track the prevalence of recurrent poverty according to three dimensions (income poverty, financial strain and material deprivation) over a 15-year period (1991–2005). It also explores the causes of recurrent poverty along the same three dimensions by means of quite sophisticated statistical models. The analysis focuses on the effects of education, occupation, the quality of employment and household characteristics such as changes in family composition.

In all cases, poverty is defined in relative terms; that is, people are considered to be poor if their resources and circumstances mean that they are out of line with ordinary custom. In the case of income poverty, this means having income below 60 per cent of the national median in the month of interview after taking account of household size and composition. The BHPS data is collected from the same individuals once each year. Recurrent poverty is therefore defined as being poor at the time of interview in more than one non-consecutive year.

Despite considerable changes in policy, it appears that the incidence of recurrent, income poverty remained remarkably stable over the 15 years explored in the research. However, other dimensions of poverty showed different patterns. Recurrent financial strain, an expression of being unable to cope, seemed to decline; possibly due to the impact of credit and easier loan arrangements prevalent throughout the 1990s and early 2000s – although this cannot be verified with the data. Recurrent incidents of material deprivation, on the other hand, appeared to increase. Thus, trends in recurrent poverty differed according to the dimension considered, which poses considerable challenges for policy-makers. It suggests that targeting one dimension of poverty will leave other aspects of poverty unaddressed. A 'one size fits all' approach is unlikely to be an adequate response to recurrent poverty if poverty is recognised to be more than simply a shortfall in income.

However, almost irrespective of the dimension of poverty considered, four groups appeared to be particularly prone to suffer recurrent poverty. These were:

- people with limited education;
- skilled manual and lower-skilled workers;
- single parents;
- unemployed people and people who are economically inactive.

There were some subtle differences between the varying dimensions of recurrent poverty. Whereas women were more prone than men to recurrent spells of income poverty and material deprivation, this was not true of financial strain. Lone parents were not significantly more likely to be repeatedly materially deprived, perhaps because they prioritised consumer durables that helped them provide for their offspring, although they were more likely to be recurrently income poor and experience financial strain. People with low educational attainment were much more likely than others to suffer all kinds of recurrent poverty but were particularly prone to income poverty.

Uniquely, the research explored whether the chances of being poor, or suffering recurrent poverty during one five-year period, were in any way affected by having experienced poverty in the previous five-year period. In this way, it was possible to explore whether poverty perpetuates itself having taken account of all the personal and circumstantial factors that might increase the chances of any particular person suffering poverty. The answer is clear cut, irrespective of the dimension of poverty considered. People who fall into poverty at one stage in their lives, be it a single spell or repeatedly, are much more prone to experience poverty at a later date even after having taken account of other factors such as education, occupation, family situation and so on. The implication, therefore, is that the scarring nature of poverty is not limited, as is well established, to children but also applies to adults. The mechanisms by which such scarring works warrant further examination but the finding provides a salutary reminder that it may not be sufficient for policy to concentrate on bringing current spells of poverty to an early end without additionally paying attention to factors that could cause the poverty to reoccur.

The analysis also indicated that a lack of education and skills and employment in manual and routine white collar rather than in better remunerated and more secure occupations increased the chances of experiencing recurrent poverty as did certain family circumstances and events including being a single parent, getting divorced or becoming separated, and also having additional children. The negative consequences of these household changes applied irrespective of the dimension of poverty considered and suggest that policies in place to respond to these events provide inadequate protection against recurrent poverty. Other analysis, not detailed in this report, indicated that skills training could reduce the risk of recurrent poverty particularly when it was provided on the job.

The role of employers in providing training echoes one of the strongest findings from the analysis, namely the importance of good-quality employment in protecting people against recurrent poverty. The kinds of jobs, with permanent contracts, incremental pay rises and prospects for promotion, that distinguish the core segment of the labour market from the periphery helped significantly to explain the distribution of recurrent income poverty, financial stress and, to a lesser extent, material deprivation. Moreover, the protection afforded was almost irrespective of the occupation and the level of skills and education that people had. The analysis suggested that taking a job in the peripheral labour market often brought less protection against recurrent poverty and generally would not compensate for the increased risk of recurrent poverty associated with divorce, becoming a lone parent or having additional children.

The substantive conclusion to be drawn from the research is that, while personal attributes and circumstances contribute significantly to determining the risk of recurrent poverty, they are overshadowed by structural factors that shape the opportunities for financial security offered by the labour market. It follows that policies that encourage people to find work that pay little attention to the kinds of jobs that are available are unlikely to secure a significant reduction in recurrent poverty or a sustained fall in the poverty rate.

Note

1 The BHPS covers the entire UK but to maximise the time period covered by the analysis, only data appertaining to Great Britain were used.

1 Introduction

It is now recognised that, for many people, poverty is a repeated experience rather than being permanent or a short one-off event. However, our understanding of the phenomenon of recurrent poverty is incomplete. There is evidence that recurrent poverty is often linked to the so-called 'low-pay-no-pay cycle' and to various changes at household level such as the impact of having children. Nevertheless, in their review of poverty dynamics, Smith and Middleton (2007) drew attention to the comparative neglect of research on recurrent poverty and the 'low-pay-no-pay cycle' in the UK.

This report attempts to enhance our understanding of the recurrence of poverty and emphasise the lessons that can be learned by focusing on poverty as it is experienced across the lifecourse rather than just at a single moment in time. The essence of the project was to apply advanced statistical methods to the analysis of recurrent poverty: first, to identify people likely to suffer from repeated spells of poverty; and second, to attempt to isolate the determinants of this type of poverty by means of a detailed investigation of longitudinal survey data from Great Britain.

The project employed several innovative statistical techniques and was in part a methodological investigation. However, the technical discussion is kept to a minimum in what follows. Much of the technical detail is either available from the authors or in the Appendix to this report. The report seeks to draw out conclusions relevant to a number of policy discussions and debates.

The rest of the report is structured as follows. Chapter 2 introduces the problem of recurrent poverty and the importance of focusing on this topic. Chapter 3 describes an exercise to identify different types of recurrent poverty along three dimensions: income poverty, financial strain and material deprivation. Chapter 4 builds on the previous chapter in that causal statistical models are estimated that endeavour to assess the drivers of recurrent poverty. Finally, in Chapter 5, conclusions from the research are discussed in more detail.

2 The problem of recurrent poverty

While research has drawn attention to the importance of recurrent poverty, a recent review by Smith and Middleton (2007) has concluded that there is as yet insufficient understanding of the mechanisms involved in perpetuating recurrent poverty to develop an effective policy response. However, there is evidence that recurrent poverty is often linked to the so-called 'low-pay-no-pay cycle' and to specific household changes. Occupying a position in the lower strata of the labour market or being excluded altogether from labour market activity tends to exacerbate the occurrence of poverty in the following years.

Since the early 1990s there has been a fundamental change in the conceptualisation of poverty, moving from a static understanding – in which the poor were often contrasted with the non-poor as if they never changed places – to a dynamic one concerned with the duration of spells, the temporal patterning of poverty and the extent of persistence and scarring (Leisering and Walker, 1998; Walker, 2005; Rigg and Sefton, 2006). Policy strategy in the UK has changed in response, with a greater emphasis on prevention (for example, the child poverty agenda) and activation policies (such as the New Deals) to bring spells of poverty and benefit receipt to an early end.

However, in their recent review of poverty dynamics, Smith and Middleton (2007) drew attention to the comparative neglect of the 'low-pay-no-pay cycle' in the UK and the associated prevalence of 'recurrent poverty'. The policy emphasis has been on job entries but 'the same attention has not been given to the dynamics of losing (and moving between) jobs' (Smith and Middleton, 2007, p 42), with the result that there has been 'a failure to target persistent poverty or to safeguard against re-entry to poverty and so prevent recurrent poverty' (2007, p 18). Moreover, while one of the guiding principles underpinning the government's current welfare reform proposals is 'retention and progression, not just job entry' (DWP, 2007), the policy manifestation of this principle remains poorly articulated. This lack of focus may be partly due a limited understanding of the causes of recurrent poverty and, indeed, to the difficulty of adequately defining it.

This report seeks to provide and operationalise definitions of recurrent poverty and also to develop a taxonomy of labour market segmentation. Those people occupying the lower segments of the labour market are the most prone to experience the low-pay-no-pay cycle. It is indeed the case that there is a large proportion of the UK working population in what could be defined as peripheral or unstable labour markets – often characterised as having low pay and short-term contractual arrangements. If the existence and identification of different segments within the labour market can be operationalised, then the relationships between these labour market strata and the repeated occurrence of poverty are open to detailed statistical analysis.

So, while research has drawn attention to the importance of recurrent poverty and its relation to labour market activity, it has yet to offer policy-makers sufficient understanding of the mechanisms involved in perpetuating recurrent poverty to develop effective policy. A better understanding of the distribution and aetiology of recurrent poverty is essential if appropriate policies and targeting strategies are to be devised (Walker and Park, 1998). When combined with a more detailed analysis of the labour market, such understanding has the potential to improve policy prescriptions aimed at poor people who move in and out of the labour market or who operate within inherently unstable occupations or sectors. There is a rich tradition in social and economic theory (generally known under the rubric of labour market segmentation theory – see, for example, Piore 1975) that can assist in the quest to move away from seeing the labour market and employment in general as some simple and straightforward solution to poverty experience. Labour markets are

not as simple and homogeneous as much standard economic theory claims.

Smith and Middleton (2007) not only stress the strong links between recurrent poverty and labour market factors – a distinguishing characteristic of the US (Walker and Collins, 2003) – but also the role of household circumstances as demonstrated by Jenkins' (2000) analysis of the impact of additional children on household finances. Moreover, it is clear that the triggers associated with changing income trajectories differ in kind and effect between different individuals and families in varying circumstances, probably due partly to individual resilience and agency (Furlong and Cartmel, 2004; Kemp *et al*., 2004; Rigg and Sefton, 2006), but also to structural factors such as the segmentation of the labour market outlined above. Research to date has generally not sought to explore this multiple causality or therefore to assess the relative importance of these different determinants and protecting factors.

Research and policy is also frustrated by a multiplicity of definitions and measurement difficulties. For example, Smith and Middleton (2007) define recurrent poverty purely in terms of repeated spells, but allude to the importance of severity (the degree to which income falls short of needs). Ashworth *et al*. (1994) differentiate occasional, recurrent and chronic poverty on the basis of severity and duration of spells, while Rigg and Sefton (2006) prioritise trajectory over sequencing and, although they label one pattern of income 'fluctuating', three of their other five trajectories could equally be termed 'recurrent'. Most official analyses focus exclusively on the duration of poverty (over a given period) and ignore sequence and repetition of poverty, although qualitative research suggests that instability of income may contribute to stress and to the negative consequences of poverty (over and above duration) (Dobson *et al*., 1995). Also, analyses tend to link recurrent poverty to one trigger when it is feasible that multiple and possibly cumulative triggers may be implicated in shaping a person's trajectory, as qualitative research suggests (Kempson, 1996).

Methodology

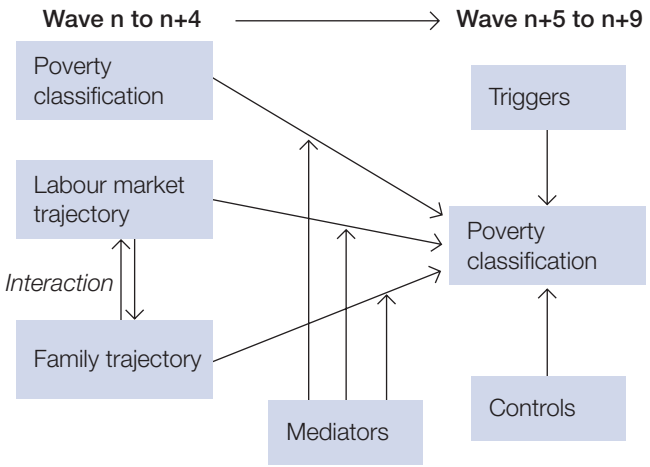
Quantitative analysis of the British Household Panel Survey (BHPS) from 1991 to 2005 (described in more detail below) was undertaken as follows:

- *stage 1: identifying recurrent poverty and determining those at risk*
  A range of statistical and other methods was employed to develop, refine and validate a classification of poverty defined to take account of the duration and, as appropriate, the sequencing of spells. A multidimensional approach was employed where poverty was defined to include financial and material deprivation as well as low income. A picture was then produced of the trends in recurrent poverty in Britain along these dimensions and the types of people who were most likely to experience recurrence.

- *stage 2: identifying the links between the labour market, household characteristics and recurrent poverty experience*
  Using the results of the stage 1 analysis, a longitudinal causal statistical analysis was undertaken that simultaneously examined the contribution of labour market position and household change to the relative risk of experiencing recurrent and other kinds of poverty. It also isolated the relative importance of individual and structural characteristics that either protect individuals or increase their vulnerability.

The research was necessarily focused on individuals of working age. The fundamental analytic approach was to use a person's situation at one stage in their life (as defined by their labour market, family and poverty classification in a five-year 'window') and to predict their poverty status in the next five-year window. This approach is summarised in Figure 2.1. This medium-term perspective on dynamic processes complements more traditional longitudinal approaches that examine changes year on year and the results of both approaches are reported for comparative purposes.

Figure 2.1: Basic outline of causal modelling of poverty dynamics



Examples of triggers, mediators and controls:
Triggers: divorce, having children, retirement
Mediators: social capital, human capital
Controls: gender, age, social class

This framework, then, examined the extent to which poverty trajectories were influenced by:

- trigger events, such as divorce or retirement, that can result in changes in poverty status over time;
- individual agency, as indicated by measures of human and social capital, in ameliorating or exacerbating the impact of previous spells of poverty, labour market experience or family circumstances on recurrent poverty;
- other factors such as gender, age and social class in determining whether poverty was equally relevant among all social groups.

As already noted, much policy discussion is constrained by a static understanding of poverty experience. This research attempted to help redress this balance by focusing on a long-term perspective using appropriate panel data. The data encompassed people's experiences over relatively lengthy periods of time. The objective was to enhance understanding of the phenomenon of recurrent poverty so as to facilitate the design and targeting of more successful policies.

3 Identifying different types of recurrent poverty

The British Household Panel Survey

This analysis utilised data from the BHPS. The BHPS commenced in 1991 with an initial sample of around 10,000 individuals resident in some 5,000 households. These individuals have subsequently been re-interviewed each year and the sample has also been extended to include more households from Scotland and Wales and to embrace Northern Ireland. While the data can be weighted to provide an accurate picture of life in Great Britain or the UK at different points in time, this analysis was restricted to Great Britain in order to facilitate measurement of long-term trends. The analysis covered the period 1991–2005 (i.e. BHPS waves 1 to 15). Initially, the 15 years of data were partitioned into three five-year blocks or 'windows' covering the periods 1991–5, 1996–2000 and 2001–5 and the characteristics of individuals and their experiences (such as repeated spells of poverty) were defined across these windows. The analysis was limited to adults of normal working age. Individuals under 18 years of age were excluded from the sample analysed as well as those aged over 65 at any point during their participation in each window.

The first step of the analysis was to carry out an exploration of the sequencing of poverty spells within the five-year windows in order to identify recurrent poverty (among other types of poverty). Subsequently, it was possible to identify trends in recurrence and also to predict which types of people were more or less prone to exhibit different types of poverty. Thus, it was possible to determine which types of poverty were more common and generate data that would inform policy-makers of potential areas for targeting. We explored three dimensions – income poverty (see Box 3.1), financial strain and material deprivation – in order to develop a more detailed picture of change over the 15-year period of analysis.

Box 3.1: Measuring income poverty

We calculated gross median household income for each wave using complete data (cross-sectionally weighted) to produce a threshold. This was monthly income before housing costs and equivalised using the McClements scale. Thus, everyone within a household had the same income. This was then split into two groups each year – poor versus not-poor – based on the 60 per cent median income threshold. (We also tested our models using net disposable income data, which produced very similar results. However, the net income data has more missing values and as sample attrition is a problem in the BHPS, for our long-term analysis we decided to restrict our income analyses to gross income in this investigation.)

It is common to use annual income when calculating poverty rates. However, when one is exploring income along several related dimensions, it often makes sense to use the more immediately relevant monthly income. For example, other related dimensions of poverty that are explored in this report such as financial strain are of an immediate nature. It would not necessarily make sense to compare income averaged out over twelve months with financial strain in the here and now. If a person has had a relatively high income averaged out over a year, but has just become unemployed, say, financial strain will be a recent phenomenon, but their annual income will bear no relation to this whatsoever. Hence, we used monthly income in this analysis.

The problem of measuring recurrent spells of poverty with panel data was that we only observed the respondents on a particular day in any year. Thus, if a respondent was determined to be poor using his or her currently recorded income data and was also determined to be poor in the previous year's observation, we had no way of knowing with 100 per cent certainty whether this constituted a long continuous spell of poverty or whether the respondent had had a recurrent spell. That is, at some point in between the two observations they may not in fact have been poor. In what follows, we simplified this by assuming that those who were poor in consecutive waves were continuously poor rather than recurrently poor. This inevitably means that in reality we have underestimated the prevalence of recurrence.

With this assumption in mind, the five-year windows were scanned for sequences of 'poor' or 'not-poor' events and a fivefold classification obtained:

- never poor;
- one spell of not more than a year (referred to as 'one spell short');
- one spell of more than one year ('one spell long');
- recurrent (two or more separate spells);
- chronic (poor in all five waves).

The frequencies resulting from this taxonomy are shown in Table 3.1.

We can see that the percentages remained quite consistent over time, but sample attrition began to take its toll (the number of working-age people in the panel fell from 4,820 in 1991–5 to 3,497 in 2001–5). It appears that the prevalence of recurrent income poverty was generally stable over time, affecting around 5–7 per cent of the population as a whole and representing around a fifth of all poverty experience.

In order to determine which people were most prone to which types of poverty, we estimated statistical models known as 'multinomial logistic regressions'. The numbers presented in the following tables indicate how being in one particular group affected the chances of becoming recurrently poor relative to never being poor (everything else being equal). In each case, where a variable was classified into different groups, the chances were compared with a reference or comparison group. The figures indicate whether, and the extent to which, the chances of becoming recurrently poor differed from the reference group, with values greater than zero indicating a greater likelihood, and values less than zero a reduced likelihood. Multinomial logistic regression then allowed us, by examining the statistically significant coefficients in the models, to explore which types of people were most likely to experience the various types of income poverty listed in Table 3.1. The variables included were: gender, age, highest educational attainment, household structure, most recent occupation and employment status (all measured at the start of the five-year window). Four regression equations were generated for each window, which predicted the risk of experiencing one of the four categories of poverty relative to the risk of never being poor during the five-year period. To simplify matters, the results shown here only pertain to poverty recurrence.

By examining the size of the coefficients in the model, we could begin to identify 'at risk' groups within the BHPS data. The full models are shown in the Appendix. Here we report a summary of the effects in the model for recurrent poverty in the first window (Table 3.2). Repeating the analysis with the other five-year windows produced similar results.

Table 3.1: Income-poor taxonomy – complete five-year sequences (%)

	1991–5	1996–2000	2001–5
Never poor	66.8	69.0	68.8
1 spell short	11.3	11.4	12.9
1 spell long	10.1	9.8	8.7
Recurrent	7.0	5.0	6.5
Chronic	4.9	4.8	3.1
N	4,820	4,191	3,497

Note: These were weighted by the longitudinal weights for the final year in the sequence and only include working-age individuals (i.e. those aged 18–59 in the first year of the window).

Table 3.2: Multinomial logit model coefficients predicting recurrent income poverty in 1991–5 relative to never being in poverty

Independent variable	Coefficient
Female	0.29*
Age 18–24	n.s.
Age 25–34	n.s.
Age 35–44	n.s.
Reference: age 45+	
Higher-level education	–1.33***
College-level education	–0.89***
Ordinary-level education	–0.73***
Other education	n.s.
Reference: no education	
Couple, no children	–0.45*
Couple, dependent children	n.s.
Couple, non-dependants	–0.92***
Single parent	1.79***
Single parent, non-dependants	n.s.
Reference: other households	
Most recent occupation:	
Manager	–0.63*
Professional	–1.66***
Associate professional/technical	n.s.
Admin/secretarial	–1.30***
Skilled trade	n.s.
Personal service	n.s.
Sales/customer service	n.s.
Process/plant/machine operative	n.s.
Reference: low skilled/never worked	
Employed	–2.23***
Unemployed	n.s.
Homemaker with paid partner	–1.64***
Retired	n.s.
Reference: other non-occupied	
N = 5,285	

Note: n.s. not significant; * significant at 5%; ** significant at 1%; *** significant at 0.1%.

In terms of gender, we can see that women were more likely than men to experience recurrent poverty. However, the coefficient on the female variable was relatively low, indicating that the relationship was not as strong as the other factors considered in the model. Age was not significant.

However, family circumstances made a great difference. Couples without children or dependants were the least likely to experience recurrent poverty, while single parents were much more likely to experience it – other models have also shown that single parents were especially prone to the more severe types of poverty (long spells and chronic poverty – see Appendix). The size of the effect was also particularly large for single parents, demonstrating the appreciably greater risks associated with this family circumstance. Couples with children and single parents with non-dependent children were not significantly different from other types of household.

Education had a considerable impact on reducing the likelihood of recurrence. This was especially the case for degree-level education, but also for GCSE and college-level qualifications (relative to having no qualifications whatsoever). In terms of occupation, even after taking education into account, the higher occupational classes were less likely to experience recurrent income poverty. Particularly protected were professionals, who had the highest negative effect, but also managers and other white collar administrative workers.

When turning to employment status itself, it was work that protected against recurrent poverty (and this safeguard increased with the severity of poverty types, as shown in the Appendix). In fact, the employment effect was the largest in the model. Homemakers with employed partners were also less likely to experience recurrent income poverty. For unemployed people and retired people, there was no significant difference from other unoccupied categories.

Using this type of methodology then has begun to reveal the social groups most likely to experience recurrent spells of income poverty. The high-risk groups are single parents, women in general to a lesser extent, the unemployed and unoccupied, and the less well educated, but there are also some worrying occupational effects. For example, skilled blue collar workers appear to be no more protected against recurrent poverty than the unskilled after taking other factors into account, nor are people in sales and customer service occupations. Thus, white or blue collar skills alone do not necessarily provide protection against income poverty experience in the longer term. However, income

poverty is only one type of poverty that can be analysed with the BHPS data. Other dimensions of poverty can be explored in the same way, to which we now turn.

Measuring other dimensions of poverty

It is now recognised that poverty is a complex and multidimensional phenomenon. In the 19th century, pioneering work by Henry Mayhew (1851) and Charles Booth (1892) led Seebohm Rowntree (1901) to address this complexity. Even at this early stage of poverty research, Rowntree distinguished between different categories of poverty and noted the need to take account of several factors above and beyond income. For example, social conditions, diet and health also became important considerations in defining someone as poor.

In much later related research, Townsend (1979) argued that poverty was not the lack of income necessary to purchase a basket of goods, but the lack of resources to participate fully in society. Townsend's initial conception of poverty was also inherently relative in that participation refers to engagement in the normal social fabric of contemporary life. It is not simply a matter of having food and shelter, but also a matter of wider participation in society and culture as a whole. The measures developed by Townsend have been more radically refined to include measures of material deprivation, financial strain, social exclusion and environmental aspects of people's lives in addition to low income (for example, see Callan *et al.*, 1993; Nolan and Whelan, 1996, Layte *et al.*, 2001). More sophisticated statistical techniques have also been employed to produce robust multidimensional measures of poverty that can be tracked over time; see, for example, Layte *et al.* (2000); MSD (2002); Dewilde (2004); Kuklys (2004); Haase and Pratschke (2005); Whelan and Maitre (2005, 2007a, 2007b); Jenkins and Cappellari (2007); Tomlinson *et al.* (2008). Thus, a whole host of new techniques and measures have been employed.

Based on previous research with the BHPS (Tomlinson et al., 2008; Tomlinson and Walker, 2009), we now explore two more dimensions of poverty – financial strain and material deprivation – in terms of recurrent experience.

Financial strain

In order to produce a relative measure of financial strain, a simple univariate approach was used. This was based on how the respondent felt their current financial situation was. Those who stated that they were only just getting by or worse were considered to be under some level of financial strain. This can be deemed a relative measure as the concept of what is implied by 'just about getting by' will change over time. That is, if we accept the type of approach of Townsend and later researchers, what is thought of as getting by will change as consumption and cultural practices change within society. Using this definition of relative financial strain produced the frequencies from the BHPS data shown in Table 3.3, using the same labels defined for the income poverty categories above.

We can see that, unlike income poverty, the number of people who never experienced financial strain increased over time. It can also be seen that in the region of around half of the sample felt some financial strain over the last five-year window (2001–5). This is in stark contrast to the income poverty figures, which showed that around one third of the sample experienced income poverty between 2001 and 2005. Therefore, relatively speaking, financial strain is still much more prevalent in Britain than relative low income poverty even though it is becoming less common. Around 15% of the sample experienced recurrent financial strain compared to around 6% with respect to recurrent income poverty if the 60 per cent median threshold was used.

Table 3.3: Financial strain taxonomy – complete five-year sequences (%)

	1991–5	1996–2000	2001–5
Never strained	29.6	39.5	45.7
1 spell short	14.4	16.6	16.6
1 spell long	20.6	16.7	14.0
Recurrent	18.2	17.2	15.4
Chronic	17.2	10.1	8.4
N	4,834	4,192	3,471

Note: These were weighted by the longitudinal weights for the final year in the sequence and only include working-age individuals (i.e. aged 18–59 in the first year of the sequence).

As with the sequences of income poverty, we estimated multinomial logistic regression equations that predicted recurrence of financial strain using the same variables as those used in the previous model (this is summarised in Table 3.4 and the full models are shown in the Appendix).

Table 3.4: Multinomial logit model coefficients predicting recurrent financial strain in 1991–5 relative to never being in financial strain

Independent variable	Coefficient
Female	n.s.
Age 18–24	0.68***
Age 25–34	n.s.
Age 35–44	n.s.
Reference: age 45+	
Higher-level education	–0.73***
College-level education	–0.53***
Ordinary-level education	–0.32*
Other education	n.s.
Reference: no education	
Couple, no children	n.s.
Couple, dependent children	0.52***
Couple, non-dependants	n.s.
Single parent	1.56***
Single parent, non-dependants	n.s.
Reference: other households	
Most recent occupation:	
Manager	–0.79***
Professional	–0.79***
Associate professional/technical	n.s.
Admin/secretarial	–0.62***
Skilled trade	n.s.
Personal service	–0.44*
Sales/customer service	n.s.
Process/plant/machine operative	n.s.
Reference: low skilled/never worked	
Employed	–1.05***
Unemployed	n.s.
Homemaker with paid partner	–1.24***
Retired	–1.24***
Reference: other non-occupied	
N = 4,984	

Note: n.s. not significant; * significant at 5%; ** significant at 1%; *** significant at 0.1%.

It is evident that there were some significant differences in the determinants of recurrent financial strain when compared to income poverty. This emphasises the necessity of seeing poverty in the round and not just relying on income as a measure. Ultimately, policy prescriptions may depend on the type or impact of poverty under review, especially if particular groups are being targeted rather than others. For example, it can be seen here that women were no more likely to report recurrent financial strain than men (unlike the income poverty measure). Younger people (aged 18–24) also seemed much more likely to report recurrent financial strain whereas for income there was no age effect.

Family circumstances again made a substantial difference, although in this respect it was the presence of dependent children that was a significant cause of recurrent financial strain. Couples with dependent children and especially single parents were much more likely to be repeatedly strained. Couples without children or parents living with non-dependants were no more likely to experience recurrent financial strain than other household types.

Education also had an effect as before, but the strength of the effect was less than for income. In terms of occupation, again it was the higher occupational classes that were less prone to strain (especially professionals, managers and administrative staff). Once more, skilled manual occupations were no less likely than the unskilled to experience recurrent financial strain, implying that possessing skills in themselves was no protection against hardship after other factors were taken into account.

Finally, in terms of employment status, we found another difference. Retired people appeared to be much less likely than other unoccupied categories to experience financial strain. So employment appears to be a good defence against repeat spells of strain as it is for income poverty. Being in work or having an employed partner significantly offsets the likelihood of recurrent financial strain. Finally, we turn to material deprivation as our final dimension of poverty.

Material deprivation

The standard procedure for measuring material deprivation is to sum the number of consumer durables that a person does not have, each weighted according to the proportion of the population that has access to them. In calculating a relative material deprivation indicator based on the possession or not of certain items, we encountered several predictable problems. This was mainly due to the fact that the basket of goods asked about in the BHPS has not changed much since 1991 when the survey started. So although almost everyone has a television nowadays, this item has remained in the BHPS list of household durables since its inception without being updated or enhanced to distinguish, say, between older models and newer digital or plasma ones. Therefore, any index of deprivation derived from this data should be treated with some caution. Box 3.2 details the calculation. Table 3.5 shows the numbers of people in various sequences of relative deprivation within the five-year windows for those of working age.

Box 3.2: Calculating a relative measure of material deprivation

We derived a weighted material deprivation score based on calculating the percentage of the population as a whole that had access to each item in each wave of data and using the percentage as a weight when calculating a deprivation scale. It was based on an additive scale relating to the lack of the following items:

- television;
- video cassette recorder;
- washing machine;
- dishwasher;
- microwave oven;
- personal computer;
- CD player;
- central heating.

Each lack of an item in the scale was weighted by the level of diffusion of the item in the population as a whole in any given year. For example, in 1991, 96 per cent of the population had access to a television. Thus, if a respondent did not have access to a television in 1991, 0.96 was added to their deprivation score. So if a respondent just kept the same items and did not acquire any new ones, their deprivation score would gradually increase over time as the weights attached to each item increased over time. Thus, this was a relative measure as it measured lack of material goods relative to the normal level of diffusion in the population as a whole in each year. This score was further 'relativised' by taking a cut-off point for each wave based on 175 per cent of the median score for the whole sample in each wave. That is, anyone scoring over this threshold was considered 'relatively deprived'.

Table 3.5: Material deprivation taxonomy – complete five-year sequences (%)

	1991–5	1996–2000	2001–5
Never deprived	65.8	59.2	52.6
1 spell short	12.1	12.7	15.8
1 spell long	9.8	17.3	18.5
Recurrent	5.6	4.5	6.9
Chronic	6.7	6.3	6.2
N	4,834	4,192	3,471

Note: These were weighted by the longitudinal weights for the final year in the sequence and only include working-age individuals (i.e. aged 18–59 in the first year of the sequence).

Using this measure we see that in relative terms people seemed to be more deprived than they were before, whereas we know in absolute terms that the extent of material deprivation was declining. In other words, inequality appeared to be increasing. Again, in order to ascertain which social groups were prone to recurrent sequences of relative deprivation, multinomial logistic regressions were undertaken (summarised in Table 3.6 using the same independent variables as before).

The regression results for this dimension of poverty differed in important respects from the

Table 3.6: Multinomial logit model coefficients predicting recurrent material deprivation 1991–5 relative to never being deprived

Independent variable	Recurrent
Female	0.35*
Age 18–24	0.53*
Age 25–34	n.s.
Age 35–44	n.s.
Reference: age 45+	
Higher-level education	n.s.
College-level education	–0.84***
Ordinary-level education	–0.65**
Other education	n.s.
Reference: no education	
Couple, no children	–1.14***
Couple, dependent children	–1.67***
Couple, non-dependants	–1.91***
Single parent	–0.95**
Single parent, non-dependants	n.s.
Reference: other households	
Most recent occupation:	
Manager	n.s.
Professional	n.s.
Associate professional/technical	–0.67*
Admin/secretarial	–0.72**
Skilled trade	n.s.
Personal service	–0.62*
Sales/customer service	n.s.
Process/plant/machine operative	n.s.
Reference: low skilled/never worked	
Employed	–0.81***
Unemployed	n.s.
Homemaker with paid partner	–0.63*
Retired	–1.38*
Reference: other non-occupied	
N = 5,115	

Note: n.s. not significant; * significant at 5%; ** significant at 1%; *** significant at 0.1%.

income and financial strain dimensions. Women, for instance, were more prone than men to recurrent deprivation although the size of the coefficient was relatively low. Younger people were also more prone to suffer recurrent deprivation spells.

The major difference, however, related to family structure. In contrast to income poverty and financial strain, having dependent children reduced the likelihood of suffering from recurrent material deprivation. In fact, couples with dependants and even single parents were less likely than other household types to experience any form of material deprivation sequence (see the Appendix for the other models). As our previous work has shown (Tomlinson and Walker, 2009) households with children tend to have relatively well-equipped homes. It appears that parents with younger children will make sacrifices in order that they have the type of durable goods and white goods that make up many of the indices of deprivation used in poverty research. Thus, even low-income single parents will tend to have a washing machine and a microwave oven along with television and video cassette recorder for their children to watch. This is partly a limitation of this type of indicator (it does not take the quality of the goods into account nor does it take account of newer technologies), but more importantly it also reveals that taking a multidimensional approach to poverty can produce contradictory and/or complex results, depending on which factors are focused on.

Educational levels on the whole reduce the likelihood of repeat spells of material deprivation although the results with respect to education were not as clear as with the previous two dimensions and the strength of the relationship appeared to be lower. Again, this may be due to the nature of the measure. People with different levels of education may value specific goods differently, therefore weakening the strength of any relationship vis-à-vis income or financial strain.

Finally, turning to occupation and employment status, we find that again those in higher-level (and consequently better-paid) occupations tended not to have extended spells of material deprivation, although this time being in a managerial occupation made no significant difference. And again, people in skilled manual and lower white collar occupations did not fare particularly well and were on a par with the unskilled. The employed once again were less likely to experience recurrent material deprivation than the unoccupied.

Policy targeting for the recurrent poor

The policy story that emerged from the first stage of the research was that particular groups most prone to recurrent poverty need to be targeted:

- Single parents were at very high risk of recurrent income poverty and recurrent financial strain. This was evident in the analysis even after controlling for employment and other salient factors.

- Families with children (whether single or couples) were particularly prone to recurrent spells of financial strain.

- Those with limited or no educational qualifications were at higher risk of all three types of recurrent poverty; especially to income poverty (even after taking occupation into account among other factors).

- Lower-skilled occupational groups were generally more prone to recurrent spells of all three types of poverty, but also those in skilled manual occupations and many less-skilled white collar occupations were also at relatively high risk.

These findings point to the need to target single parents and families with children who are in financial difficulties. Despite the increased help that has been made available to these groups by the New Labour administration, it still appears that there is a significant danger that these families repeatedly experience poverty spells and financial hardship (even though these may be punctuated by spells of relative affluence).

Higher educational qualifications are also very significant even when taking occupational status into account. Therefore, human capital is important in providing resilience to repeated poverty outcomes in the longer term. It follows that not only should educational achievement be emphasised in school, but also more focused adult education programmes could be implemented. Although we do not assess here the range of subjects that might be emphasised, human capital enhancement involving training in particular skills is returned to below. The evidence that those in lower-skilled occupations also do not do very well only serves to reinforce this fact.

The next chapter, which describes the second phase of the work, takes the logical sequences along the three dimensions of poverty (income poverty, financial strain and material deprivation) as its starting point in the longitudinal causal modelling. We include more variables in these models including those related to labour market segmentation and household change.

4 The causes of recurrent poverty: labour market segmentation and household change

Segmented labour market theories

People occupy different segments of the labour market. By this we mean that the terms and conditions that are associated with a particular job can vary widely even within the same occupations. Some people may have good terms and conditions such as annual increments and good holiday entitlements, while others with ostensibly the same job can have temporary and unstable contracts. These latter employees are said to occupy a lower segment of the labour market than the former. This chapter details attempts to relate labour market segmentation to the experience of recurrent poverty. There is currently a resurgence of interest in theories of labour market segmentation and how it relates to poverty experience. Standard economic theory generally postulates that there is one labour market and all buyers and sellers compete on the basis of perfect information in this market, while another set of institutional theories argues that there is not a single labour market at all, but generally two. The latter set of theories has also been one of the most influential of economic theories in the sociology of labour markets, but as far as contemporary social policy is concerned, there has been relatively little exploration of how this might be relevant to discussions of poverty experience.

Rosenberg (1989) describes how segmentation theory developed out of the initial American dual labour market theory (hereafter referred to as DLM theory). DLM theory was initially concerned to address the problem of minority ethnic underemployment in the US. The fundamental position was that the labour market could be divided into primary and secondary sectors. The primary sector was characterised by good working conditions, high wages, job security and promotion prospects, while the secondary sector consisted of poorly paid, unstable employment with generally poor working conditions (what might now be termed the 'low-pay-no-pay' cycle). This was the view put forward by Piore (1970) and Edwards (1975) among others.

Workers in the secondary sector were said to be caught in a trap. Contrary to what human capital theories might predict, even if these employees had skills and ability, they would still find it difficult to escape from the secondary into the primary sector due to the intermittent nature of their current employment. This would lead in turn to increasing poverty and deprivation as these workers fell behind their counterparts in the primary labour market.

There have been two developments of this early theory of DLM, leading to two different and more sophisticated theoretical perspectives. Piore, with Doeringer, developed a more advanced segmentation theory (referred to below as SLM – segmented labour market theory; see Doeringer and Piore, 1971; Piore, 1975) and another theory of a 'core' and 'peripheral' economy (see Bluestone, 1970; Harrison, 1972).

In SLM theory there are essentially two labour markets: internal and external. Internal labour markets can exist within firms or occupations and are characterised by stable, quality employment with recognised career ladders and high stability. Those labour markets outside this (external or secondary labour markets) are the ones where the prospects for advancement are low or non-existent. Employment here is casual or temporary, low paid and unstructured. The major distinction that SLM theory makes over DLM theory is the notion that the segmentation can occur anywhere: within firms, within industries, within certain types of job, or a combination (for instance, a particular firm may

have a dualist structure even though dualism is not prevalent in that firm's industry).

We are not directly concerned here with segmentation at the level of the firm, occupation or industry, but at the level of the individual employee. The premise of this research was that the best way to identify segmentation is to examine the labour market position in which individuals find themselves. Thus, we attempted to divide the employed within the BHPS by their current terms and conditions of employment. Some workers will occupy a superior employment position to others who possess the same human capital. They will have better jobs than others with the same occupation.

There has been much rhetoric about the impact of employment on poverty. Indeed, the New Labour administration has frequently emphasised paid employment as the best route out of poverty, but the quality or the nature of the employment has rarely been an issue. The following analysis therefore allows us to determine the impact of labour market segmentation on poverty outcomes. Instead of merely examining labour in terms of occupational status or income, we investigated the nature and the quality of the contracts and benefits involved in the employer–employee relationship. This provided us with a much improved understanding of the relative merits of employment in terms of offsetting future poverty and recurrent poverty experience. Simply having some form of work may not in itself be enough to prevent repeated spells.

Models of the causes of recurrent poverty

The traditional way of analysing recurrent events in the economic and econometric literature is a set of techniques known as 'panel regression models'. In this section we utilise a form of this model known as the 'dynamic probit model'. The dynamic probit model takes a situation at a point in time (such as poverty status) and predicts the existence of this situation based on characteristics of the individual at this time and often also at a previous point in time (variables measured at earlier points in time are referred to as 'lagged variables', which can include a previous poverty state – this is then referred to as a 'lagged dependent variable' where the situation is both the predicted outcome and is measured at a previous interval). There are numerous variations of this model specifically to deal with the fact that individuals are repeatedly observed in a panel as is the case in our analysis. These technical issues are dealt with briefly in Box 4.1. In essence, the model is used to predict the recurrence of poverty over time, taking several factors into consideration simultaneously – including previous poverty experience.

Box 4.1: Technical issues with respect to the dynamic probit model

There are two main statistical problems that have to be taken into account in the dynamic probit model. First, there are repeated observations of the same people in the data over the 15 years and thus observations within the data are not independent (many statistical models assume that cases are in fact independent). However, these repeated observations allow us to use more advanced methods that can take account of unobserved characteristics of the respondents in the panel survey (known as 'unobserved heterogeneity'). A second issue is known as the 'initial conditions problem'. For example, in longitudinal analysis of this kind we may include a lagged dependent variable (in this case recurrent poverty at one period in time is in part predicted by recurrent poverty experienced at a previous period in time). The problem is that in the very first observation window we do not know what the person's situation was before the survey started and have to drop the first block of data from the analysis because we cannot calculate the lagged dependent variable in this case. This can cause potential bias if it is not dealt with. The methods initially proposed by Heckman (1981) and further developed by Stewart (2006, 2007) were employed to account for both the problem of unobserved heterogeneity as well as the

'initial conditions problem' with the presence of lagged dependent variables. The dynamic probit analysis accounts for the unobserved characteristics of respondents by including additional person-specific terms in the models.

In the Heckman model, the initial conditions are taken into account by estimating two equations simultaneously. One equation estimates the occurrence of the dependent variable in the first block of data using a set of so-called instrumental variables. This is linked to the main estimation using the remaining waves of observations. Thus, the first block of data can be included in the analysis if suitable instruments can be found. What often happens when this type of approach is taken is that the size of the lagged coefficient and hence the impact of the lagged dependent variable is drastically reduced, and other independent variables that were significant in the conventional probit model, become insignificant in the Heckman model. Further detailed analysis and explanation can be found in Stewart (2006, 2007). Stewart has developed programmes that can be used by the Stata software package to estimate these models. These were used in the analysis in this report.

Often the data used in this type of model are annual with repeated observations of the same individuals over a number of consecutive years. In our case, we also had a set of three five-year windows for each individual and we predicted the recurrence of a particular state (in this case poverty) in each five-year window. So a fundamental difference with the approach taken here is that we were predicting repeated spells within a five-year period rather than the occurrence of poverty in the following year (although we also included the more traditional models below for comparative purposes).

Moreover, as this model used longitudinal data we could also take account of various events or triggers such as household changes (e.g. divorce or having children) that occurred in the five-year window. Labour market variables were also included to map the strata of the labour market that the respondent occupied. Those in the low-pay-no-pay cycle would typically occupy the lower levels or 'periphery' of the labour market while those with good jobs and prospects would occupy better long-term positions. In what follows we determine the relative impact of these factors on poverty recurrence. Before discussing the models themselves, we consider the derivation of the labour market and other variables that are crucial to the analysis.

Defining labour market segmentation in the BHPS: the quality of jobs

As discussed above, we were exploring the impact of labour market segmentation on poverty recurrence. By segmentation we are referring essentially to the quality of employment. A method was required that distinguished to which segment a person belonged by recourse to the nature of their employment terms and conditions. The employed respondents in the BHPS were categorised into various labour market strata based on their current job. A *core* worker was defined as having all three of the following characteristics:

- a permanent contract;
- a pay structure that includes an annual incremental pay rise;
- self-reported real prospects for promotion.

This represents the best stratum of the labour market in terms of prospects for advancement and job stability. A *peripheral* worker was defined as someone who had no permanent employment contract or who had a permanent contract, but with no other benefits. We then defined anyone who fell outside of the core and periphery (but who was nevertheless in employment) as an *intermediate* worker. Thus, we had an indication of the labour market segment that the employed respondents in the survey occupied at three levels: core, intermediate and peripheral.

A further complication was the status of the self-employed for which there is no indication of their pay structure within the BHPS and for whom promotion prospects are not enquired about. The only variable we had recourse to was the nature of their contract (permanent versus temporary). We must bear in mind that the 'self-employed' are often contract employees who are really working for someone else (a common case here is the construction worker) even though technically they are 'self-employed'. Thus, we created two extra categories in the analysis: 'permanent self-employed' and 'temporary self-employed' in addition to the core, intermediate and peripheral employees. To give some idea of the sizes of the various strata, the proportions of the various segments in 1991 are shown in Table 4.1.

Account was also taken of people outside the labour market by including three further variables. The first related to homemakers who had a working partner (to distinguish them from people who had no source of wage income at all) while the second took account of people who were classed as unemployed (defined as being actively looking for work). The third variable indexed retirement. Even though all the respondents were under 65 years of age, there was still a minority who were categorised as retired. The reference category was other non-employed people (i.e. those not actively looking for work for whatever reason).

We also took into account various other factors in a similar fashion to the multinomial logistic regressions in Chapter 3. Occupational class was considered with reference to the respondent's current or most recent job, gender and age were included as before as were highest educational qualification, and family situation.

Table 4.1: Proportions in each labour market segment (1991)

Segment	%
Core	20
Intermediate	23
Peripheral	22
Permanent self-employed	8
Temporary self-employed	2
Not working	25

Some trigger variables were also included to indicate whether a couple divorced or separated during the five-year window and also whether an additional dependent child entered the household at some point in the five-year window. Previous poverty experience was also included (a 'lagged dependent variable'). That is, poverty was predicted in part as a function of previous poverty experience. Thus, we were directly measuring the likelihood of recurrence. The instruments used to take into account the initial conditions (see Box 3.1) were the age of the respondent the year before the survey started, gender and the father's occupation when the respondent was 14 years old. For brevity, these instruments are not reported in the main text, but examples of the complete models are available from the authors.

For each dimension of poverty (income poverty, financial strain and material deprivation) we predicted poverty using three different models. In the first model, the dependent variable was the outcome of experiencing any poverty at all in the five-year window. The second model employed 'recurrent poverty', defined as poverty experienced in more than one year of the five-year window. The third model predicted poverty in the more conventional way using annual data on what is referred to below as 'year-on-year poverty' (in these latter models, poverty was predicted in the current year with a lagged dependent variable based on the previous year, rather than using the five-year window). The data for all these these models consisted of balanced panels (i.e. the respondent had to have been interviewed in all 15 waves to be present in the analysis).

All the models were the Heckman type discussed above and were estimated using Stewart's (2006, 2007) method. As with the logistic regressions in Chapter 3, the size of the coefficients indicated whether, and the extent to which, the chances of becoming poor differed from the reference category, with values greater than zero indicating a greater likelihood, and values less than zero a reduced likelihood. A crucial difference in these models compared to those in Chapter 3 was the presence of the variable representing the impact of previous poverty on future poverty experience (so-called 'state dependency'). It was therefore a direct indicator of recurrence. If the

coefficient associated with this variable was large and significant then it showed that there was a tendency for those who had been poor in the past to be poor again in the future (even after having taken several other factors into account).

Models of income poverty

Table 4.2 shows the results of the three models predicting income poverty. In all cases, there was a strong effect from previous poverty experience. Previous poverty experience was a strong predictor of future poverty experience, whichever way it was explored. Thus, those prone to recurrent poverty (or indeed any other type of poverty) in one five-year period were much more likely to experience poverty in future five-year periods, all other things being equal.

Gender was also a significant determinant in all three models of income poverty, with women being more likely than men to be poor, although the strength of the relationship was relatively low. Age showed different results depending on the type of model. With respect to the five-year windows that indicated medium-term effects, the likelihood of income poverty and recurrent income poverty in particular was lower for the younger respondents. However, the year-on-year models showed a small and marginally significant increase in the likelihood of poverty in the following year. One interpretation of this is that in the medium term, younger people did better than the over 45-year-olds with respect to income, but in the short term this was not the case. This age pattern was not repeated with any of the other dimensions of poverty.

As with the models in Chapter 3, the family situation was also of great importance. Couples with no dependants were less likely to experience income poverty in all three models, while single parents with dependants were significantly more likely. Family triggers were also important. Separating from a partner and having children contributed to experiencing income poverty, but in slightly different ways. Separation or divorce was significant in all models, but having a child only impacted on recurrent poverty in the next five years, suggesting that bearing children does not always have an immediate impact, but does eventually take its toll on vulnerable families.

Educational level greatly reduced the likelihood of experiencing any form of income poverty, thus reinforcing the role of human capital in determining the life chances of individuals. The higher the education the lower the chances of experiencing repeated spells of income poverty. Even relatively modest qualifications provided some protection.

Turning to the labour market variables, occupational class had a strong impact. Those who normally worked in the higher-level occupations (especially managers, professionals, technical and administrative workers where the coefficients were the largest) were less liable to experience any form of income poverty. Skilled manual workers were also less likely to experience these three types of income poverty, but not to the same extent as professionals. Lesser-skilled employees were generally not significantly different to the unskilled.

In terms of labour market segmentation, we see that there were highly significant effects and that these were the strongest effects in the models. Therefore, after controlling for occupational status, education and so on, there were still strong effects on poverty experience in the future based on the job conditions of the employee. As might be expected, core employees were the least likely to experience any form of poverty, followed by the intermediates. However, even peripheral workers (those who were most likely to be in the low-pay-no-pay cycle) were also significantly less prone to experience poverty or recurrent poverty in all three models relative to non-employed respondents. In terms of self-employment, it was the permanently self-employed that did well rather than the temporarily self-employed. Homemakers with paid partners were also less liable to become poor.

The impact of labour market segmentation, then, is crucial in determining a person's chances in terms of recurrent income poverty outcomes. For those in employment, if we compared the peripheral coefficients to the core coefficients in the recurrent poverty model, this is –0.68 for peripheral employees versus –1.20 for the core employees – a substantial difference. This tells us two crucial things. First, that even peripheral employment helps to offset the likelihood of future recurrent poverty, and second, that those employed in the core labour market segment are much less likely still, even after controlling for their occupation and education.

Table 4.2: Models predicting poverty and recurrent income poverty 1991–2005

Independent variable	Any poverty in next 5 years	More than 1 year of poverty in next 5 years	Year-on year-poverty
Previously poor	0.74***	0.86***	0.91***
Female	0.12**	0.15*	0.10*
Age 18–24	–0.33*	–0.52*	0.16*
Age 25–34	n.s.	–0.22**	0.09*
Age 35–44	n.s.	–0.13*	n.s.
Reference: age 45+			
Higher-level education	–0.42***	–0.36***	–0.55***
College-level education	–0.28***	–0.24*	–0.50***
Ordinary-level education	–0.27***	–0.19*	–0.43***
Other education	–0.16*	n.s.	–0.33***
Reference: no education			
Couple, no children	–0.24**	–0.28**	–0.33***
Couple, dependent children	n.s.	n.s.	n.s.
Couple, non-dependants	–0.24**	–0.50***	–0.60***
Single parent	0.38***	0.40**	0.58***
Single parent, non-dependants	n.s.	–0.46**	n.s.
Reference: other households	n.s.	n.s.	n.s.
Divorced/separated	0.39***	0.42***	0.30***
Had a child	n.s.	0.22**	n.s.
Most recent occupation:			
Manager	–0.18*	n.s.	–0.27***
Professional	–0.30**	–0.42***	–0.41***
Associate professional/technical	–0.41***	–0.43***	–0.39***
Admin/secretarial	–0.27***	–0.33***	–0.21***
Skilled trade	–0.27**	–0.29**	–0.20***
Personal service	n.s.	n.s.	n.s.
Sales/customer service	n.s.	n.s.	n.s.
Process/plant/machine operative	n.s.	n.s.	–0.22***
Reference: low skilled/never worked			
Labour market status:			
Core	–0.98***	–1.20***	–1.75***
Intermediate	–0.87***	–1.15***	–1.60***
Peripheral	–0.68***	–0.85***	–1.28***
Self-employed permanent	–0.26**	–0.43***	–0.61***
Self-employed temporary	n.s.	n.s.	–0.35***
Unemployed	n.s.	n.s.	0.19**
Homemaker with paid partner	–0.30***	–0.44***	–0.82***
Retired	n.s.	n.s.	–0.15*
Reference: other non-occupied			
N	10,124	10,124	51,415

Note: n.s. not significant; * significant at 5%; ** significant at 1%; *** significant at 0.1%.

Models of financial strain

In terms of financial strain (Table 4.3), again previous strain was highly significant and was relatively strong compared to the other factors in the model. Thus, a strong sense of state dependency applied to financial strain as well as income poverty. However, unlike the models of income poverty, age and gender were not significant in the five-year window models. The short-term year-on-year model did, however, show a small gender effect, with women being marginally less likely than men to report financial strain; and an age effect, which indicated that younger people were more likely to report strain in any given year.

The importance of the family's situation provided further evidence for the precariousness of single parents. And this time even single parents with non-dependants in the household were significantly more likely to experience all types of financial strain. The coefficients for single parenthood were also relatively large. Childless couples and couples with non-dependants were less likely to experience strain. The triggers associated with family change were also much more powerful determinants in these models than in the income poverty models. Separation and having children both contributed to strain in all three models. Moreover, the effects of divorce or separation were particularly acute.

Again, as with income poverty, better educational attainment reduced the risk of financial strain in all the models. This emphasises the importance of education in addition to other factors in reducing recurrent strain. The labour market variables were also particularly pertinent. Those in higher occupations with greater incomes such as managers and professionals were the least likely to experience financial problems. Other occupational groups were generally similar to the unskilled reference category.

The labour market segmentation variables followed a similar pattern to income poverty, although the effects were not as great. However, the relative sizes of the coefficients within the models were large. Core workers were the least likely to experience financial strain even after controlling for other characteristics. The gap between core and periphery was still evident, but it was not as great (compare the coefficient of –0.69 for core versus –0.42 for periphery in the recurrent model). The results for the other employment status variables were similar to those from the income poverty models. So, once again, labour market segmentation as measured by quality of employment is a very strong determinant of this dimension of poverty experience and it is evident that although peripheral employment is superior to being out of work altogether, it is not as good as having a job with better terms and conditions attached.

Models of material deprivation

Finally, we turn to the models of material deprivation (Table 4.4). Again, the impact of previous deprivation was very great and highly significant, reinforcing the findings pertaining to the income and financial strain models. That is, that there is a strong element of state dependency with respect to all dimensions of poverty. In other words, once someone becomes poor, they are much more likely to experience poverty again in the future, no matter which dimension is looked at and after controlling for numerous other relevant factors.

Unlike for income, gender was insignificant with respect to material deprivation. Age followed a common pattern in all three cases. The younger an individual was, the less likely they were to be materially deprived. The size of the relationship was quite high for the youngest group under consideration (age 18–24). The family variables were highly significant once again and followed a different pattern to previous dimensions of poverty. As we indicated in Chapter 3, the impact of children on our indicator of material deprivation was often counter to the results for the other poverty dimensions. Single parents and couples with children were less likely to be materially deprived than the reference category. Again, this indicates that families with children tend to have relatively well-equipped households in terms of the items referenced in the BHPS (appliances such as washing machines and microwaves along with durables entailed with the tasks involved in entertaining children (e.g. video cassette recorders, personal computers and CD players). This then showed the opposite effects for single parents to

Table 4.3: Models predicting financial strain and recurrent financial strain 1991–2005

Independent variable	Any strain in next 5 years	More than 1 year of strain in next 5 years	Year-on-year strain
Previously strained	0.72***	0.63***	0.87***
Female	n.s.	n.s.	–0.09**
Age 18–24	n.s.	n.s.	0.48***
Age 25–34	n.s.	n.s.	0.26***
Age 35–44	n.s.	n.s.	0.12***
Reference: age 45+			
Higher-level education	–0.28***	–0.41***	–0.30***
College-level education	–0.24**	–0.48***	–0.33***
Ordinary-level education	n.s.	–0.24**	–0.17***
Other education	–0.21*	–0.33**	–0.18**
Reference: no education			
Couple, no children	–0.29***	–0.25**	–0.38***
Couple, dependent children	n.s.	n.s.	n.s.
Couple, non-dependants	–0.22*	n.s.	–0.26***
Single parent	0.59***	0.74***	0.37***
Single parent, non-dependants	0.34*	0.39**	0.22***
Reference: other households			
Divorced/separated	0.76***	0.65***	0.35***
Had a child	0.41***	0.46***	0.15***
Most recent occupation:			
Manager	–0.26*	–0.36**	–0.27***
Professional	–0.28*	–0.39**	–0.23***
Associate professional/technical	n.s.	n.s.	–0.13*
Admin/secretarial	n.s.	n.s.	n.s.
Skilled trade	n.s.	n.s.	–0.13*
Personal service	n.s.	n.s.	n.s.
Sales/customer service	n.s.	n.s.	n.s.
Process/plant/machine operative	n.s.	n.s.	–0.13*
Reference: low skilled/never worked			
Labour market status:			
Core	–0.57***	–0.69***	–0.61***
Intermediate	–0.50***	–0.55***	–0.57***
Peripheral	–0.40***	–0.42***	–0.42***
Self-employed permanent	–0.43***	–0.37**	–0.47***
Self-employed temporary	n.s.	n.s.	–0.22*
Unemployed	n.s.	n.s.	0.45***
Homemaker with paid partner	–0.45***	–0.42***	–0.32***
Retired	n.s.	–0.38*	–0.40***
Reference: other non-occupied			
N	9,666	9,666	50,548

Note: n.s. not significant; * significant at 5%; ** significant at 1%; *** significant at 0.1%.

Table 4.4: Models predicting material deprivation and recurrent material deprivation 1991–2005

Independent variable	Any deprivation in next 5 years	More than 1 year of deprivation next 5 years	Year-on year-deprivation
Previously deprived	0.84***	0.99***	1.25***
Female	n.s.	n.s.	n.s.
Age 18–24	–0.41***	–0.43**	–0.19**
Age 25–34	–0.20***	–0.20**	–0.20***
Age 35–44	–0.17***	–0.18**	–0.12***
Reference: age 45+			
Higher-level education	–0.21**	–0.22**	–0.16***
College-level education	n.s.	–0.22*	–0.19***
Ordinary-level education	n.s.	–0.16*	n.s.
Other education	n.s.	–0.20*	n.s.
Reference: no education			
Couple, no children	–0.36***	–0.42***	–0.54***
Couple, dependent children	–0.77***	–0.89***	–1.01***
Couple, non-dependants	–0.52***	–0.65***	–0.95***
Single parent	–0.47***	–0.52***	–0.65***
Single parent, non-dependants	n.s.	n.s.	–0.46***
Reference :other households			
Divorced/separated	0.48***	0.37***	0.46***
Had a child	n.s.	–0.17*	0.22***
Most recent occupation:			
Manager	–0.62***	–0.67***	–0.36***
Professional	–0.59***	–0.58***	–0.33***
Associate professional/technical	–0.55***	–0.49***	–0.25***
Admin/secretarial	–0.39***	–0.33***	–0.15**
Skilled trade	–0.27**	–0.26*	–0.13*
Personal service	–0.27**	–0.32**	n.s.
Sales/customer service	–0.22*	n.s.	–0.12*
Process/plant/machine operative	n.s.	n.s.	n.s.
Reference: low skilled/never worked			
Labour market status:			
Core	–0.26***	–0.37***	–0.29***
Intermediate	–0.19**	–0.29***	–0.29***
Peripheral	n.s.	–0.25**	–0.22***
Self-employed permanent	–0.22*	–0.34**	–0.29***
Self-employed temporary	n.s.	n.s.	–0.32**
Unemployed	n.s.	n.s.	–0.13*
Homemaker with paid partner	n.s.	n.s.	–0.13*
Retired	n.s.	n.s.	n.s.
Reference: other non-occupied			
N	9,785	9,785	50,761

Note: n.s. not significant; * significant at 5%; ** significant at 1%; *** significant at 0.1%.

previous results with respect to income poverty and financial strain. This was almost certainly an indication of the weakness of this indicator rather than a reflection of the fact that single parents were not materially deprived.

Turning to the family situation, separation had a dramatic impact on deprivation. Not surprisingly, when a couple separates both partners will be more likely to be less materially well off. The impact of children was slightly ambiguous. There was no effect in the model of any deprivation, but there was a small marginal negative effect on recurrent deprivation. However, the year-on-year model showed a positive effect, which implies that having a child, while it may have a small impact on material deprivation in the immediate present, eventually becomes of less importance as the household equips itself to cope with the increasing demands of family life.

Education generally lessened the likelihood of deprivation, but the educational effect was much weaker than in respect of the preceding models of income poverty and financial strain. This followed the pattern revealed in Chapter 3. Turning to the labour market variables, occupation had a significant impact on deprivation and these effects were particularly pronounced in the longer-term models. In general, those in higher-level occupational groups were less likely to suffer from material deprivation in all three models. The impact of labour market segmentation was also significant, but had much less of an impact on deprivation than on financial strain and income poverty. Again, the core workers were the least likely to be deprived, followed by the intermediate and then peripheral employees (although there was no significant effect of peripheral employment in the first model of deprivation). Self-employment followed the same pattern as with the previous dimensions of poverty.

5 Conclusions and implications for policy

We began by outlining a model (Figure 2.1), which suggested that poverty, and recurrent poverty in particular, might be the product of a conjunction of factors. These included individual characteristics, combined with particular events and changes in family and household circumstances and with structural factors, such as the organisation of the labour market, conspiring together to make certain people especially vulnerable financially. The analysis has broadly confirmed this understanding and enabled us better to appreciate which of the many possible factors are most important.

The model also emphasised the importance of examining poverty over lengthy time periods rather than simply focusing on annual data or considering year-on-year changes. The analysis has demonstrated that poverty does indeed have long-term consequences, which mean that if a person experiences a spell of poverty in one five-year period, they are highly likely to suffer poverty again during the next five-year period. One legacy of poverty appears to be its propensity to reproduce itself in the lives of people that it afflicts.

Furthermore, we have been able to expand our enquiry away from a narrow focus on income poverty to address other aspects of what it means to be poor, notably the stress of trying to make ends meet and the associated material disadvantage resulting from not being able to purchase or replace the goods that make for normal living in modern Britain. In so doing, we have shown that it is appropriate to think of recurrent poverty as applying to each of these different dimensions, but that there is not a straight read-across from one component of poverty to another. For example, whereas the volume of recurrent income poverty has remained more or less constant over time, the proportions of people suffering repeated spells of material deprivation (when measured in absolute terms) and financial strain have both fallen since the early 1990s, possibly as a result of (until very recently) easier access to credit. Recurrent spells of relative material deprivation, on the other hand, appear to have increased. Also, while lone parents are significantly more likely to experience repeated periods of income poverty than other groups and similarly to be more prone to repetitive bouts of financial strain, the same is not true with respect to material deprivation.

We cannot say that this analysis has made life any easier for policy-makers. Indeed, the reverse may be true in that it is now no longer justifiable to focus on bringing current spells of poverty to a speedy end by whatever means is possible. Instead, policy has also to focus on the future and to consider policies that are most likely to prevent a person from ever again becoming poor.

The initial brief was methodological, to investigate how best to understand the repeated nature of much poverty, not to consider policy directly. We have made considerable advance in this regard but in this conclusion we focus primarily on the substantive findings while also hinting at some of the challenges that follow for policy.

Taking recurrent poverty to mean respondents being poor at the time of interview in more than one non-consecutive year over a five year period, we found that about 15 per cent experienced recurrent material deprivation, 21 per cent recurrent spells of income poverty and 28 per cent recurrent periods of financial strain, However, certain groups were generally far more prone to recurrent poverty, including single parents, people with few educational qualifications, manual workers and people who were either unemployed or economically inactive. Women were particularly susceptible to recurrent income poverty although they were less likely to report financial stress, possibly because they were often more used to tight budgeting than men.

If we explore the results in Chapter 3, which highlighted the groups most at risk of recurrent poverty, the following were revealed as being at extremely high risk:

- people with lower educational qualifications;
- skilled manual and lower-skilled workers versus professionals and managers;
- single parents;
- people who are the unemployed or economically unoccupied, compared to those in working households.

Other effects are also worthy of note. For example, women were more likely to be recurrently income poor, but not financially strained.

The headline results would imply that providing some form of accessible educational facilities to the poor would be of some assistance, but in terms of training and skills things are not so straightforward. For example, those in skilled manual occupations seemed to be at the same level of risk with respect to certain types of recurrent poverty as unskilled workers – the more routine white collar occupations also did not fare particularly well.

The analysis undertaken to determine the likely causes of recurrent poverty was sophisticated in that, unlike studies based on simple correlations, possible causal factors were measured before outcomes were observed. Furthermore, account was even taken of unmeasured differences between people experiencing recurrent poverty and those that could otherwise have distorted the apparent influence of the factors that were considered. In sum, the analysis was the most robust that is currently possible given the data available.

The impact of previous poverty experience

First, the experience of poverty itself greatly increased the chances of suffering recurrence in subsequent time periods, a finding that applied to all groups and all dimensions of poverty. Recurrent poverty seems therefore to establish a pattern that is likely to be repeated although even single episodes of poverty are a good predictor that a person will later fall into a pattern of recurrent poverty. The controls in the analysis greatly increased the probability that it is the poverty itself which leads to further spells rather than the prior characteristics of the person placing them at added risk. In technical terms, this suggests that state dependency, the process by which the experience of poverty adds to the risk of becoming poor again, is more important than heterogeneity.

The mechanism by which this increased risk occurs warrants investigation if an appropriate policy response is to be developed. It has been argued by some that reliance on welfare benefits without the need to seek employment traps people in poverty. Others have suggested that the shame that attaches to poverty and the stigma that people experience or have imposed on them by such mechanisms as red-lining neighbourhoods by credit agencies make escape from poverty difficult (Tomlinson and Walker, 2009) although it should be recalled that recurrent poverty means that people leave poverty only to return, possibly with their hopes and aspirations shattered as a consequence. Whatever the mechanisms involved, the analysis suggests that a focus simply on ending a person's current spell of poverty is unlikely in itself to be an adequate response if attention is not also paid to factors that prevent a person from becoming poor again.

Personal and family characteristics

Previous research has suggested that the same factors that are associated with a person becoming poor are implicated in subsequent spells of poverty (e.g. Smith and Middleton, 2007). In our analysis, it was evident that lone parents were especially prone to chronic income poverty and financial strain. Moreover, the evidence was not only that separation and divorce precipitated spells of poverty, as is well known from other research (e.g. Tomlinson and Walker, 2009), but that the resultant poverty was frequently recurrent and embraced all three of the dimensions of poverty considered. The implication, therefore, is that the support, financial and otherwise, that is available to couples experiencing relationship breakdown is not adequate to prevent one or both parties becoming prone to repeated episodes of poverty over a sustained period of at least five years.

The research also pointed to the arrival of a new baby as a factor implicated in triggering recurrent poverty even after taking account of other

risk factors. The fact that a new child increases expenditure and can reduce income is obviously well recognised and there have been substantial increases in Child Benefit in recent years as well as much improved provision for childcare. Perhaps what this finding suggests, alongside the observed impact of divorce and separation, is that, improved provision apart, targeting assistance in response to household changes could be particularly beneficial if it succeeded in breaking the links with recurrent poverty.

Human capital and skills

In the analysis, among the groups most at risk of recurrent poverty were those with limited education and skills and those employed in manual and routine white collar occupations. The implication is that a good education, the accumulation of human capital, is very worthwhile in protecting people against recurrent poverty.

The research can also inform the policy question of whether training later in life can compensate for initial limited education. Separate models have been estimated (Tomlinson and Walker, 2009; not reproduced here) that demonstrated that particular kinds of training do serve to lower the risk of recurrent poverty. While the BHPS survey data was not ideal in terms of being completely consistent over time, the analysis indicated that skills-based training brought the most benefit, and that on-the-job training was generally of more value than other types. Even when skills-based training was delivered off the job, it offered a modicum of protection against recurrent poverty but generic, as opposed to skills training, was only of value if it occurred on the job.

The implications are twofold: first, employers can do a great deal to help people to develop resilience to recurrent poverty by providing training; and second, skills-based training offers better protection than generic training, be it offered through employment or to jobseekers while unemployed.

The labour market

The analysis confirmed the importance of the labour market and people's access to it as factors driving the nature and extent of recurrent poverty. The differential opportunities created by the segmentation of the labour market into a more secure and better remunerated core and a more exposed periphery go a long way to explaining the distribution of recurrent poverty. People in jobs with a permanent contract, incremental pay rises and prospects for promotion were largely insulated from the risk of recurrent poverty, be it income poverty, financial stress or, to a lesser extent, material deprivation. Moreover, this protection was afforded almost irrespective of the skills and level of education that people brought to their occupation and even the nature of the occupation itself.

People in employment, even those employed in low-skilled jobs or in the peripheral labour market, were less at risk of recurrent poverty than people who were unemployed or economically inactive. Work, therefore, is an important defence against poverty. However, the size of the coefficients in the equations indicated that securing a position in the core labour market was generally much more important in providing protection against recurrent poverty than moving from unemployment into a job in the peripheral labour market. Furthermore, employment per se was often insufficient to offset the attendant risks associated with other factors. For example, taking a job in the peripheral labour market generally would not compensate for the increased risk of recurrent poverty associated with divorce, becoming a lone parent or having an additional child. The most sophisticated models that explored the interaction between occupations and labour market segment revealed that acquiring a low-skilled job in the peripheral labour market brought much less protection against recurrent poverty.

What this analysis confirms is that structural factors, opportunities presented by the labour market, are as important as, and often more important than, personal attributes and circumstances in determining the risk of recurrent poverty. Policies that simply encourage people to find work, without paying attention to the kinds of jobs that are available, cannot secure a marked reduction in recurrent poverty or a sustained decline in the poverty rate. The analysis underlines the importance of seeking to ensure the availability of high-quality jobs offering security and prospects as well as policies that foster job search and improved skills.

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Appendix
Full versions of the multinomial logistic regressions in Chapter 3

Table A1: Multinomial logit model coefficients predicting different types of income poverty sequence 1991–5 relative to never being in poverty

Independent variable	1 spell short	1 spell long	Recurrent	Chronic
Female	0.22*	n.s.	0.29*	0.46*
Age 18–24	n.s.	n.s.	n.s.	n.s.
Age 25–34	–0.36**	n.s.	n.s.	n.s.
Age 35–44	n.s.	–0.42**	n.s.	n.s.
Reference: age 45+				
Higher-level education	–0.39**	–1.14***	–1.33***	–1.64***
College-level education	n.s.	–0.85***	–0.89***	–2.76***
Ordinary-level education	n.s.	–0.64***	–0.73***	–1.06***
Other education	n.s.	n.s.	n.s.	–0.76*
Reference: no education				
Couple, no children	–0.38*	–0.85***	–0.45*	–0.94**
Couple, dependent children	n.s.	n.s.	n.s.	n.s.
Couple, non-dependants	–0.44**	–0.96***	–0.92***	–3.36***
Single parent	0.59*	1.35***	1.79***	2.60***
Single parent, non-dependants	n.s.	n.s.	n.s.	n.s.
Reference: other households				
Most recent occupation:				
Manager	–0.62***	–0.50*	–0.63*	–1.09**
Professional	–1.05***	–0.79**	–1.66***	–3.37**
Associate professional/technical	–0.62**	–0.71**	n.s.	–1.48**
Admin/secretarial	–0.93***	–0.85***	–1.30***	–1.88***
Skilled trade	n.s.	n.s.	n.s.	n.s.
Personal service	–0.38*	–0.43*	n.s.	–0.90***
Sales/customer service	n.s.	n.s.	n.s.	–0.76**
Process/plant/machine operative	n.s.	n.s.	n.s.	–0.82**
Reference: low skilled/never worked				
Employed	–1.07***	–1.81***	–2.23***	–3.66***
Unemployed	n.s.	n.s.	n.s.	n.s.
Homemaker with paid partner	–0.67**	–1.04***	–1.64***	–2.30***
Retired	n.s.	n.s.	n.s.	n.s.
Reference: other non-occupied				

Note: n.s. not significant; * significant at 5%; ** significant at 1%; *** significant at 0.1%.

Table A2: Multinomial logit model coefficients predicting different types of financial strain sequence 1991–5 relative to never being in poverty

Independent variable	1 spell short	1 spell long	Recurrent	Chronic
Female	n.s.	n.s.	n.s.	n.s.
Age 18–24	0.66***	0.91***	0.68***	n.s.
Age 25–34	n.s.	0.61***	n.s.	n.s.
Age 35–44	n.s.	0.37**	n.s.	n.s.
Reference: age 45+				
Higher-level education	n.s.	–0.45**	–0.73***	–1.15***
College-level education	n.s.	–0.33*	–0.53***	–0.75***
Ordinary-level education	n.s.	n.s.	–0.32*	–0.64***
Other education	n.s.	n.s.	n.s.	n.s.
Reference: no education				
Couple, no children	n.s.	n.s.	n.s.	–0.66***
Couple, dependent children	0.37*	0.30*	0.52***	0.39*
Couple, non-dependants	n.s.	n.s.	n.s.	–0.51**
Single parent	1.42***	1.44***	1.56***	1.87***
Single parent, non-dependants	n.s.	n.s.	n.s.	n.s.
Reference: other households				
Most recent occupation:				
Manager	n.s.	–0.58**	–0.79***	–0.92***
Professional	n.s.	–0.50*	–0.79***	–1.18***
Associate professional/technical	n.s.	n.s.	n.s.	–0.50*
Admin/secretarial	n.s.	–0.37*	–0.62***	–0.70***
Skilled trade	n.s.	n.s.	n.s.	n.s.
Personal service	n.s.	n.s.	–0.44*	–0.73***
Sales/customer service	n.s.	n.s.	n.s.	–0.52*
Process/plant/machine operative	0.48*	n.s.	n.s.	n.s.
Reference: low skilled/never worked				
Employed	–0.67**	–1.30***	–1.05***	–1.87***
Unemployed	n.s.	n.s.	n.s.	n.s.
Homemaker with paid partner	–0.85**	–1.24***	–1.24***	–1.71***
Retired	–1.27***	–1.72***	–1.24***	–2.65***
Reference: other non-occupied				

Note: n.s. not significant; * significant at 5%; ** significant at 1%; *** significant at 0.1%.

Table A3: Multinomial logit model coefficients predicting different types of material deprivation sequence 1991–5 relative to never being in poverty

Independent variable	1 spell short	1 spell long	Recurrent	Chronic
Female	n.s.	0.29*	0.35*	n.s.
Age 18–24	1.02***	0.99***	0.53*	n.s.
Age 25–34	0.45***	0.33*	n.s.	–0.37*
Age 35–44	n.s.	n.s.	n.s.	n.s.
Reference: age 45+				
Higher-level education	–0.49**	n.s.	n.s.	–0.46*
College-level education	–0.47**	n.s.	–0.84***	–0.88***
Ordinary-level education	n.s.	–0.44**	–0.65**	–0.56**
Other education	n.s.	n.s.	n.s.	n.s.
Reference: no education				
Couple, no children	–0.72***	–1.20***	–1.14***	–2.07***
Couple, dependent children	–1.06***	–1.64***	–1.67***	–2.60***
Couple, non-dependants	–1.17***	–1.70***	–1.91***	–2.78***
Single parent	–0.50*	–0.71**	–0.95**	–1.74***
Single parent, non-dependants	–0.65*	–0.71**	n.s.	–1.16***
Reference: other households				
Most recent occupation:				
Manager	n.s.	–0.69**	n.s.	–0.66*
Professional	n.s.	–0.75**	n.s.	–0.67*
Associate professional/technical	n.s.	–0.61*	–0.67*	–0.61*
Admin/secretarial	–0.46**	–0.55**	–0.72**	–0.64**
Skilled trade	n.s.	n.s.	n.s.	n.s.
Personal service	n.s.	n.s.	–0.62*	n.s.
Sales/customer service	n.s.	n.s.	n.s.	n.s.
Process/plant/machine operative	n.s.	n.s.	n.s.	n.s.
Reference: low skilled/never worked				
Employed	–0.60***	–0.84***	–0.81***	–1.02***
Unemployed	n.s.	n.s.	n.s.	n.s.
Homemaker with paid partner	n.s.	–1.06***	–0.63*	n.s.
Retired	n.s.	n.s.	–1.38*	–0.95*
Reference: other non-occupied				

Note: n.s. not significant; * significant at 5%; ** significant at 1%; *** significant at 0.1%.

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Joseph Rowntree Foundation
The Homestead
40 Water End
York YO30 6WP
www.jrf.org.uk

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About the authors

Mark Tomlinson is a senior research officer in the Department of Social Policy and Social Work, University of Oxford, and a research associate of Green Templeton College, Oxford. He has worked in several universities as a quantitative social scientist, including Nuffield College, University of Oxford; University of Manchester; National University of Ireland, Galway; Aalborg University, Denmark; and University of Birmingham. He has published numerous articles in academic journals and books, as well as several reports for institutions such as the OECD (Organisation for Economic Co-operation and Development), the European Commission, UNIDO (United Nations Industrial Development Organization), the Department of Trade and Industry and the Confederation of British Industry.

Robert Walker is Professor of Social Policy and a fellow of Green Templeton College, University of Oxford. He was formerly Professor of Social Policy at the University of Nottingham and before that Professor of Social Policy Research, Loughborough University, where he was Director of the Centre for Research in Social Policy. He is a member of the statutory UK Social Security Advisory Committee and of the Technical Advisory Group, Department of Social Development, South Africa. He chairs the Academic Advisory Committee of the ESRC UK Household Longitudinal Study (Understanding Society) and is a member of the governing board. He is a research affiliate of the National Poverty Center, University of Michigan and a fellow of the Royal Society of Arts. He has published 19 books, 61 research reports and numerous academic articles.