

The public value of social housing: A longitudinal analysis of the relationship of housing and life chances

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Executive Summary

Overview

This briefing paper reports findings from an original study of social housing from WW2 to 2003. This wide historical panorama is vital in the study of social housing because so many of the underlying processes and impacts run across generations.

By social housing we mean housing owned by local authorities or registered social landlords such as housing associations. We focus on tenure as a key characteristic of housing, distinguishing social housing from private rental and owner occupation in particular.

We use data from four UK birth cohort studies, finding that the negative outcomes now commonly associated with social housing are not inevitable or inherent to provision of housing by the public sector. For those born in 1946 social housing was not until more recently a risk factor operating against life chances.

For later cohorts we find that social housing has become a substantial risk factor for wide-ranging negative outcomes, both for those who experience social housing in childhood and those who experience social housing in adulthood.

We place these findings in the context of historical shifts in housing. In the early years after the second world war there were substantial investments in housing in both public and private sectors but the dominant continuing trend was towards the private sector, as the proportion in social housing peaked in the mid-late 1960s and then entered steep decline.

We conduct our analysis of the data within a conceptual model that recognises the importance of selection processes into social housing as well as of the possibility of impacts of housing on livelihoods, that owner occupation is both a characteristic of housing and an important element of household financial wealth and that social housing is now primarily that aspect of housing allocated on the basis of assessments of need.

Separating effects of housing from the factors that lead people to reside in social housing requires clear conceptual foundations and very good data. Although the data analysed here are remarkable we have not attempted to solve the problem of causality or prove effects of particular forms of tenure. Our aim is to clarify some important trends and demonstrate the level of risk associated now with social housing, to test some important channels for effects and to compare outcomes for men and women at different ages, from different backgrounds and in different life circumstances.

Methods

The data used for this study are the UK birth cohort studies, which are large sample, nationally representative repeat surveys of people born of 1946, 1958, 1970 and 2000.

For the three earlier cohorts we compare adult outcomes for those in social housing at various stages of life, relative to those in the private rented sector and in owner

occupation. These are broad groups with important differences within groups as well as between them.

We consider outcomes in terms of a very broad set of adult life circumstances, experiences and difficulties. To simplify the material, we present findings in the text based on analysis of a single indicator; multiple deprivation defined as experiencing more than 1 of the following adult outcomes;

- Workless household
- Workless household with children
- Financial problems
- Permanently sick/disabled
- Depression
- Smoker
- Single parent

This slants the analysis towards a focus on child poverty because with this indicator, the outcome of “workless household with children” counts double. Any cohort member who in adulthood is in a workless household with children present is necessarily classified by this indicator as experiencing multiple deprivation. However, this is not a measure of child poverty as many children experiencing poverty will not be picked up by this indicator.

The data include a wide range of other measures at earlier ages which enable us to control statistically for many of the individual factors that influence housing tenure. In this way, we can go a long way to achieving like with like comparisons and be relatively confident that the average differences in outcomes between those in social housing and others reflect the impact of factors related to housing rather than to the selection into housing.

However, the complexity of these processes is such that conclusions about causality should be drawn with considerable care, even when so many control variables are introduced. It is important to recognise the complexity of the many ways in which housing may impact on life chances and how these may interact with personal factors.

Key findings

1. Trends

During the period 1948-1965 social housing was growing, and even advantaged groups made use of it. Between 1965 and 2003 there was then a significant divergence, with substantial declines in social housing for most of the population with children but not for the 20% least advantaged in terms of education and occupation for whom the proportion in social housing was constant

Throughout the period there was growth in owner occupation. However, between 1975 and 2003, the proportion of the most disadvantaged 40% owning their own homes fell, while that amongst the remaining 60% rose. For the median family the proportion of owners grew from 34% in 1965 to 64% by 2003. At the same time the growth was small for the second quintile and negative for the bottom quintile.

Thus, despite Right to Buy legislation, there was a stark polarisation in access to the wealth generation that home ownership offered over this period. Moreover, even within the bottom 40% a divergence can be observed: the proportion of owner occupiers in the bottom 20% is 20%, in the next quintile up it is 39%.

There is now a very strong relationship between residence in social housing and multiple forms of disadvantage and deprivation. For the 1970 cohort at age 30 (2000) we find that those in social housing at aged 30 had odds of having experienced a lot of time “not in employment, education or training” around 11 times higher than those for the rest of the cohort. They had odds ratios over nine times higher of being in workless households, without degree-level qualifications and single parents. They have odds over two times higher of depression, mental health problems and low self-efficacy and of being dissatisfied with life.

2. The relationship between being in social housing in childhood and adult outcomes.

We look at the risk of multiple deprivation in adulthood for those who experienced social housing in childhood, compared to those who were in the private rented sector or owner occupation.

- For the 1946 cohort, social housing in childhood was not a significant risk factor for adult deprivation or worklessness, except for females and then only for very recent (age 53) outcomes, most likely explained by the experience of housing since residualisation rather than because of the experience in childhood.
- For the 1958 cohort there are important gender differences. For males, once the observed selection factors are taken account of, there is no increase in the likelihood of adult multiple deprivation for experience of social housing in childhood. For females there is an increase in likelihood of age 53 adult deprivation at ages 33 and 42.
- For the 1970 cohort we find negative outcomes for both males and females.

Thus the association of social housing in childhood and adult difficulties is a relatively recent phenomenon and not inherent to socially provided housing. However, as social housing has become increasingly the housing of last resort, the association has become very strong indeed, raising serious questions about the failure of recent and current provision to offset the risks faced by those housed by the public and voluntary sectors.

More detailed analysis of this difference between genders is important. It may be explained by long-term consequences of early parenthood which may have more substantial long-term implications for females than males.

3. The transition to social housing in adulthood

We find a considerable degree of stability of social housing tenure. For example, males in the 1958 cohort in social housing at age 33 (1991) have odds of being in

social housing at age 42 (2000) that are 29 times higher than those not in social housing at age 33.

Within this overall pattern of stability, there is a key transition moment during the transition from childhood to adulthood. For the transition between age 16 and 23 the odds ratio declines to 6.5, still very large but much smaller than for other intervals. This may indicate a particularly important moment for policy support and action.

4. The relationship between being in social housing in adulthood and later adult outcomes.

We find strong associations of social housing in early or mid-adulthood and negative outcomes later on in adulthood, even taking account for a great number of background circumstances, elements of personal development and early adulthood life chances.

For the 1946 cohort the risk of later multiple deprivation for those in social housing at age 36, taking account of some age 36 circumstances and many earlier factors, is on the whole not greater than for those in the private rented sector (except for women at age 43) and is often lower.

This is not so for the 1958 cohort or the 1970 cohort for whom the adult risks of social housing for later multiple deprivation are substantial and worse than for those in the private rented sector. For example, females from the 1970 cohort who were in social housing at age 26 (1996), had odds 6 times higher of multiple deprivation at age 34 (2004) than owner occupiers even with a substantial array of prior control measures including elements of deprivation and difficulty at age 26.

The risks of social housing are in fact even more substantial if the sample is limited to those from less advantaged childhood backgrounds, suggesting that the apparent worse outcomes are not because those in social housing are being compared with more advantaged private renters or owner occupiers.

5. Area effects

We find that area may be an important element of the explanation of worse outcomes for those in social housing in childhood. When area is taken account of the remaining negative association of social housing and life chances falls. However, we do not find area to have such an effect for the impact of social housing experienced in adulthood. Much more work is required to offer more robust and detailed analysis of this issue.

Conclusions

Some of the outcomes for those in social housing are hard to explain away as the result of selection factors and may be due to the life experiences of those in social housing driven by factors such as high concentrations of enduring and persistent poverty, high demands on the most active for social care for elders, children and the ill and disabled, problems of debt, anxiety, depression and broader mental health problems, social and economic disengagement and disenfranchisement, poor labour market attachment, stigma and discrimination, low levels of occupational stability, poverty trap issues, poor schooling and changing family structures and relationship breakdown.

By no means are these characteristics true of everyone in social housing, nor, as we show for the 1946 cohort, is it inevitable that it be true of so many people living with a public sector agency as landlord. However, the mechanisms and partnerships through which the public sector allocates this housing and land must be seen in the wider context of general trends in housing as outcomes will depend on both of these factors.

The report emphasises the importance of better linkage of housing policy and other elements of social and public policy including education, health, work and welfare. There are good grounds for an emphasis on multi-agency working, community ownership and neighbourhood-level interventions. However, there are also questions about how far the state should support owner occupation as compared with other tenures. In the final section of the report we briefly review other possibilities and discuss some difficulties in relation to the important challenge of developing mixed communities.

1 Introduction

Housing is a major element of the agenda of the UK parliamentary programme in 2007, with a Green Paper, *Homes for the Future: More affordable, More Sustainable*, currently out for consultation (Communities and Local Government, 2007). Social housing (i.e., housing that is designed, built, financed, owned, and/or managed by the State or public and/or voluntary agencies) is at the heart of these proposals. The Green Paper signals the government's commitment to the provision of social housing, with at least 45,000 new social homes a year to be built by 2010-11 – more than doubling new provision since 2004-05 - and a goal to reach 50,000 in 2011-2014. This is surely good news as it indicates an intention to address this key driver of UK social and economic relations and hence of economic and wider well-being. However, many questions about the role of social housing and its allocation and regulation are uncertain and have been opened to debate. Two major reviews of social housing, John Hills' *Ends and Means: The Future Roles of Social Housing in England* and *Every Tenant Matters: A Review of Social Housing Regulation* by Martin Cave (Cave, 2007 and Hills, 2007) have been commissioned by the government in the last twelve months, raising questions about who social housing should be for, how it can be integrated with other housing policies which promote home ownership and mixed communities, and how it can facilitate other outcomes such as employment, good health and education.

This paper provides longitudinal evidence of the association between social housing and life chances and evidence for how this relationship has changed as housing policy has changed over the last 60 years. We present original analysis from the UK birth cohort studies, a unique set of resources for investigating social policy issues, including a wide range of data on the lives of individuals as they move through childhood into adulthood and experience different forms of housing tenure at different periods of post-war history. The cohorts span children born in 1946 to those born at the turn of the millennium. Using the UK birth cohort datasets, we investigate the use and effect of social housing for different types of people, at different stages of the lifecourse, in different areas, over nearly half a century from 1948 to 2004, and highlight implications for the debate on the use and public value of social housing in the present and future.

We are extremely grateful to the members of the UK cohort studies for having taken part in these remarkable studies over so many years, and to the many academics and administrative staff who have done such a remarkable job over so many years. We hope that both groups feel that this paper is a fair and worthwhile use of the resulting data. All errors and omissions are our own.

2 The Relationship Between Social Housing and Disadvantage

The relationship between social housing and disadvantage is well known. The sector disproportionately houses the least advantaged households. According to Hills (2007), in 2004 a third of people living in social housing had incomes within the poorest fifth of the income distribution. The proportion of social tenants in employment is 32% and the proportion in full-time employment is 22 percent.

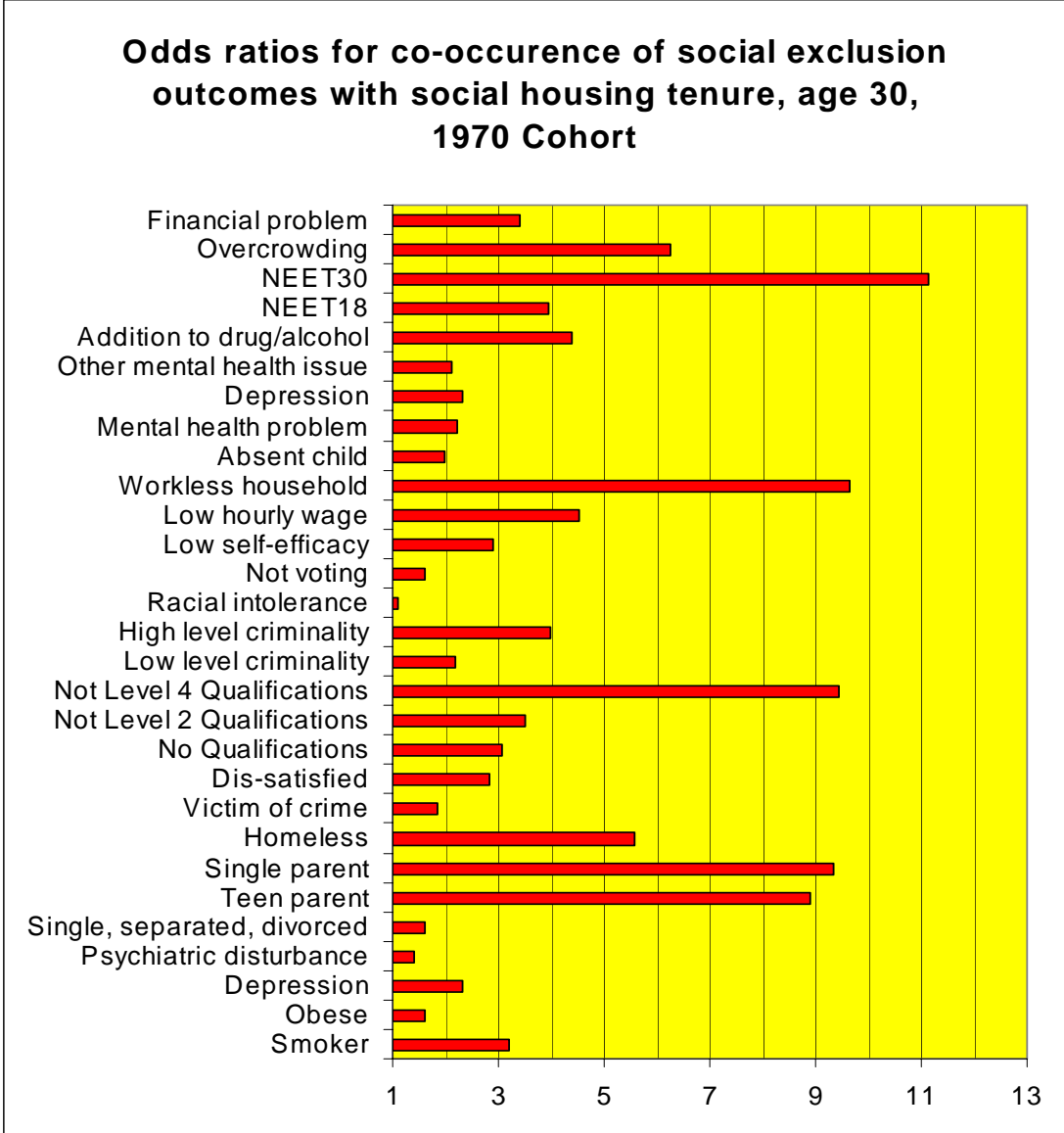
Employment and occupation pathways are less secure for social tenants than others. Personal wealth and financial assets are also on average extremely low, although that has not always been the case. In the general population in the current era, 7 percent of young people aged 11-15 in 1994 were unemployed ten years later, as compared with 19 percent of those who had grown up in social housing (Sefton, 2007).

Social housing has higher proportions of lone parents than other housing tenures and a high proportion of Bangladeshi and black ethnic minorities, some of the most economically disadvantaged groups. Data from the Families and Children Study in 2005 showed that social tenants are at 6.8 percent more risk of experiencing five or more family disadvantages, such as worklessness, poor quality housing, mental health problems and lack of qualifications (Cabinet Office, 2007).

Figure 1, using data from the 1970 British Cohort Study, shows the odds ratio for co-occurrence of elements of social exclusion with social housing tenure in 2000, when these cohort members were aged 30. Social exclusion is broadly defined here to include aspects of economic and educational well-being but also mental and physical health, and elements of citizenship and of family structure.

An odds ratio of two, for example, means that 30-year olds in social housing had odds twice as high of having this characteristic as those of the general population, for example 1/5 instead of 1/10.

Figure 1: Social housing tenure in 2000 and social exclusion, 1970 cohort



The graph does not demonstrate that social housing causes disadvantage. It simply shows the extent to which social housing is related to complex and multidimensional needs, as indeed we might expect in an era in which the allocation of social housing has become increasingly and overwhelmingly needs-based. As we highlight below when we turn to the more detailed longitudinal evidence from the cohort studies, there are important inter-generational consequences of housing policy. Any policy framework concerned with child poverty in the UK must take housing into account, and understand its relationship to policies in relation to employment, earnings, work and pensions, education, health and citizenship.

Living in social housing for those in the 1970 cohort in the year 2000 was on average (although not for all) highly associated with all the age 30 measures in Figure 1, the single exception being racial intolerance. Of course racial intolerance is not strictly speaking a feature of social exclusion and has been included here in a

rather haphazard way. We hope that discussion of the differences between the outcomes will be a subject of a later paper.

The sizes of some of the odds ratios are very large. For example, those in social housing at aged 30 had odds of having experienced a lot of time “not in employment, education or training” (sometimes abbreviated to NEET) around 11 times higher than for the rest of the cohort members. They had odds ratios over nine times higher of being in workless households, without qualifications at level 4 and single parents. The graph shows that the needs of individuals in social housing are not only economic, but relate to aspects of their health (over two times higher odds of depression, mental health problems and low self-efficacy), wellbeing (over two times higher odds of being dissatisfied with life), lifestyles (over four times higher odds of drug and alcohol abuse and over three times higher odds of smoking), crime (four times higher odds of relatively high levels of history of criminality), having had experience of homelessness (over five times higher odds) and poor quality of housing (over six times higher odds of overcrowding).

Note that some of the outcomes shown are measured at earlier periods of life – they are experiences of disadvantage in childhood or early adulthood that most likely led to later social housing tenure, rather than being caused by it. An underlying thread of the paper, however, is how the association of social housing and disadvantage was generated after WW2 and is not an inherent characteristic of active housing policy on behalf of the public sector.

Other studies have also shown similar associations, and signs that social housing tenure is not just a proxy for other forms of disadvantage. Hobcraft (2002), using the 1958 cohort (the National Child Development Study, NCDS, see below) found that residing in social housing in childhood was associated with a range of unfavourable outcomes at age 33 (in 1991). For both men and women a negative association was found between social housing tenure in childhood, as compared with owner occupation or private rented tenure, and outcomes such as income, qualifications, early parenthood and receipt of benefits in adulthood. For men, homelessness in adulthood was linked to residing in local authority housing as a child. There was strong continuity between social housing in childhood and social housing in adulthood, particularly for men.

Sigle-Rushton (2004), analysing the 1970 British Cohort Study (BCS70), found that childhood housing tenure was significantly associated with outcomes such as young parenthood, lack of qualifications, regular smoking and for men, malaise, characterised by symptoms including depression, anxiety, and psychosocial dysfunction, at age 30. Both these studies controlled for many social background characteristics, thus appearing to isolate an effect of social housing over and above these characteristics. At the very least, it appears from these findings that social housing policy has not overall been a sufficient response to individual and household disadvantage.

Such evidence raises concerns about the impact of social housing on life chances and questions about how housing and other welfare policies might work to bring benefits to those in need of social housing as well as those residing in social housing, at a time when more social housing is being built, to ensure that it delivers

benefits, rather than disadvantages, to low-income and other households in the future.

In part, as we show below, the high prevalence of social exclusion and poverty for those in social housing is a result of strong macro-social drivers in the history of post-war Britain. We would suggest that post-war housing policy has inadequately responded to the combined challenges of de-industrialisation, the growing demand for skills, area deprivation, the growth of owner occupation, migration and cultural change in terms of lifestyles and family structure, leaving social housing as the insufficient response to the housing and wider social, economic and structural needs of many of the most disadvantaged in society, not a role for which it was originally intended.

These concerns have been noted in a number of government policy documents, not least the Cabinet Office report on improving the life chances of people in deprived areas (Cabinet Office 2005), and the Sustainable Communities Strategy, with its mixed communities approach (ODPM 2005a and b). The Cabinet Office Social Exclusion Task Force in its recent document *Reaching Out: Think Family* (2007) gives priority to the most at risk households, recognising the compounding effect of experiencing multiple disadvantages, including living in social housing. Problems associated with social housing are thus becoming important not just for housing, but more generally in relation to social exclusion and child welfare. Any policy framework concerned with child poverty and social exclusion in the UK must clearly take housing into account, over and above the importance of housing for policies in relation to employment, earnings, crime, education, health and citizenship.

To help inform this growing policy debate, we aim to add to the evidence base building on previous longitudinal analysis, assessing the impacts of social housing over a longer period than any previous research has been able to do, and by taking an approach that is informed both by an understanding of changes in social housing and the different functions it has played in the overall housing and welfare system. We work within a strong conceptual model that takes account of the circular and dynamic relationship between housing and other lifecourse outcomes. In Sections 3 and 4, we present these historical and conceptual perspectives, before presenting new findings in Section 5, and turning to a policy discussion in Section 6.

3 A Longitudinal and Historical View of Social Housing

3.1 *The British cohort studies*

The analysis for this report is based on the use of longitudinal information from four British cohorts born in the post WWII era. These are shown in Table 1 which also provides detail of how long cohort members have been followed up.

Table 1: Four UK birth cohort studies

	Early childhood (0-5)	Middle childhood (6-16)	Early adulthood (17-30)	Early middle adulthood (31-45)	Later middle adulthood (45-65)	Later life (66+)
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NSHD (1946)					→	
NCDS (1958)					→	
BCS (1970)				→		
MCS (2000/1)	→					

The Medical Research Council National Survey for Health and Development (NSHD) is the oldest of the British birth cohort studies, prompted by concern over falling birth rates to investigate the cost of childbirth and the quality of associated health care. The initial study took as its subjects all 16,500 births that occurred in England, Scotland and Wales during one week of March, 1946 and a follow-up survey was designed to examine the health and development of a representative sample (5,362) of this population, which has now been studied 21 times, most recently at age 53 years. The follow-up surveys have followed both policy and scientific concerns (Wadsworth et al 2006). A small research team has been responsible for these follow-ups which have been funded by the Medical Research Council since 1962. The MRC Unit for Lifelong Health and Ageing is now responsible for the MRC National Survey of Health and Development. The NSHD is a socially stratified sample of single, legitimate births. Weighting procedures are used to allow for the social stratification.

The National Child Development Study (NCDS) is a continuing, multi-disciplinary longitudinal study with an initial focus on perinatal mortality. The study takes as its subjects over 17,000 people born in a single week in England, Scotland and Wales in March 1958. Following the initial birth survey in 1958, there have to date been six attempts to trace all members of the birth cohort in order to monitor their physical, educational, social and economic development. These were carried out by the National Children's Bureau in 1965, 1969, 1974, and 1981; by the Social Statistics Research Unit, City University, in 1991; and by the Centre for Longitudinal Studies, IoE in 1999/2000 (Power and Elliot 2006).

The 1970 British Cohort Study (BCS70) began as the British Births Survey; a sample of all babies born in England, Scotland and Wales in one week in April 1970. Between 1970 and 2004 there have been six attempts to gather information from the whole cohort, with an increasingly broader scope of enquiry encompassing physical and educational development at the age of five, physical, educational and social development at the ages of ten and sixteen, and then to include economic development and other wider factors at 26, 29 and 34 years of age. These were carried out by the Department of Child Health, University of Bristol in 1975 and 1980 as the Child Health and Education Study; by the International Centre of Child Studies in 1986 as Youthscan; by the Social Statistics Research Unit, City University in 1996; and by the Centre for Longitudinal Studies, IoE in 2000 and 2004/5 (Elliot and Shepherd 2006)

The youngest of the British cohort studies to date is the Millennium Cohort Study (MCS). The MCS differs from its predecessors by not sampling births from a specific

week in 2000, and by including Northern Ireland. The study took as its sample all live births in the UK over 12 months from 1 September 2000 in England and Wales and 1 December 2000 in Scotland and Northern Ireland. The survey for the first sweep took place between June 2001 and January 2003, gathering information from the parents of 18,819 babies born in the UK over a 12-month period and living in selected UK wards at age 9 months¹. The second sweep took place between September 2003 and April 2005 with the children at around 3 years of age. The MCS is carried out by the Centre for Longitudinal Studies which is an ESRC Resource Centre at the Institute of Education.

Looking across these cohorts, we can compare the experiences of people in early childhood at four different historical moments from 1948 (when the NSHD cohort was two years old) to 2003 (when the millennium cohort was age 3), from early childhood, through middle childhood, adolescence and various stages of adulthood.

Such an approach is valuable in studying the impacts of social housing. For individuals, housing histories and trajectories may be as influential as current circumstances. How people end up in social housing, why they stay, and how long for, across how many generations will be important factors determining how it affects them. For this reason, the analysis that follows investigates who is in social housing in childhood, and how this is associated with later outcomes, as well as who moves into social housing in adulthood and subsequent outcomes.

A key point to bear in mind is that cohort members are sampled at birth so, at least in the early sweeps of each cohort, the sample of households in the study is only a sample of households with children. As cohort members move into and through adulthood, the range of households varies more, although not yet including pensioner households. The cohorts to date give an incomplete picture of the impact and value of the social housing system, but, nevertheless, a particularly relevant one since social housing, throughout its history, has mainly been built with the aim of housing families with children, and, moreover, families have featured prominently in policies to decide who gets priority for available social rented homes.

3.2 Social Housing 1948-2004

A historical perspective is also important because the amount and quality of the physical stock of housing has changed over time, as have the rules governing its allocation and rent levels. Thus the characteristics of the housing have changed and so has the constituency of people who can access and be affected by it.

Local authorities and voluntary organisations began building homes on a very small scale in the late nineteenth century. Substantial government-supported council house building programme did not begin until after the First World War, when the 1919 Housing Act aimed to provide 'homes fit for heroes'. Development started patchily across the country, but by 1946 all local authorities had taken on a direct housing role. By the time the 1946 cohort was born there were 1m council homes in the UK (Muthesias and Glendenning 1994), providing homes for 10% of all households.

¹ For details of sampling see Bynner and Joshi 2006.

The parents of the children making up the 1946 cohort in social housing were likely to have been the first generation in their families to live in council housing, and in the vast majority of cases would have moved in from the private rented sector. The move might have been to their first home as newly married couples, a subsequent move into newer and more spacious accommodation, or for some of those moving from 1932 onwards, a compulsory move as a result of local authority clearance of the worst slum areas, particularly in the big cities.

From 1932 through to the post-war era, many or even most households would have prized a council letting (Cullingworth, 1966; Burnett 1980). The vast majority of existing council housing was in the form of terraced and semi-detached 3-bedroom houses with gardens, built in 'garden city' style at relatively low densities on what were then suburban sites. Many homes built in the earlier part of the period had higher design and space standards and better facilities than some contemporary homes built for sale, and certainly better than ageing, shared high-density Victorian private rented accommodation without modern amenities or gardens. Local authorities in some of the biggest cities had substantial programmes of building 4- and 5-storey blocks of flats from the 1930s.

Access to council housing was at local authority discretion, in many areas with highly personalised councillor involvement in decisions. With demand exceeding supply, and a high proportion of brand-new and high standard homes, local authorities tended to prioritise the 'deserving' who they thought would be good tenants, many asking to inspect evidence of income, clean rent accounts and homes, and some excluding large families or those with a history of drunkenness or irregular work (Daunton 1984). In addition, council rents were often higher than in much of the private rented sector, and with patchy rent rebate schemes were unaffordable to the poorest (Daunton 1984). This meant,

“council housing went to a limited range of income groups – small clerks and tradesmen, artisans and the better-off semi-skilled workers with average-sized families and safe jobs” (Burnett 1980 p233).

However, already from 1932 onwards there was a shift away from 'general needs' provision. Central government subsidies carried requirements linking support to "slum" clearance schemes, which provided a route in to certain estates, often with lower space standards, and aimed at poorer residents, and some of these carried a social stigma (Burnett 1980).

By the time the 1958 cohort was born, the housing system had changed substantially. Burnett argued that building in the 1950s in public and private tenures allowed the fastest improvement in housing conditions for all so far in the twentieth century (1980). A rush of council house building took place to meet pent-up demand after the hiatus and damage of WW2 although still by 1958, the majority of Council housing in the system would have been built before the war.

Overall, the size and amenities of post-WW2 council homes were better than pre-war ones, some with what were initially novelties such as bathrooms upstairs and fridges, and again exceeding standards of some new private sector homes (Burnett 1980). However, designs, locations and condition began to vary more. New

development included traditional houses, mixed developments of flats and houses, and experiments with multi-storey housing and non-traditional design and materials (Muthesias and Glendenning 1994). On average, council homes were less likely to have gardens and more likely to have rooms above the second storey than private rented housing. Homes were being built in inner city areas, suburbs and the first new towns. By 1953, funding for local authority homes was again tightened and linked to clearance programmes, leading to somewhat reduced space standards and in many cases pressure to rebuild at high densities on tight urban sites. Some of the earliest council homes were by now 30 or more years old and beginning to require refurbishment and updating, which was not a priority for national and local policy. Again, some estates connected with slum clearance carried a social stigma. To summarise, the stock was diversifying, and the experiences of the 1958 cohort would have varied, perhaps depending on whether they were born in social housing or, more likely, moved into the sector from private renting as social housing expanded and slum rental areas were replaced.

Since 1949 council housing was no longer to be aimed at the 'working classes' and was to be allocated according to 'need'. In practice, though, local authorities continued to have freedom over allocation policies and continued to use it to select the applicants, using criteria such as owner crowding, lack of amenities, local residence, TB or war service (Cullingworth 1966). Existing tenants tended to get priority for moves to new and more attractive homes and areas, except in the case of slum clearance schemes. As local stocks grew, and diversified, there were often attempts to match the perceived 'quality' of tenants to that of homes. 68% of heads of households were foreman, skilled and other manual workers, compared to 41% of owners (Cullingworth 1966). In the early 1960s, council tenants had the fewest rooms per person, the most overcrowded of tenures. This reflected councils' prioritisation of families with children (Burnett 1980), with twice as many children per household as home owners (Cullingworth 1966). By this point council tenants were slightly less satisfied on average with their homes than owners, but it is not clear what drove this response (Cullingworth 1966).

By the 1970s, the housing system had been transformed. Four million council homes had been built since the 1946 cohort were born, making up more than half of all homes built since the war (Muthesias and Glendenning 1994). Council housing was approaching its peak of size and diversity. The 1970 cohort would have been the first to contain a substantial number of second- and third-generation council tenants, as parents of children born in 1970 were themselves born in the 1930s or 1940s when council housing was a major tenure. Their experiences in terms of housing conditions, neighbourhood and social circumstances would have varied substantially. However, two thirds of the post-war homes were, like most of the interwar ones, houses with gardens, mostly in suburban and new town sites, another fifth were low rise flats, mostly in inner city areas (Muthesias and Glendenning 1994). Multi-storey blocks made up less than 10% of the new homes, and new low-rise high density schemes were tried.

The gaps between those in different tenures on overcrowding had narrowed significantly (Burnett 1980), but new quality problems were emerging. Most local authorities had substantial pre-war stocks, now up to 50 years old and clearly below the standard of recent build and much of the private rented sector. They were

contemplating reinvestment. At the same time, home ownership was growing, and the 1970s was the first period in which substantial numbers of skilled manual workers – the core of council tenants up until this point – began to have increasing possibility of purchase. Nevertheless, council housing continued to serve as a move-up for those arriving from the worst of the private rented sector, with newer homes easily outstripping standards at least in the worst part of the now-shrinking private rented sector. High demand continued in most areas. There were increasingly concerns about the exclusion of some groups including some with the greatest needs. Rather than just advice, for the first time central government regulated access through the Homeless person' Act 1977 which gave local authorities a duty to house vulnerable households – particularly families – facing immediate lack of housing.

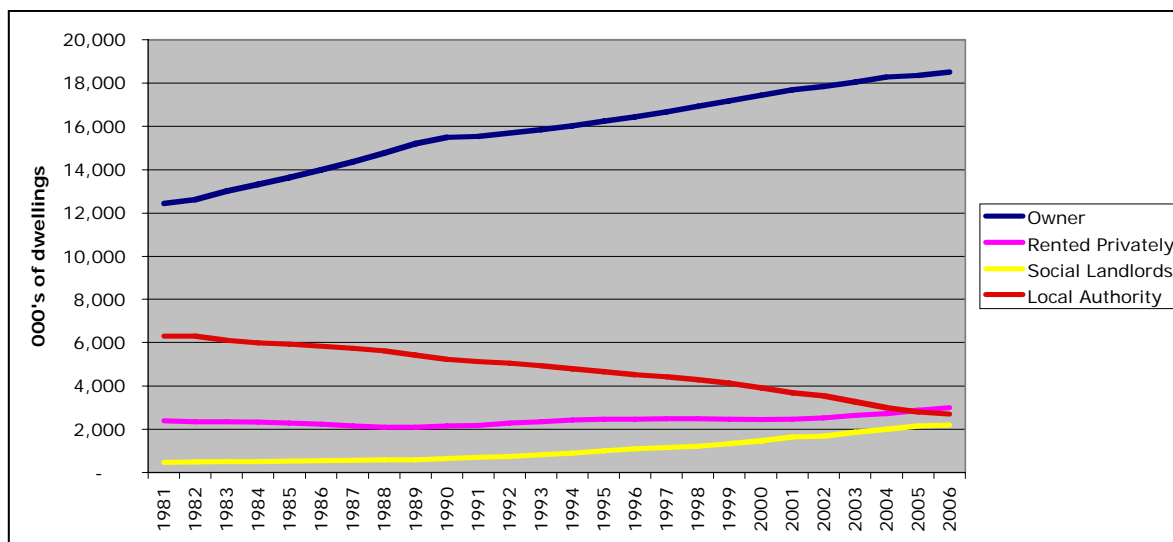
By 1980, when the 1970 cohort were in mid-childhood, there were over 5 million social rented homes, housing nearly a third of all households in the UK. Writing at that time, Burnett argued, *“the most striking improvement achieved in the last century and a half was in the accommodation of the working classes”*, and that while Victorian regulation had been important, *“the transformation of the [merely] sanitary house into a larger, lighter, better-equipped and more comfortable home was principally the result of the involvement of the State”* (1980, p307).

However, this period was a turning point and since the late 1970s while social housing continued to provide mainly larger homes and houses with gardens and to house families, the social housing stock contracted, worsened in condition and become more spatially concentrated. Skilled and semi-skilled manual workers who made up the core of tenants since the 1920s have both reduced in number and changed tenure – by 1991 more than half of this group were owners (Hogarth and Elias 1991). Social housing has increasingly specialised in housing those without employment and with social problems who in past times would have found accommodation in the private rented sector. The 1980 Housing Act gave social housing tenants the 'Right-to-Buy' their accommodation at a substantially reduced cost. This led to many better quality council properties being purchased by sitting tenants, leaving the poorer quality stock in the social rented sector. Between 1981 and 2004, 2.2 million council homes were sold to tenants; one third of all council stock. In the late 80s, the finance of social housing was reformed, restricting the building of new council homes. During this period house building slowed down substantially; for example, while 43,000 homes were built in 1995 this had halved to 21,000 by 2003. Housing associations, seen by government as more efficient builders and managers, were recruited by government in the late 1980s to take on the role as main providers of new social housing, but they are on the whole relatively small organisations with much less access to subsidy than local authorities had sustained in their contract with central government for most of the post-war period. They have not replaced council and housing association homes lost through Right to Buy.

Moreover the years of Conservative government (1979 to 1997) were characterized by large declines in investment in social housing, from £13 billion in the early 1970s to £1.4 billion in 2004 leading to a further decline in stock quality. By 1997 approximately 2 million social homes failed to meet government standards and a £19 million backlog worth of repairs remained unaddressed (HM Treasury, 2005).

The result of these trends can be seen in Figure 2 which reports data from the Department for Communities and Local Government on tenure².

Figure 2: Dwelling stock by tenure, UK, 1981-2006



Source: DCLG

These changes have affected the operation of access policies and also the characteristics of social housing and the effect it may have on life chances. The Right to Buy and the reduction in the availability of suitable social accommodation, meant that many more advantaged tenants changed tenure from the social rented sector over time to move into home ownership. In particular, the Right to Buy was taken up by older households, without children under 18, and those employed or retired after employment. They disproportionately bought houses, rather than flats and those in more attractive and popular areas, resulting in a concentration of building types and locations that were less popular and less likely to be suited to families. At the same time, homelessness legislation meant that those newly allocated to the sector were more likely to be from highly disadvantaged groups including the elderly, poor families and lone parent families – a switch that has been described as from ‘neat and tidy to tight and needy’ (Donnison and Ungerson 1982).

The effect of these changes occurring in tandem is commonly known as the *residualisation* of the social housing sector, and has been accompanied by increasing tenure stigma. By the 1990s even many young children had already learnt to view social housing as second best (Gurney 1999). On a small scale, social housing has also taken the place of the private rented sector as the target of some government demolition programmes.

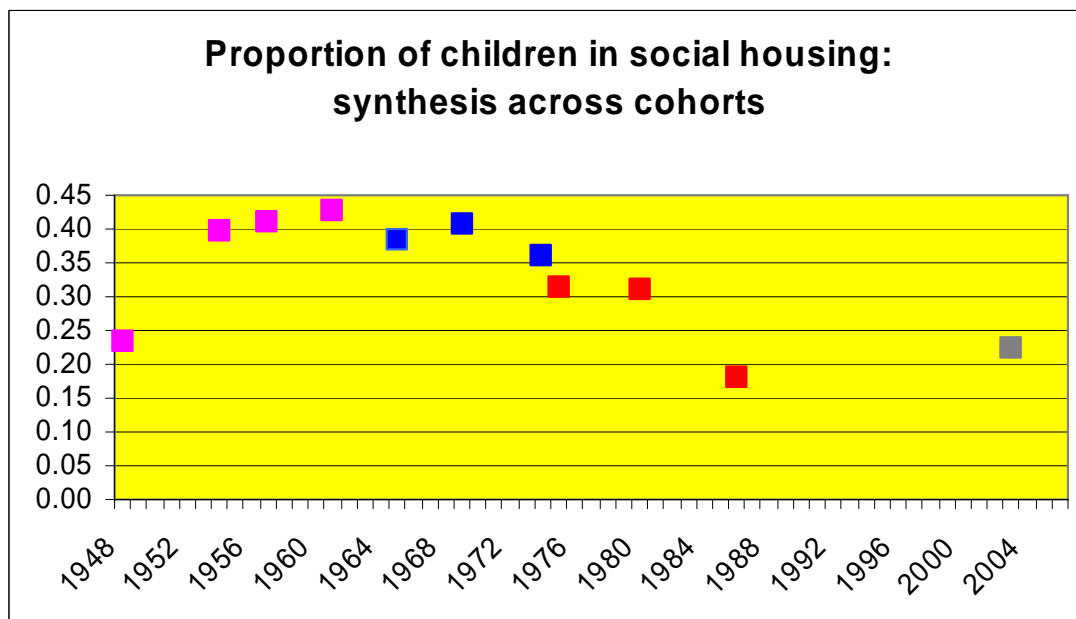
For the members of the cohort studies, these trends would have begun to affect the 1946 cohort in their 30s, and the 1958 cohort in their 20s. The 1970 cohort were adolescents when the sector become formally residualised. Those who remained in social housing in 1986 were in families who had not exercised the right-to-buy.

² <http://www.communities.gov.uk/documents/housing/xls/table-101>

Moreover, social housing tenants in this cohort also experienced significant economic change. A critical feature of much of the social housing built in the UK since WW1 was that it was built to house populations who worked in large scale, geographically stable manual employment. Much, although not all, social housing, replaced the 19th century terraces of dockers, shipyard workers, miners and textile workers, or housed people working in the new out-of-town industries that expanded after WW2 - chemicals, motor and aircraft industries and general manufacturing. Many of those living in social housing as children during the 1970s and 1980s were living in families who experienced long periods of unemployment and family poverty when these industries collapsed under the pressure of global competition. Their experiences contrast with the low income social housing tenants of the 1960s and early 1970s, whose families enjoyed a period of relative economic stability and growth. By the time the millennium cohort were born, the sector had been shrinking in size for over 15 years, and residualising for thirty, intergenerational unemployment in former industrial areas was well established and social and economic inequality much greater than for the cohort born 30 years previously. Children living in social housing in 2004 will in most cases have been born to families allocated social housing since the 1980s, and thus more likely to be cumulatively disadvantaged.

The impact of these trends can be seen in Figure 3 which draws on data from all the cohort studies at each age for which childhood data exist to estimate the proportion of children in social housing over time. The first four data points correspond to the 1946 cohort, for information collected at ages 2, 7, 11 and 15. The next three data points correspond to the 1958 cohort at ages 7, 11 and 16. The next three data points correspond to the 1970 cohort at ages 5, 10 and 16 and finally the last point corresponds to the millennium cohort at age 3.

Figure 3: Proportion of children in social housing across British cohorts



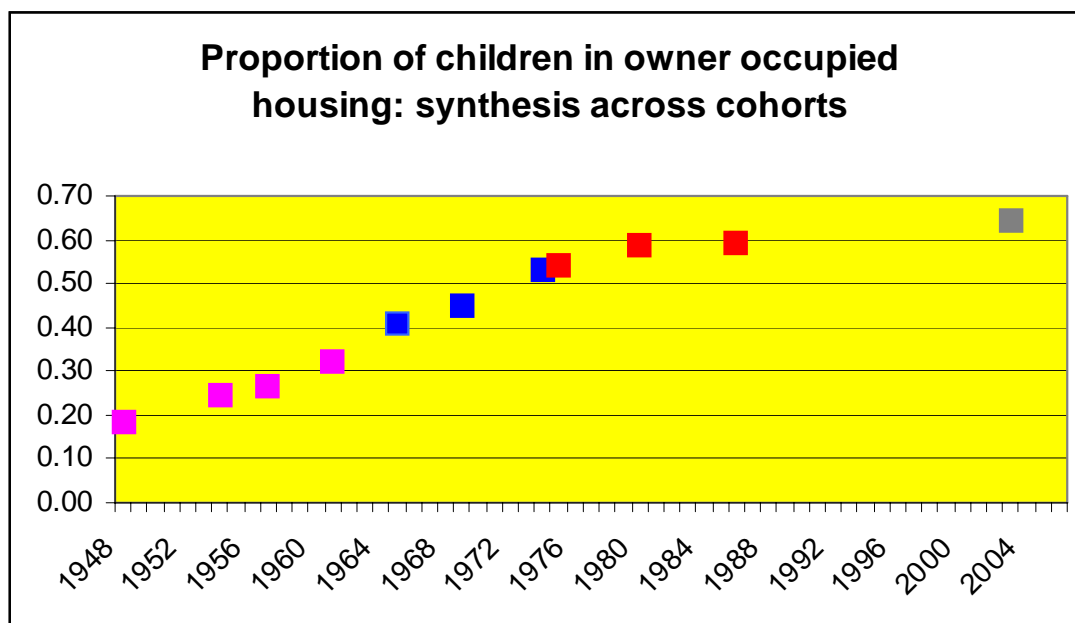
The expansion of social housing in the post-war period is clearly demonstrated here. Of the two-year olds in the 1946 cohort, whose tenure was captured in 1948, less than a quarter (24%) were in social housing. The proportion of cohort members living in social housing rose rapidly in the 1950s, to nearly 40% in 1957, reaching 44% in 1961, as their parents took advantage of the growth in social housing supply and the priority given to families

For the 1958 cohort the situation was different. The proportion of cohort members in social housing decreased from about 40% at age 7, rising slightly, before falling to 35% at age 16. This suggests that a segment of the parents in the cohort were getting into social housing after young children had already been born – perhaps after time on the waiting list – but then taking advantage of the growing accessibility of home ownership in the 1960s and 1970s. The decline in take-up continued across cohorts. For the 1970 cohort the proportion of cohort members in social housing was down to 30% at age 5, and continued to decline within-cohort to less than 20% at age 16. For the millennium cohort it had remained at around 20% in 2003, age 3.

3.3 The Rise of Owner-Occupation

However, looking only at social housing provides only part of the picture. Figure 4 uses the same approach to show the proportion of children in owner occupied housing in the post-WW2 era.

Figure 4: Proportion of children in owner occupied housing across British cohorts



The proportion of children in owner occupied housing was a little less than 20% when the members of the 1946 cohort were 2 years old. Over half of children were in privately rented homes at this time. The proportion in owner occupation for the cohort increased steadily to over 30% when they were 15 years old. It should be

noted that this rise in owner occupation was a within-cohort rise, based on data following the children of the 1946 cohort as they and their families matured.

For the 1958 cohort, the prevalence of owner occupation was over 40% at age 7 (in 1965), indicating a substantial rise between cohorts. The same within-cohort trend is evident for the 1958 cohort, owner occupation rising to over 50% at age 16 (1974). For the 1970 cohort, the proportion also started from a higher base and continued to rise, from over 53% at age 5 (1975) to 60% at age 10 (1980) and remained at that level at age 16 (1986). For the children born in 2000, the proportion is slightly higher than for the 1970 cohort in 1986.

The rise in owner occupation between cohorts is not primarily due to increases in owner occupation as families mature (the within-cohort effect), but is an overall trend across cohorts. It is also important to note that the trend reaches a plateau in the 1980s, before the introduction of the Right to Buy housing policy. Similar information is provided by Holmans (1987) who showed that the proportion of owner occupation has grown continuously since 1939. It is one of the major socio-historical trends of the post-war era.

One major implication of these trends is that the roots of residualisation, as a process of social sorting and economic divergence and polarisation are to be found long before the housing policy changes of the 1980s. It is important to emphasise this macro-social and macro-economic historical trend as it indicates the power of the context within which housing policy has operated, compared to policy itself.

3.4 Outcomes Associated with Social Housing

The evidence we present in Section 5 is by no means the only work to have explored outcomes for social housing tenants in this way. Hobcraft (2002), using the NCDS (1958 cohort) found that residing in social housing in childhood was associated with a range of unfavourable outcomes at age 33. For both men and women a negative association was found between housing tenure in childhood and income, qualifications, early parenthood and receipt of benefits in adulthood. For men, homelessness in adulthood was linked to residing in local authority housing as a child. There was strong continuity between social housing in childhood and social housing in adulthood, particularly for men.

Sigle-Rushton (2004), analysing the 1970 cohort data (BCS70), found that childhood housing tenure was significantly associated with outcomes such as young parenthood, lack of qualifications, regular smoking and for men, malaise, characterised by symptoms including depression, anxiety, and psychosocial dysfunction, at age 30. These studies control for social background characteristics, thus appearing to isolate an effect of social housing over and above these characteristics.

Sefton (2007) offers a more recent analysis of British Household Panel Survey data, highlighting the disparity in employment trajectories between social tenants and others. Between 1994 and 2004, outflows from employment were higher for social tenants than other tenures. In the general population, 7 percent of young people aged 11-15 in 1994 were unemployed ten years later, as compared with 19 percent of those who had grown up in social housing (Sefton, 2007). Again, it is difficult to

separate the effects of social housing from the effects of childhood poverty and the interaction effects of poverty, tenure and the social effects of de-industrialisation. Many children of manual workers in social housing who were aged 15 in 1994 were young children in the early to mid 1980s when their families and communities were experiencing job losses and industrial restructuring on a large scale.

There has been a tendency in the UK to imagine that the relationship between wealth and ability is such that the wealth of some is explained by their ability, aspiration and endeavour and, therefore, that those without such assets are less deserving of them. However, income, freehold, leasehold and other legal and financial assets are not transmitted genetically. In fact the distribution of the genes for capability, aspiration and talent may be distributed very non-randomly through the population. What is less equally distributed is title, freehold and ownership of land.

Other recent studies have attempted to isolate tenure effects. Galster et. al. (2006), using US data, links living in owned homes in childhood with an increased likelihood of obtaining graduate qualification and home ownership in adulthood. However, the social housing sector is very small in the US. Homeowners are mainly being compared with people in private rented accommodation rather than with public housing tenants. In a UK study by Bramley and Karley (2005), homeownership was significantly related to improvement in school attainment for primary school pupils.

Burrows (2003) compared poor homeowners with poor renters, including those in social housing, using data from the 1999 Poverty and Social Exclusion Survey of Britain. He found that renters were more likely to be in households where none of the members were working. Poor people living in rented accommodation were also more likely to smoke and experience more social exclusion. For example, poor renters were more often excluded from employment, forced to cut back on their use of basic utilities such as water and electricity, tended to lack on-going social support from family and friends and were also more likely not to vote. Moreover, poor renters experienced more than one of these aspects of social exclusion more frequently than poor homeowners. However, Burrows also noted a difference in the background of owners and renters. The majority, about 70 percent, of poor renters was from a manual labour background, whereas homeowners were more likely to have skilled manual or non-manual employment. He also noted that poor homeowners were more likely to report ill mental health and problematic physical accommodation although they were more likely to be employed. For those on a low income, home-owning and renting appear to offer different advantages.

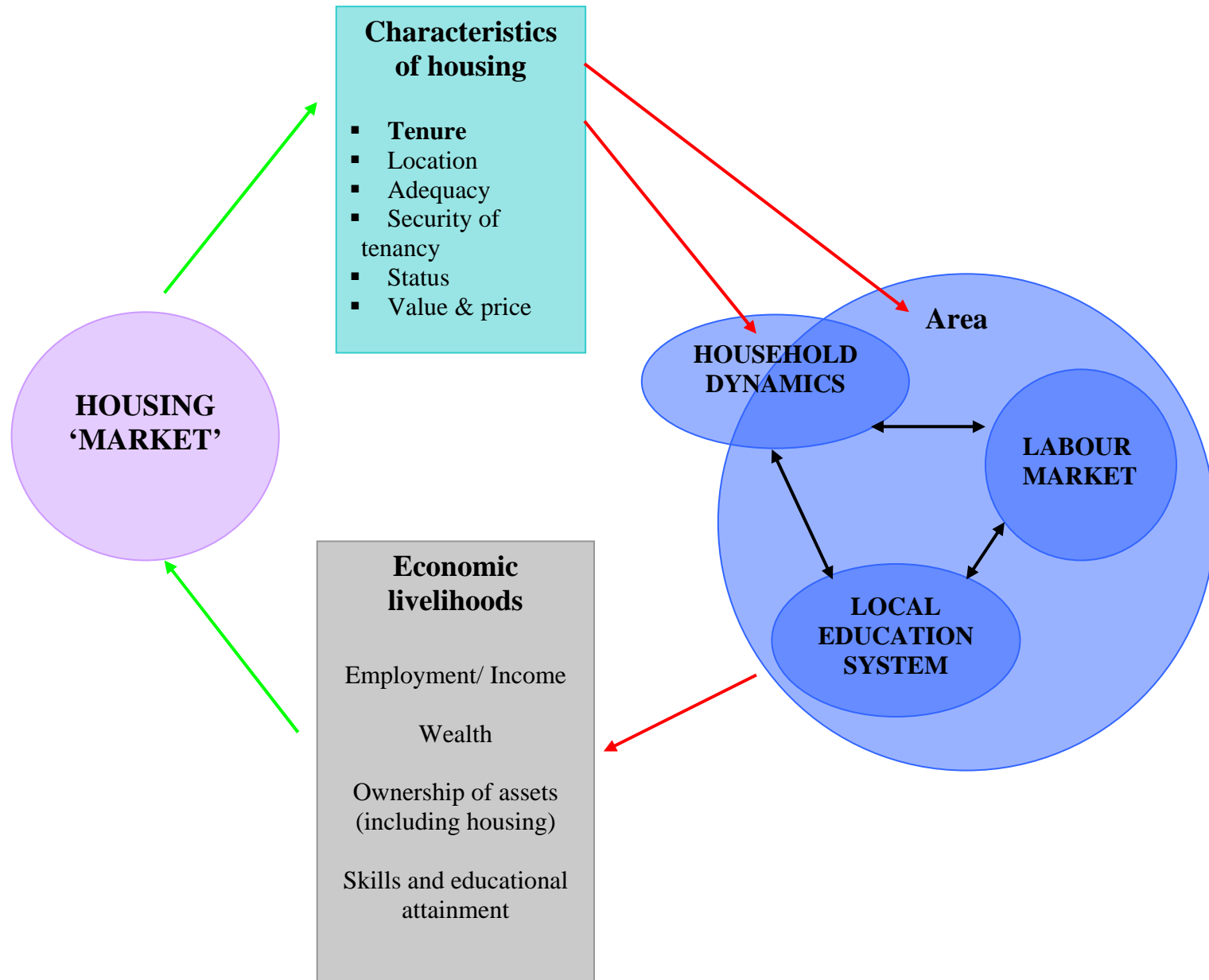
Overall, this evidence appears to suggest that social housing does not seem to create the positive outcomes for people that might be hoped for given the subsidised provision of a stable, maintained home. However, it is hard to demonstrate the effect of social housing per se, over and above the effect of the other social and economic circumstances experienced by social housing tenants at these moments in time.

4 Housing and livelihoods: A conceptual framework

These historical patterns demonstrate very clearly the importance of the processes of selection into social housing in determining outcomes, and the possibility of lifecourse and intergenerational relationships between outcomes and tenure, as well as between tenure and outcomes. Selection into different housing options depends on the interaction of supply of new lets or purchase opportunities and demands from households, in the case of social housing, mediated through homelessness law and allocations systems. Here we sketch out a model of causation that might help to inform discussion of social housing policy.

A narrow model of housing and livelihoods is shown in Figure 5. This is described as a narrow model because it focuses primarily on the economic dimensions of livelihood, neglecting with regret for the moment issues of culture, health and citizenship in order to focus attention on the channels for economic impacts and to introduce some basic principles into the discussion. We hope to look in more detail at wider outcomes in future work.

Figure 5: Housing and livelihoods: a narrow model



The key points that we wish to emphasise are:

- i. housing plays a major and insufficiently recognised role in the formation of life chances and livelihoods, within and across generations, but, also,
- ii. there is an important reverse feedback from livelihoods to housing.

Is multiple deprivation more likely for those in social housing because they are in social housing or are they in social housing because they are experiencing multiple deprivation? As well as benefits of social housing there are also channels for negative consequences. The two may play against each other, interacting also with the selection mechanisms by which people come to be in social housing in the first place.

In the data analysis of later sections we attempt to use the longitudinal data across time to tease apart a little these inter-relationships. Here we set out the conceptual framework, describing what we believe to be key channels of association between the elements of the model.

The first point to note about the model is that it is circular. In line with the discussion above about causality, there are effects of housing on economic livelihoods (red arrows) and effects of livelihoods on housing (green arrows). The contribution of the model is in highlighting the key elements of housing and livelihood that matter in this context and in showing the mediating channels for these effects. The necessary circularity in the model is also evident in the fact that of these characteristics of housing, ownership and value and price could also be considered to be elements of livelihoods, since livelihood encompasses ownership of assets.

Housing demand and supply

Second, the housing market is a key domain of the model. We define the term broadly to encompass both the interaction of market-based demand and supply of housing to determine the allocation of properties for sale and rent in the private sector, and also to encompass the more bureaucratic and needs-based models of the public and voluntary sectors. These different segments of the market themselves interact on both the demand and supply sides. For example, a decrease in the supply of housing from the private sector will increase demand for social housing. These are standard principles of economics and it should be uncontroversial to expect that an increase in the supply of housing would reduce the price, unless there is a very good reason otherwise. Moreover, crucially, supply decisions have long-term knock-on effects on subsequent generations (Donnison and Ungerson 1982).

Housing policy has a major impact on livelihoods and on the housing/livelihood relationship through impacts in the housing market:

- on the supply side (through the construction of homes, regulation and planning procedures, the release of public sector land, changes to the structure for and level of provision of social housing.)
- on the demand side (through regulation, policy and guidance in relation to the provision of social housing, mortgage and tax relief, the structure and payment of housing benefit and other in-work and unemployment benefit transfers.)

These are all implicit and explicit policy mechanisms through which the State knowingly and unknowingly mediates and moderates the nature of the impact of personal and household livelihoods on the allocation of housing in society.

Effects of housing characteristics

Third, as the housing box in the model indicates, there are a number of elements of housing that in return are important for livelihoods. Our model highlights:

- Location
- Adequacy (quality, facilities and size)
- Tenure
- Security
- Status (and broader elements of affective/subjective satisfaction)
- Value and price

In the data analysis reported in Section 5, we focus on tenure as the key variable of interest, differentiating outcomes for those in:

- Social Housing (SH)
- Private rental (PR)
- Owner occupation (OO)

However, the housing characteristics listed above will vary in important ways between these tenure groups and this simple three-fold set of categories ignores substantial differences within these groups. For example, we do not differentiate in this report between social housing managed by Housing Association and that managed by Local Authorities. Similarly, as we show below home ownership exists in a very wide range of areas. Nearly 10% of children in 2001 in owner-occupying families resided in the 10% most deprived areas. 10% lived in the most advantaged areas. Grouping these very diverse owner-occupiers is a helpful simplification that enables us to focus on some broad average differences but neglects important within-group differences and we hope not to over-generalise.

The mechanism for tenure effects will involve both the characteristics of housing shown in the housing box in Figure 5 and the household and area processes shown to the right of the model and discussed in more detail below. This highlights the complexity of the causal channels and hence both the difficulty of estimation of causal effects and the caution that must be exercised in interpretation.

One important aspect of housing quality may be type of housing. One of the substantive differences between those in social housing and other tenures is the high proportion in purpose-built flats in the socially rented sector. For 1998 of those in housing rented from housing associations 46% were in purpose-built flats as compared with 39% of those renting from councils, 23% of those renting privately and 6% of owner occupiers (source: Social Trends, 1998). Further research is required to test how this feature of housing and related issues such as density impact on life chances.

There is a considerable body of evidence that the quality of housing can impact on physical and mental health. Research from the US examining outcomes related to housing quality across a range of tenures found that children living in low quality

housing had greater symptoms of psychological distress even when accounting for factors such as household income (Evans et. al., 2001 and Evans et. al., 2002). Using the BCS (1970 cohort), Marsh et. al., (2000). found that housing deprivation experienced in childhood is associated with poor health outcomes in adults not living in deprived housing in adulthood, thus emphasising the importance of past housing tenure on outcomes throughout the lifecourse. In this study, multiple housing deprivation increased the risk of disability or ill health by 25 percent and this relationship had a dose-response: increased deprivation over time led to increased probability of ill health.

Blackman and Harvey (2001) reported on a study measuring the mental health of residents before and after the institution of a neighbourhood renewal programme in a deprived area of Newcastle upon Tyne. Following improvements in housing quality and the local environment, residents' perceptions of the area and overall mental health improved. The authors suggest that though improved perception of safety in the neighbourhood was likely to be the main cause for the improvement in mental health, as previous research has shown that improvements made to housing estates have increased the sociability and civility of neighbours, an increase in the experience of social support could also at least partly be responsible for improved mental health among residents. In support of this is the finding of a significant decrease in smoking. Smoking has often been shown to be a coping mechanism for those in distress without social support.

In another, similar study, a randomised controlled trial in a council housing estate in Plymouth found that improvements in central heating, ventilation, wiring, insulation and roofing were associated with a small but significant increase in the respiratory health of tenants. Even more, during semi-structured interviews that were part of this study, tenants described making greater use of their homes in response to the renovations, improved relationships with their families and an overall increase in their self-esteem (Barton et. al., 2007).

Impacts on household dynamics of family life, work and resources

The most obvious characteristic of social housing is that it is subsidised, and certainly we know that this has a significant effect on household budgets. Crucially, the cost of housing will have important impacts on budget constraints for households and so change the nature of the economic relationship to the labour market, As Hills explains (Hills, 2007), although the level of rent has no effect on the net gains from working at all, it can make a large difference to the net gain from extra earnings. However, the nature of this relationship will depend on the overall system of tax and benefits. A clear danger for housing policy is that the level of housing benefit tapers very quickly with earnings so as to create a very high marginal tax rate for those in receipt of Housing Benefit (HB) The provision of secure housing through the social housing system suffers less from this poverty trap problem, if housing is not dependent on worklessness.

Hills (2007) notes that on average, social renters spend £23 per week on housing compared with £96 for private renters and £132 for those with mortgages. Housing makes up a much lower proportion of the household budget for most social tenants than it does for most people in other tenures. Data from the Family Expenditure Survey from 2003/4 shows that 41% of social tenants spend less than 10% of their

disposable income on housing, compared with just 6% of those with a mortgage and 21% of private renters. We are not aware, however, of studies that show the effect of subsidised housing on other areas of household spending or household decisions for people on similar incomes.

Table 2, below shows other central characteristics of social housing as it is currently provided in the UK, and some of its possible benefits or disbenefits. Social housing is a form of rented housing, which protects its tenants from housing debt and interest rate shocks, and from immobility caused by negative equity or inability to sell. On the other hand, tenants own no housing assets. Their homes are maintained to a publicly acceptable standard, without the need for personal investment, but on the other hand tenants are reliant on landlords for the condition of their homes. These are also features of privately rented homes.

In the UK, social housing is allocated according to need, enabling access to housing and protection from discrimination. However this may have different effects at different times and in different regions. Social housing is currently offered with secure tenancy, offering stability and protection from home loss in the event of economic shocks, but theoretically inhibiting mobility and (depending on supply) constraining access to the stock for new tenants. Social housing is often clustered geographically, which might have benefits in terms of access to some services and networks, but disbenefits due to the effects of concentrated disadvantage and weak local economies. Finally, housing subsidy is linked to the home, rather than being transportable – an advantage over means-tested individual subsidies which present real disincentives to work, but possibly a constraint on mobility unless tenants can move freely between homes with similar subsidy.

Table 2: Possible benefits and disbenefits of social housing

Characteristic	Possible Benefits	Possible Disbenefits
It is rented not owned	<ul style="list-style-type: none"> • No housing debt • Not affected by interest rate rises • Mobility not affected by negative equity • Property is maintained by landlord 	<ul style="list-style-type: none"> • No housing asset • Reliant on landlord maintenance
It is provided by a non-profit landlord (usually large scale, usually with clustered provision)	<ul style="list-style-type: none"> • Allocation responsive to need • Security of tenure offers stability and security in event of economic shocks • Protection from poor management or discrimination • Landlord performs wider social role • Clustering enables access to some services, and 	<ul style="list-style-type: none"> • Supply constraints may leave less needy households with unsuitable housing • Long term tenancies constrain access and mobility • Lack of competitive pressure on good landlord performance • Clustering may limit access to some services, and to

	bonding social networks	bridging social networks and feasible work and training
It is a form of subsidy linked to a home not to individuals/ households	<ul style="list-style-type: none"> • Less disincentive to increase income than with means-tested individual subsidy 	<ul style="list-style-type: none"> • Mobility is constrained by overall supply/demand of social housing

Perhaps surprisingly there is relatively little evidence on the effect of these specific mechanisms.

We do know that homeownership is a major contributor to overall wealth (Mitchell et al. 2005). Theoretically, assets provide greater economic stability and are linked to higher attainment, lower marriage dissolution, increased residential stability and civic participation. Length of residence may be driving some of the benefits that are apparently arising from asset accumulation, via increased social capital. “More research is required to understand the incentives of asset accumulation, especially for low income households and the long term effects of asset accumulation” (ODPM 2003). As Burrows (2003) reports, half of the poor are homeowners and there are also costs to homeownership. Anxiety related to increased debt and risk, and costs of maintenance, particularly for older households, may outweigh the benefits of homeownership for some (Askham et al. 1999; ODPM, 2003). We haven’t gone far enough in the current data analysis (Section 5) in identifying pathways through debt, multiple deprivation and worklessness in different forms of tenure.

A number of studies have looked at the relationships between tenure and mobility. One obvious drawback of home-based housing subsidies with local allocations and secure tenancies is that tenants may not easily move their home to take up new work. Hills (2007) using evidence from the Survey of English Housing 2006 shows that social tenants move less than private renters, and far less than other tenures (70% move less than 5 miles). However, tenants are more likely to move than owner occupiers. Sefton (forthcoming) finds that private renters are much more likely to find work by moving and only 3% of moves in social sector are for job reasons. Various studies show the impact of school choice on the housing market and the moves that parents make to access good schools (e.g. Ball). Gibbons and Machin (2002) argue that social tenants are constrained in their ability to move to better schools because of the availability of suitable housing.

The idea that it is characteristics of social housing tenure that are constraining mobility is contested. Doogan et al. (1996) challenge studies from the 1980s that argue that residence in social housing is a constraint on employment mobility. In contrast to previous analyses, they attribute labour mobility not to individual factors, but to factors related to the employment market: the transferability of skills and the low level of assistance provided for potential employees to relocate to take up employment. Others argue that some social housing tenants are not unable to relocate for employment, they just elect not to. Those who do move for employment tend to be younger, employed, single, from ethnic minorities groups and wealthier (Cho 2005). A study in London found that only 1 percent of the social tenants who wanted to or expected to relocate wanted to do so for work-related reasons. Within

the sector, they found older and wealthier households were more likely to move longer distances to be closer to family or for work, while family households moved within districts typically for housing reasons. In the US, studies also suggest a relationship between homeownership and investment in and attachment to an area, which constrains labour mobility (Green and Hendershott, 2001).

Area and neighbourhood effects

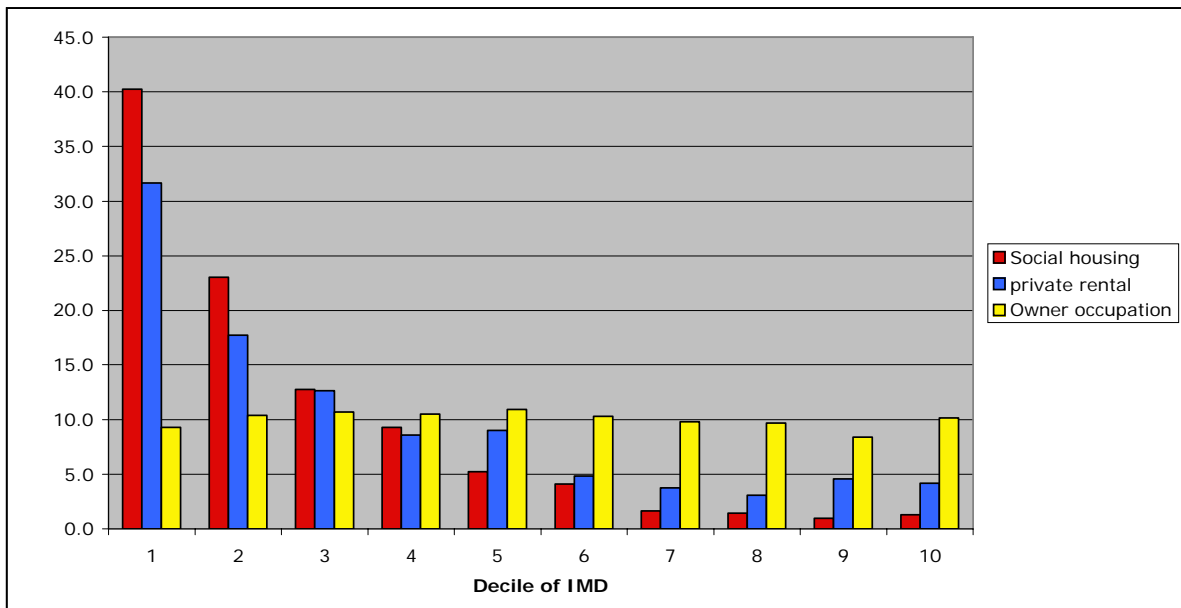
The broader context within which the mechanisms described above may function is represented in the right hand set of circles in Figure 5. We emphasise that there are channels for effects both at the household and area level and that these interact in important ways with each other and with the characteristics of housing.

A key mechanism for impacts of housing on livelihoods is through the location of housing and the resulting access or otherwise to labour market opportunities. According to Hills (2007) over 25% of social housing in 2004 in England was located in the 10% most deprived areas, with less than 2% located in the 10% least deprived areas. Similar issues exist in relation to the provision of schooling and other educational and social amenities. Social housing has become concentrated in areas of multiple deprivation, adding to the level of risk faced by social housing tenants.

For today's families with infants this can be seen from Figure 6, which reports from the millennium cohort study (MCS) the proportion of 9 month old children in families in England in each form of housing tenure living in different levels of area deprivation, by decile of the Index of Multiple Deprivation (IMD). For 2001, 40% of MCS children in social housing in England resided in the 10% most deprived areas, compared with 32% of private renters and 9% of owner occupiers. For Wales, 28% of MCS children in social housing resided in the 10% most deprived areas, compared with 31% of private renters and 5% of owner occupiers. For Scotland the equivalent figures are 32% (SH), 9% (PR) and 4% (OO). Thus the relative concentration effect appears strongest for England, but also quite strong in Scotland.

Owner occupiers are the most diverse group, distributed fairly uniformly across areas, including the most deprived as well as the least deprived. Social housing, however, is particularly concentrated in areas of multiple deprivation.

Figure 6: Proportion of those in each housing tenure, by area deprivation (IMD)



Source: millennium cohort study

This is important because of the importance of ‘neighbourhood effects’ and the idea that geographical clustering of low income households might lead to additional problems, over and above those that individual households might have if they lived in more mixed or affluent areas. We know very little about this across time and in detail because so many of the longitudinal studies that exist are focused on the individual. The quantitative studies that we have shed doubt on the importance of neighbourhood effects (Ellen and Turner 1997, McCulloch 2001). Much of the evidence is from the US, where studies have found neighbourhood effects on health, mental health, crime and fear of crime, and in some cases, education (Berube 2006). On the other hand results of residential mobility programmes have shown no substantive impacts on employment or earnings (Orr et al. 2003). In the UK, studies have found neighbourhood effects on labour market outcomes (Buck 2001), and education (Bramley and Karley 2005, Gibbons 2001, McCulloch and Joshi 2001). But neighbourhood effects, where they are demonstrated, are always smaller than individual or household effects (McCulloch 2001; Bolster et al, 2007; Joseph et al. forthcoming).

It is to be hoped that future UK longitudinal data collection will include more multi-level nesting of multiple households within multiple areas so that we can better model the household-area interaction than is possible here. Crucially, we do not really know which mechanisms cause negative neighbourhood effects and whether changing tenure or income mix would remove these effects. We also don’t sufficiently understand how household and area interact.

Overall, the existing literature demonstrates that housing can be linked to a range of outcomes and livelihood factors: health, income, wealth, education, employment, esteem and mental health, social participation and social networks. On the whole, outcomes from social housing appear to be worse than outcomes from owner-occupation. However, the evidence base does not strongly isolate the effect of social housing tenure from the effect of selection into social housing. Nor does it strongly demonstrate the effect of social housing in a dynamic way – over time, at

different stages of the lifecourse, and at different historical periods. Nor does it provide an evidence base for policy by demonstrating which aspects of the way in which social housing is currently delivered cause particular outcomes to occur.

This report is not an attempt to fill in all the gaps in the research base. We have two aims. The first is to offer a stronger conceptual model for researching the positive and negative effects of social housing that takes account of the circular and dynamic relationship between housing and other lifecourse outcomes. The second is to provide new evidence from the analysis of the cohort studies to provide a better basis for understanding the use, effect and value of social housing.

5 New findings

5.1 The changing relationship between family background and housing in childhood.

We have shown above that through the history of post-war Britain there was long-term growth in owner occupation in housing and first a rise and then a decline of social housing. In this section we consider how these trends played out for different segments of society.

There is a methodological issue here that must be addressed, namely how to categorise families in the different cohort studies into groupings that meaningfully reflect resources in ways that span the period. This is problematic because over time different aspects of family background are measured and, moreover, mean different things. For example, the proportion of parents without qualifications was very high for the 1946 cohort, much lower for the millennium cohort. Thus the two groups are not strictly comparable (technically speaking there are “composition effects”). It is also problematic that we do not have a measure of income for the 1946 cohort.

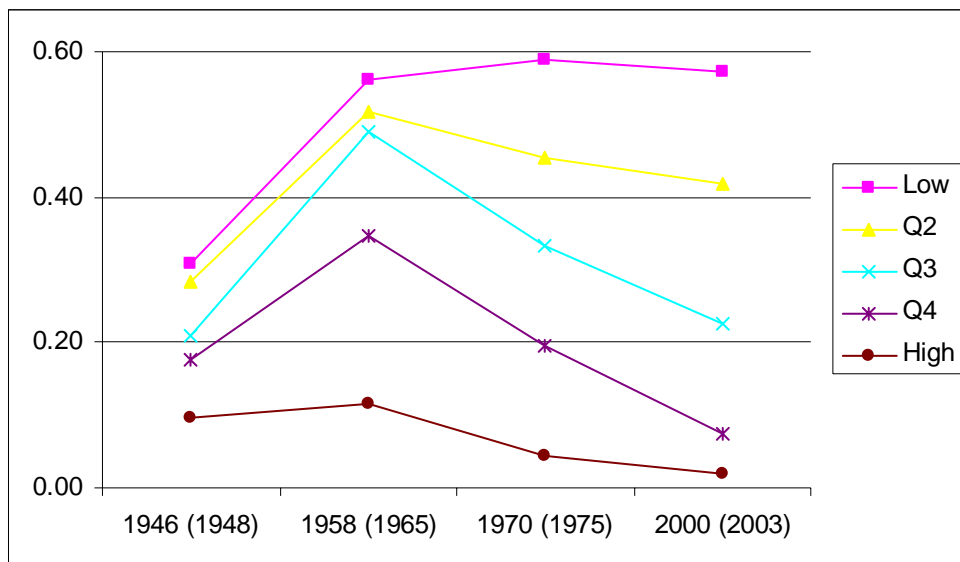
To address this problem we have created an ‘index of socially advantageous resources’ (SAR index or SARI) based on three measures that are available across cohorts: the educational qualifications of mothers and fathers and occupation. Using these measures we construct for each cohort an index that ranks parents of cohort members according to their extent of relative advantage in terms of these measures. Education and occupation are closely correlated with income, particularly cross-sectionally, and so this is a meaningful index of advantage even if partial. Sensitivity analysis in the 1958 and 1970 cohort studies, for which we do have measures of income, suggest, that the omission of income does not change the kind of findings reported below. Fuller forms of the SARI would include not only income but also housing asset, and wider forms of human, social and identity capital.

However, for current purposes, this partial form enables us to compare groups in different time periods but who have similar relative positions in their cohort in terms of a vital set of resources to enhance livelihoods. We can then compare, for example, the housing tenures of those in the bottom 20% of the index for the 1946 cohort and those in the bottom 20% of the SARI for the millennium cohort. Doing so does not suggest that the two groups are similar in terms of their absolute levels of education or occupation. Rather what is common is their position relative to others in their era in terms of ownership of educational and occupational resources that are

vital for livelihoods and economic functioning. This enables us to focus on issues of equality and inequality.

An example of this is shown in Figure 7, which reports the proportion in social housing in each quintile of the SAR Index

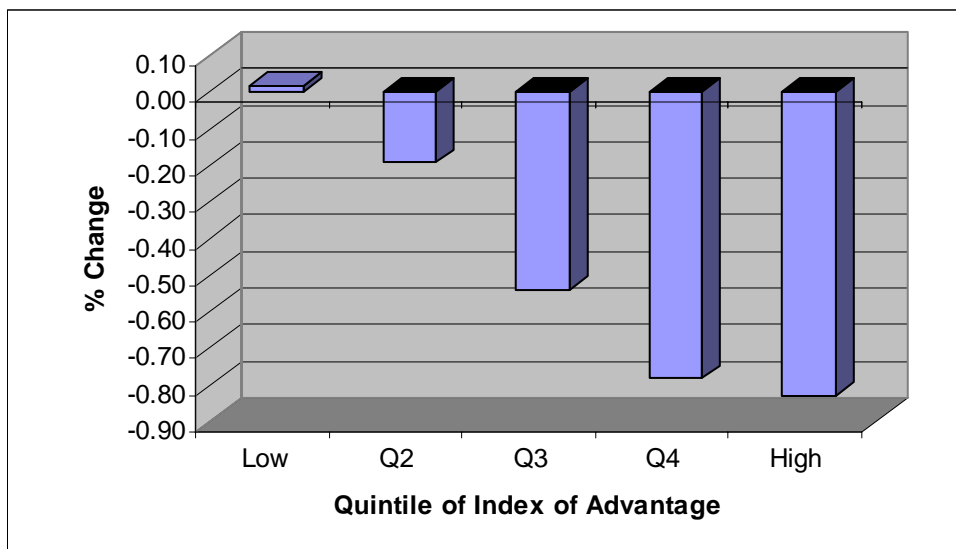
Figure 7: Proportion in Social Housing by quintile of SAR index of advantage



It can be seen that across the four cohorts the growth in social housing between 1948 and 1965 was universal at all levels of social advantage but strongest for the bottom 60% of the population and lowest for the most advantaged 20% in terms of occupation and education. During this period social housing was growing, and was sufficiently attractive that the advantaged groups who were most likely to have access to home ownership might nevertheless still make use of it. Between 1965 and 2003 there was then a significant divergence, particularly between the bottom 20% for whom the proportion in social housing was constant, and the rest of the population for whom there were substantial declines in social housing.

These changes themselves are graphed in Figure 8, which shows how much the proportion in social housing changed in each of the quintiles of the SAR Index, over the period 1965 to 2003. The general polarisation in housing is evidenced by the gradient of this chart, which shows how the move away from social housing was greater the greater the level of advantage in the household.

Figure 8: Change in the take-up of social housing, 1965-2003, by quintile of SAR index of advantage



Equivalent changes in uptake of owner occupied housing are highlighted in Figure 9 and its complement Figure 10. What is striking here is the divergence between 1975 and 2003 in the experiences of the bottom 40% of the distribution of the SAR and the rest of the population of households with children. In this period, the proportion of the most disadvantaged 40% owning their own homes fell, while that amongst the remaining 60% rose. For the median family (i.e. those in the middle quintile of the SAR) the proportion of owners grew from 34% in 1965 to 64% by 2003. At the same time the growth was small for the second quintile and negative for the bottom quintile.

Thus, despite Right to Buy legislation, there was a stark polarisation in access to the wealth generation that home ownership offered over this period. Moreover, even within the bottom 40% a divergence can be observed: the proportion of owner occupiers in the bottom 20% is 20%; in the next quintile up it is 39%.

Figure 9: Proportion of families in owner occupation by quintile of SAR Index of Advantage

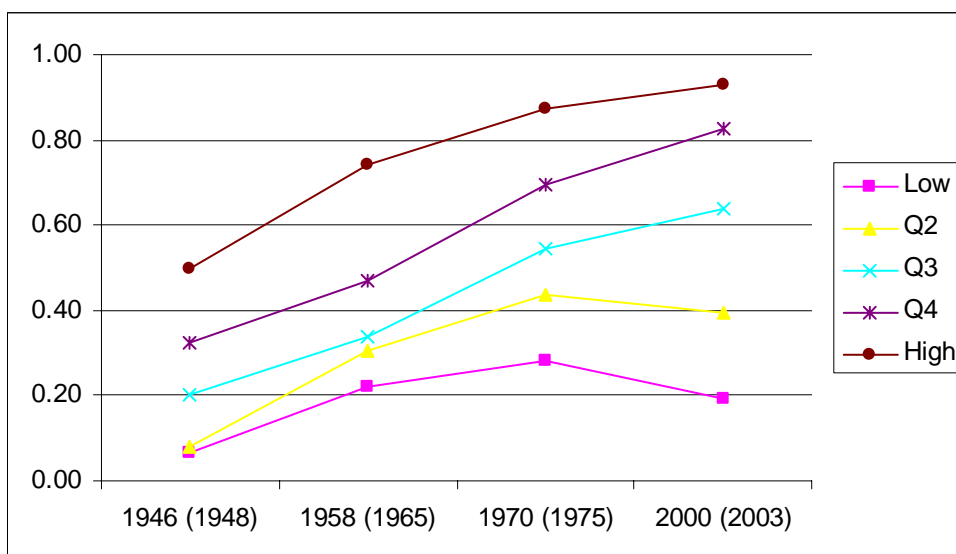
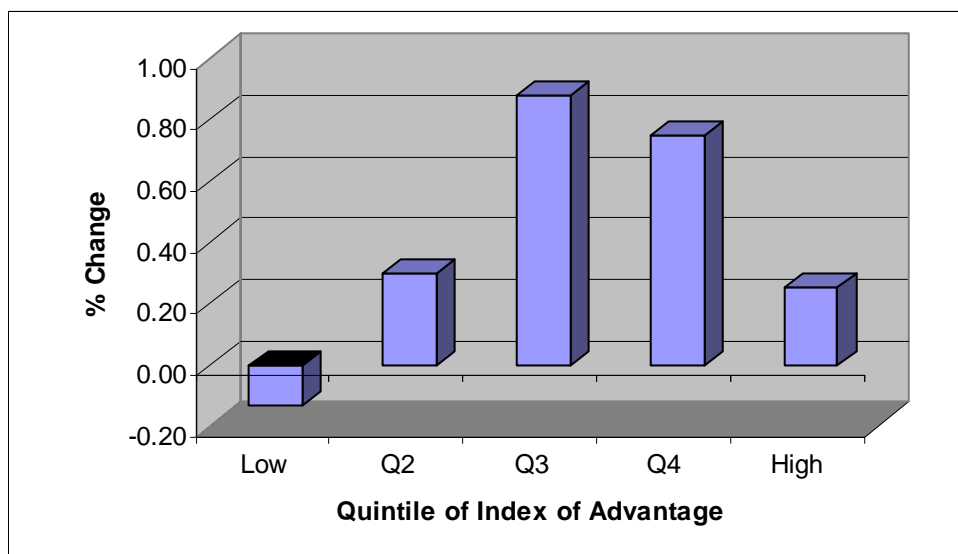


Figure 10: Change in the take-up of owner occupation, 1965-2003, by quintile of SAR Index of Advantage



5.2 Methods for further results

In the remaining parts of Section 5 we consider:

- i. the outcomes in adulthood of those who experience social housing in childhood;
- ii. the transition to social housing in adulthood
- iii. the impact of social housing in adulthood
- iv. the effects of area.

The datasets for the analysis have been described above. We describe briefly the methods for the investigations listed below as we introduce each of the next subsections. However, a few general methodological comments are required.

Firstly, we are interested in the changing relationship of housing tenure to wide-ranging forms of social exclusion, life chances and livelihood over the period since WW2. We have undertaken analysis across a wide range of measures of occupational and economic functioning, educational success, mental health and well-being, elements of citizenship, health behaviours and family structure. However in order to simplify the presentation of findings in the text we report findings primarily in terms of a single indicator of multiple deprivation we have developed at each age in each cohort. We define multiple deprivation here as the experience of more than 1 of the following 7 elements of deprivation and exclusion:

- Workless household
- Workless household with children
- Financial problems
- Permanently sick/disabled
- Depression
- Smoker
- Single parent

This is not a perfect indicator and any single summary measure reduces information but sensitivity analysis suggests that the findings according to this single indicator do not vary greatly from those derived using other summary indicators such as the total number of individual negative outcomes. Moreover, the general pattern of findings across cohorts, by gender, age and sub-group is very similar for this single measure as for the overall set of separate indicators. Presenting findings from the single measure reduces the quantity of statistical material. Summary stats for these summary indicators are presented in Table 3.

Table 3: Summary statistics for binary measures of multiple deprivation

Cohort	Age	Year	Obs	Mean	s.d.	Min	Max
1946	43	1989	7310	0.10	0.29	0	1
1946	53	1999	6048	0.16	0.36	0	1
1958	33	1991	7047	0.15	0.35	0	1
1958	42	2000	11261	0.15	0.36	0	1
1958	46	2004	9191	0.07	0.26	0	1
1970	34	2004	9534	0.10	0.30	0	1

Stepwise analysis, control variables and causality

A second point to note is that we are often interested to see both the raw, bivariate association of housing tenure (SH, PR, OO) and outcomes and the association once statistical controls have been introduced to remove the part of the association that is explained by observed other factors.

One of the great strength of the UK birth cohort studies is the great variety and depth of measurement. This, together with the fact that assessment starts at birth means that it is possible to take account of many of the factors that might otherwise explain the correlation of social housing and adult deprivation so that we can be considerably more confident than would otherwise be the case that observed statistical associations are due to the impact of housing tenure rather than of the factors that lead individuals to be in social housing in the first place. However, the data are not from randomised control trials and there are always unobserved elements with which one must be concerned. Considerable caution must therefore be exercised. We return to this issue in the conclusions.

Are intent in this report is epidemiological. We do not seek to prove or dis-prove causal hypotheses. The aim is to allow the data as much as possible to represent the lives of the individuals in the survey and so aid understanding of what the important pathways and mechanisms might be. However, we work from a model which recognises that there is always heterogeneity (diversity and difference) in individual experience and that the attempt to estimate simple causal models risks too easy over-generalisation.

The coded control variables are classified in the following categories:

- i. Family distal factors (socio-economic and demographic measures);
- ii. Family proximal factors (elements of the internal home environment)
- iii. Sample member’s cognitive development
- iv. Sample member’s affective and behavioural development

v. School context (features of peer group and school type)

The list of measures coded in each cohort study is shown in Appendix Tables 1.1 - 1.3. Thus, when reporting the conditional (i.e. with controls introduced) association of adult outcomes and childhood tenure, we are seeing that part of the covariation of housing tenure and adult outcome that is not explained by family background (including education, occupation, income, family size, lone parenthood, parental aspirations and well-being), child development (cognitive skills throughout childhood and wide-ranging measures of emotional development and self-regulation and behaviour) as well as school type and school intake. These are not causal effects per se but they are strong associations that are often hard to explain away as unrelated to tenure. However, with such uncertainty about the causal processes that might explain such associations there are firm grounds for caution in interpretation.

Sub-groups

We report results not just for the samples overall, but also for particular sub-groups of interest, namely by gender, for those in the bottom 40% of the SARI index in childhood and for those in the bottom 40% of the family income distribution in childhood.

5.3 Results 2: Outcomes in adulthood

In Table 4, we report the odds ratios for the summary indicators of multiple deprivation in adulthood for those who experienced social housing in childhood and for those who experienced private rental, as compared to those who experienced neither of these forms of housing in childhood. Results are only presented at this point for the 1958 and 1970 cohorts as we do not yet have sufficient information on private rental for those in the 1946 cohort (although see Table 6 for results that do include the 1946 cohort). This is a very broad comparison, as we are comparing the outcomes for those who ever experienced social housing, with those who were not in social housing at any observation regardless of the age or duration of experience. In Table 4 no control variables are introduced. Therefore this is purely descriptive.

Table 4: Odds ratios for multiple deprivation in adulthood by housing tenure in childhood.

Cohort	Age	N	Social housing	Private rental	Diff - p.val
Males					
58	23	3316	1.60***	1.09***	0.013
58	33	2501	2.63***	0.89***	0.000
58	42	4274	2.01***	1.35***	0.005
58	46	3554	2.08***	1.16***	0.019
70	26	2690	2.04***	0.80***	0.000
70	30	3728	2.15***	1.09***	0.000
70	34	3191	2.15***	0.95***	0.000
Females					
58	23	3175	2.21***	1.53***	0.005
58	33	3187	2.34***	1.22***	0.000
58	42	4491	2.36***	1.20***	0.000
58	46	3789	1.64***	1.18***	0.034

70	26	3263	2.89***	1.11***	0.000
70	30	4019	2.44***	1.25***	0.000
70	34	3529	2.71***	1.20***	0.000

Note: ***, ** and * denote statistical significance at 1%, 5% and 10% respectively.

The final column reports the statistical significance of the hypothesis test that the coefficient on social housing is not greater than that on private rental. The p-value indicates the likelihood that the hypothesis is falsely rejected. A value of less than 0.01 indicates statistical significance at 1%, i.e. less than 1% of a chance that the conclusion that the coefficient on social housing is greater than that on private rental is erroneous.

The first point to note is that across cohorts, ages and genders those in social housing and private rental in childhood had worse outcomes in adulthood than those in owner occupation in childhood. The difference between those in social housing and private rental is indicated by the final column which tests the hypothesis that the odds ratio for those in social housing is higher than for those in private rental. This difference is statistically significant across the period. However, this takes no account for selection, i.e. who is in social housing in the different periods.

Table 5, reports the results when control variables are introduced. As noted above, this therefore knocks out the impact of a wide range of social variables and discounts much of the selection effect. The effects seen above for private renting have largely fallen away. Nevertheless, substantial differences remain for social housing relative to owner occupiers.

Table 5: Odds ratios for multiple deprivation in adulthood by housing tenure, conditional

Cohort	Age	N	SH	PR	Diff - p.val
Males					
58	23	3316	1.16	0.91	0.104
58	33	2501	1.34	0.70	0.032
58	42	4274	1.11	1.07	0.423
58	46	3554	1.38	1.14	0.278
70	26	2690	1.35	0.57	0.003
70	30	3728	1.47***	0.86	0.001
70	34	3191	1.54***	0.88	0.013
Females					
58	23	3175	1.35**	1.38***	0.458
58	33	3187	1.40***	0.95	0.013
58	42	4491	1.51***	0.92	0.001
58	46	3789	1.18	1.00	0.210
70	26	3263	1.62***	0.96	0.016
70	30	4019	1.61***	0.97	0.000
70	34	3529	1.75***	1.01	0.002

See notes to Table 4

Additionally, the results differ substantially by gender. For males, the odds ratio for multiple deprivation in adulthood for those in social housing in childhood is not substantially or statistically higher than for those in owner occupation in childhood, or than for those in the private rental sector (except for by age 34 in the 1970

cohort). For females on the other hand, the difference in outcomes is already apparent for the 1958 cohort. Outcomes are on the whole worse for those in social housing than for either those in owner occupation or those in private rental.

This broad pattern of findings is also apparent in the unreported analyses across a much wider range of outcomes and by gender and also by sub-group. It holds for those in low income households in childhood, as for those from families with relatively low levels of education and occupational skill and status.

Table 6 brings the 1946 cohort into the picture, reporting the additional likelihood of the summary outcome for each sweep in childhood at which the sample member was in social housing. No other measures of housing tenure are included here so the reported marginal increase indicates the increment to the probability of multiple deprivation for each sweep in childhood at which the sample member was in social housing (taking values 0-3).

Table 6: Marginal increase in probability of multiple deprivation in adulthood by number of sweeps in social housing in childhood

Cohort	Age	N	No controls	Full controls
Males				
46	36	3062	0.28	-1.37
46	43	2951	0.82**	-0.38
46	53	2445	1.16**	0.59
58	23	3316	2.33***	0.94
58	33	2501	1.90***	0.33
58	42	4274	2.39***	-0.05
58	46	3554	0.96***	0.15
70	26	2690	1.82***	0.58
70	30	3728	4.16***	2.06***
70	34	3191	2.83***	1.57***
Females				
46	36	3151	1.93***	0.32
46	43	2957	1.35***	0.40
46	53	2462	2.57***	2.32***
58	23	3175	4.06***	0.87
58	33	3187	4.64***	1.59***
58	42	4491	4.04***	1.91***
58	46	3789	1.52***	0.45
70	26	3263	3.36***	1.24***
70	30	4019	6.11***	2.93***
70	34	3529	4.48***	2.13***

See notes to Table 4. The control variables introduced in the final column are summarised in Appendix Tables 1.1 - 1.3. They encompass measures of distal and proximal family background in childhood, cognitive and affective and behavioural development to age 16 and school contexts.

Here we see a similar and striking pattern across cohorts and genders. When control variables are introduced, for males there is no increase in the likelihood of

adult multiple deprivation for experience of social housing in childhood, except for the 1970 cohort. For females there is an increase in likelihood of age 53 adult deprivation in the 1946 cohort and at ages 33 and 42 for the 1958 cohort as well as for the 1970 cohort.

More detailed analysis of this difference between genders is important. One hypothesis is that it might be explained by long-term consequences of parenthood, which may have been more substantial for females than males.

It is also noteworthy that although there are not long-term risks for males in the 1946 cohort of social housing, there are for females. These risks are not apparent by age 43 but only by age 53. A likely explanation is that this is not an impact of the early childhood experience but of staying in social housing through adulthood during the period of residualisation. Again, further analysis is required.

Overall, a key finding of Tables 4-7 is that social housing in childhood is not necessarily a risk factor for adult deprivation but has become so for later cohorts, as the process of movement into owner occupation has taken place and broad residualisation has left increasingly vulnerable members of society in social housing. The evidence from the 1946 and 1958 cohorts, particularly for males, suggests that this long-term risk is not an inherent feature of living in socially provided housing but is more strongly related to the broader social processes that have deepened the polarisation between those in social housing and others.

Nonetheless, it is striking that even with so many control measures introduced, some of which are themselves possible channels for social housing effects, there are still apparent differences in adult outcomes between those in social housing in childhood and others. For example, males in the 1970 cohort in social housing had odds 86% higher than those in owner occupation of leaving school without qualifications, even once analysis has controlled statistically for family background, parental aspirations, school peer group and the child's own cognitive and emotional development to age 16. This is hard to explain other than as a consequence of alienation and disengagement from school pathways that may be a product of interactions with parents, peers, teachers and neighbours but which the school system does not appear to have responded adequately.

5.4 Results 3: The transition to social housing in adulthood

Another key finding of this study has been in terms of the considerable stability of social housing tenure. An example of this is shown for the 1958 cohort in Table 7, which reports the odds ratios of being in social housing from one sweep to the next.

Table 7: Odds ratios of being in social housing if in social housing in previous sweep, 1958 cohort

Age 1	Age 2 (date)	Males	Females	All
7	11 (1969)	71.8	73.6	72.6
11	16 (1974)	50.2	49.7	49.9
16	23 (1981)	6.5	6.4	6.5
23	33 (1991)	50.0	30.2	37.8

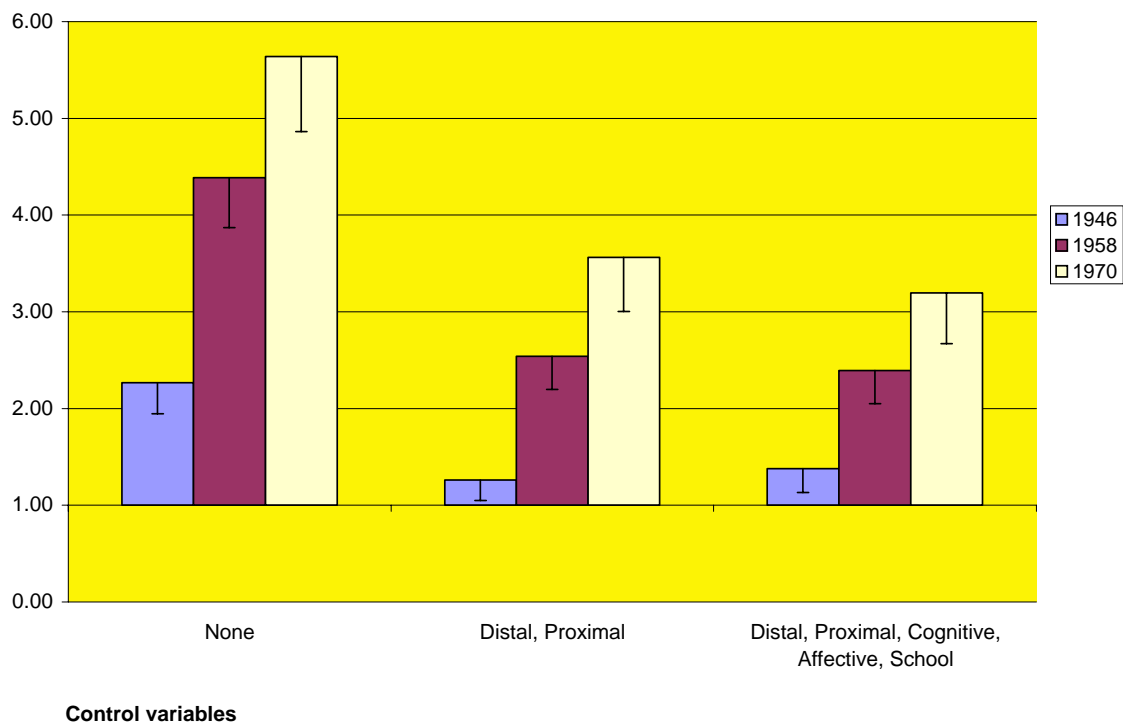
33	42 (2000)	28.7	37.3	33.6
42	46 (2004)	204.9	210.9	206.0

Note; No control variables are included.

These odds do not take account of other factors (bivariate) but are extremely large. Males in social housing at age 33 in this cohort have odds of being in social housing at age 42 that are 29 times higher than those not in social housing at age 33. Within this overall pattern of stability, there is a key transition moment during the transition from childhood to adulthood. For the transition between age 16 and 23 the odds ratio declines to 6.5, still very large but much smaller than for other intervals. This may indicate a particularly important moment for policy support and action.

Figure 11 shows how this stability has changed for different cohorts but that it persists in all three cohorts even when control variables are introduced into the analysis.

Figure 11: Probability of ever being in social housing in adulthood (age 23+) if in social housing at any time in childhood (0-16)



As control variables are introduced the persistence of social housing over this transition is substantially reduced but remains statistically significant for all three cohorts. It is strongest for the 1970 cohort, much weaker for the 1946 cohort..

5.5 Results 4: The sequelae of social housing in adulthood

We now report stepwise regression results estimating the increase in probability of multiple deprivation for those in social housing and, separately, private rented

housing relative to those in owner occupation at earlier stages of adulthood. The time sequencing for the three cohorts is:

- 1946 cohort - tenure at age 36, outcomes at ages 43 and 53;
- 1958 cohort - tenure at age 23, outcomes at ages 33, 42 and 46;
- 1970 cohort - tenure at age 26, outcomes at age 34;

A key element of this analysis is that because we are considering outcomes by housing tenure in adulthood, we can control statistically not only for all the elements of childhood circumstance and development considered in the earlier analyses but also for adult circumstances observed at the same sweep as housing tenure. For example, for the 1958 cohort we can see the consequence of age 23 housing tenure conditional on the following age 23 characteristics: Workless household, Workless household with children, unskilled or semi-skilled occupation, not employed or self-employed, low hourly wage, literacy or numeracy problem, longstanding illness/disability, permanently sick/disabled, Depression, smoke regularly, Single parent, child born before cohort member was 20 or 23, no training or apprenticeships since age 16.

Results are presented in Table 8 for the summary indicators of multiple deprivation

Table 8: Odds ratios for multiple deprivation in adulthood by housing tenure earlier in adulthood

Cohort Age		N	SH	PR	Diff - p.val.
Males					
46	43	3295	3.12***	4.63**	0.143
46	53	2743	0.85	0.49	0.157
58	33	3040	3.83***	2.40***	0.061
58	42	5030	2.10***	1.39**	0.009
58	46	4233	2.13***	1.04	0.012
70	34	4191	12.26***	1.46	0.000
Females					
46	43	3363	1.48**	0.48	0.004
46	53	2734	2.41***	3.57***	0.095
58	33	3854	2.66***	1.77***	0.014
58	42	5488	1.97***	1.47***	0.023
58	46	4658	2.27***	1.41	0.009
70	34	4699	5.96***	1.57**	0.010

See notes to Table 4. Reported odds ratios are conditional on distal and proximal family controls plus child affective and cognitive controls, plus early adulthood controls.

It becomes increasingly hard to explain these associations by selection effects but because of all the caveats described above about the complexity of the causal pathways and the difficulty of observing and measuring all the many elements of the model in Figure 2, we do not call these associations effects but rather “sequelae” which is more descriptive. They may result from effects of tenure type, of other housing characteristics, area factors or from selection effects.

The results here are slightly different to those for the long-term risks associated with childhood experience of social housing. The risks for males are as or more substantial as those for females but again there are important gender differences that require further exploration and analysis.

For the 1946 cohort the risk of later multiple deprivation for those in social housing at age 36 (in 1982), taking account of some age 36 circumstances and many earlier factors, is on the whole similar to those in the private rented sector and often lower (though not for females at age 43). This is not so for the 1958 cohort in 1991, 2000 or 2004 or the 1970 cohort in 2004 for whom the adult risks of social housing for later multiple deprivation are substantial and worse than for those in the private rented sector. The risks of social housing are in fact even more substantial if the sample is limited to those in the bottom 40% of the SAR index in childhood suggesting that the apparent worse outcomes are not because those in social housing are being compared with more advantaged private renters or owner occupiers.

5.6 Results 5: The importance of location, special analysis of the age 16 and age 23 sweeps of the 1958 cohort

In a final section of analysis, we take advantage that for the age 16 and 23 sweeps of the 1958 cohort, data was matched in by the Centre for Longitudinal Studies to link census area-level data to cohort members. For these two ages in this single cohort we know about the population of the areas in which sample members resided at both Enumeration District (with an average size close to 200 households) and the larger Local Authority Level. This enables us to go some way to test the extent to which area factors explain the strong associations of social housing and deprivation for housing in childhood (Table 11) and adulthood (Table 12).

Table 9 reports the five census measures used to construct an index of area deprivation at the enumeration district level and the weights given to each item in a factor analysis used to generate a single index of area deprivation.

Table 9: Measures used for derivation of area deprivation indices

Census variable	Weight for age 23 index at ED level
% unemployed+sick, 1971 census	0.30
% in professional+managerial occ, 1971 census	-0.54
% in unskilled manual occ, 1971 census	0.49
% in owner occupied housing, 1971 cen	-0.82
% council tenants, 19 71 census	0.80

Note; Indices created at age 16 and 23 and at area-level of Enumeration District (ED) and Local Authority (LA).

These measures are combined into four indices of area deprivation as shown in Table 10, which also reports the Cronbach’s alpha measure of inter-item correlation for each index. These show good reliability.

Table 10: Cronbach’s alpha for deprivation factors

Age	Area	Alpha
16	ED	0.73

16	LA	0.87
23	ED	0.78
23	LA	0.88

Note: ED=Enumeration District; LA= Local Authority.

We then introduce the area measures into the analysis of the previous section. Table 11 reports the changing marginal “effects” (dF/dX) of social housing and private rental at age 16 on the measure of multiple deprivation at 33, relative to owner occupation when the age 16 area measures are introduced, in addition to the full range of childhood controls.

Table 11: Marginal increase in probability of multiple deprivation in adulthood at age 23 by housing tenure at age 16, controlling for full set of childhood covariates

	No area controls	Area controls
Social housing	0.064***	0.045***
Private rental	0.077***	0.070***
Area deprivation at ED level		0.057***
Area deprivation at LA level		0.011

Note: Table 11 reports the marginal increase in the probability of the outcome. Reported estimates are conditional on distal and proximal family controls plus child affective and cognitive controls to age 16.

The results are presented here for the age 23 summary measure but are very similar for later ages. The two key findings are firstly that the estimated “effect” on social housing is substantially reduced (by 42%) when the area measures are introduced. In other words, with these measures we cannot knock out all of the remaining association of age 16 tenure with later outcomes but it is substantially reduced, beyond the impact of having introduced child-level controls. Thus, area matters. If we had more detailed information on area in the previous tables we can presume that the negative relationship of social housing in childhood and adult outcomes would have been further reduced. More work needs to be done on this in the cohort studies and elsewhere.

Second, it is interesting to note that it is the information about the very local area (Enumeration District) rather than the broader area (Local Authority) which is predictive for subsequent outcomes.

Although we find that the association of adult outcomes with childhood housing tenure is in part mediated by area, we do not find this for the relationship of later adult outcomes with age 23 housing tenure. This is shown in Table 12

Table 12: Marginal increase in probability of multiple deprivation in adulthood at age 33 by housing tenure at age 23, controlling for full set of childhood factors

	No area controls	Area controls
Social housing	0.083***	0.078***
Private rental	0.053***	0.052***
Area deprivation at ED level		0.008*

Area deprivation at LA level
See notes to Table 11.

0.006

There is very modest attenuation on the social housing estimate which falls from 0.083 to 0.078, a decline of 6%. The ED area variable itself is statistically significant at 10% but small in magnitude.

In this brief analysis we have only scratched the surface of what might be done in these data to model mobility between ages and tenures at different ages in different cohorts. We postpone such more detailed analysis to future work. However, the analysis has shown that area effects can be substantial, particularly in childhood or adolescence. When area is taken account of the apparent negative impact of social housing tenure in childhood on life chances is reduced substantially, suggesting that area deprivation may be an important channel for effects.

6 Conclusions and Policy Discussion

Overview

Overall, the findings from this analysis of UK birth cohort data are rather depressing. It is hard to see evidence of the benefits of social housing, even if the analysis is limited to those with relatively high levels of disadvantage. We find that through the period after WW2, there was first growth and then decline in social housing supply and demand, alongside rapid considerable growth in owner occupation and broad residualisation and the increasing concentration of the most vulnerable in social housing. It does not appear that social housing or wider social policy has risen to this challenge.

The findings from the 1946 cohort suggest that there is nothing inherent to housing that is designed, built, financed, owned, and/or managed by the State that makes it damaging or the cause of social exclusion. For those in the 1946 cohort in social housing in childhood, there was not additional risk of multiple deprivation relative to being in the private rented sector once selection factors are accounted for (Table 6). For those in the 1946 cohort who were in social housing in adulthood, there was some degree of risk of later deprivation (Table 8) but this is on the whole less than the risk of being in the private rented sector. For the 1958 cohort and even more for the 1970 cohort social housing in childhood or adulthood had become a substantial risk factor.

Given the wider social trends social housing has become increasingly the source of housing for the worst off and least able to respond to labour market pressures, technological, educational and cultural change and other drivers of social exclusion.

There may be some who would respond to this evidence with the view that it indicates the necessary failure of socially provided housing and the need to reduce the security of tenure or provision of social housing. However, we see this evidence as supporting the view that housing policy has been too distinct from other elements of Government policy in education, health, social services, tax and benefits and work to respond adequately to the increasingly concentrated and multiple elements of deprivation experienced by social housing tenants. Social housing in these data

has become an indicator of risk in the sense that even with broad and comprehensive control variables, it is still on average a predictor of worse outcomes than tenure in the private rental sector or than owner occupation. This very strong association with negative outcomes indicates a substantial challenge for housing policy in conjunction with social and economic policy more generally. We believe that the evidence presented in this report and elsewhere shows that the reduction of the social exclusion of those in social housing should be a central goal of policy for any Government that claims to be concerned with the needs of the worst-off in society.

The building and maintenance of social housing stock without investment in and support for the people who reside in it will not enable the Government to meet targets in relation to social exclusion, child poverty, and inequality of health and education unless the particular risks and concerns of those in social housing are addressed. This can only be achieved through investment, integrated service provision that is also more targeted within a system of progressive universalism and reforms that recognise the crucial inter-generational continuities of outcomes such as early parenthood, worklessness, ill-health, disengagement and housing need.

Caveats

One important caveat is that the outcomes reported are for families in social housing. We have nothing to say here about the role of social housing for single people, childless couples, the elderly, and less about its role for disadvantaged and vulnerable adults. Yet, the relationship between housing provision for these diverse groups may be central to the problems of housing policy. Another important caveat is that the most recent cohort for which child-adult transitions can be observed was born in 1970. These children grew up during a period of large-scale manual job losses and high unemployment. Until the children in the millennium cohort grow up, we can not observe whether living in social housing (and on a social housing estate) will confer the same disadvantages in a period of high employment.

Housing Policy

These findings provide an important underpinning for thinking about contemporary social housing policy.

Firstly, they underline the findings of previous studies that demonstrate that living in social housing in childhood in the later cohorts is associated with a range of unfavourable outcomes in adulthood. Subsidising housing is apparently either insufficient, or wrongly designed to protect against unemployment or labour market disadvantage, lack of qualifications, or mental or physical ill health, or to combat intergenerational social exclusion.

Social housing not only provides stable accommodation to people who would find it difficult to afford a home, or a suitable home, on the open market. It is heavily subsidised to provide not only a certain amount and quality of housing but at a price and through mechanisms intended to leave residents with income for other parts of their life. The original aims of social housing were complex and contested, from preventing street homelessness, the most egregiously unhealthy conditions and overcrowding, and to create filtering up opportunities for working class residents (Daunton 1984), but advocates certainly never imagined long-term negative effects,

and ambitions have since developed and grown. By providing universal access to a decent home at an affordable price, it is hoped that housing policy should enable many other aspects of individual welfare and social productivity, and indeed, reconnecting housing to other aspects of social policy was one of Ruth Kelly's aims in commissioning the Hills review.

The findings from the 1946 cohort in this study very clearly demonstrate that there is nothing inherently problematic about state-subsidised rented housing, even when this is a minority tenure. The problems associated with social housing have arisen as tenure-based polarisation has increased, through the twin processes of rising owner-occupation and the policy-driven shrinkage and residualisation of the social housing sector, in the wider context of rising inequality in income and wealth. As long as renting from the state continues to be positioned as a tenure of least choice, while the majority aspire to own, it is hard to see these trends being reversed.

An important question to consider is how much we can expect housing policy at the micro level (for example, issues of allocation, length of tenure) to contribute to other areas of social policy while this situation persists. At the margins, policies which allow less distinction between tenures, and mobility between tenures over time, could make a difference. An alternative view is that the promotion of owner-occupation and housing-based wealth inevitably create a situation in which state-provided housing will cater for those who are most vulnerable. The consequences are already being felt in the housing sector. Flint (2006) argues that a new emphasis on multi-agency working, community ownership and neighbourhood-level interventions has given an increased role to social housing for managing populations deemed problematic. One interpretation of our findings is that we should expect less contribution from social housing to other policy areas, and more investment from other areas of social policy to support people in social housing. In this sense, the emphasis in the housing Green Paper on efforts across government to address the education, health, employment, transport and other needs of, particularly newly forming, communities is welcome. If more social housing is to be built, it is vital that tenants are adequately supported in employment, education and health.

A second way in which this work can inform policy thinking is in the conceptualisation of the relationships between housing and livelihoods. Like other studies, our empirical findings here compare the effects of social housing to other tenures, implying in a sense that social housing is homogenous and monolithic. However, as we demonstrate in our conceptual model, social housing has a variety of characteristics which impact on livelihood through mediating processes at the area and household level (including household dynamics, local labour markets and education systems) and which are susceptible to policy intervention. A vital next step is to go beyond thinking about social housing per se as beneficial or damaging, and to identify what it is about social housing – or what kinds of social housing – are associated with positive or negative effects, thus providing a framework for considering policy alternatives.

Table 9 below sets out some of the policy alternatives for how social housing might be provided in the UK.

Table 13: Alternatives for housing policy

Characteristics	Policy Alternatives
Rented not owned	<ul style="list-style-type: none"> • Mortgage tax relief for low income home owners • Shared ownership or shared equity schemes • Discounted purchase of state housing
Subsidy linked to home not individual	<ul style="list-style-type: none"> • Means-tested housing allowances • Tax deductions for private rents
Provided by a non-profit landlord (usually large scale, usually with clustered provision)	<ul style="list-style-type: none"> • Subsidies to private landlords to provide sub-market rents • Private landlords voluntarily allocate certain properties for sub-market rents • Provision of rent deposits for use in private sector • Fewer large scale clusters/mixed communities

One alternative to social housing is to encourage even more people into home-ownership, or part ownership. This has been government policy throughout the period of our study, pursued with differing emphasis and with tools ranging from house-building subsidies to mortgage interest tax relief, the Right to Buy and low cost home ownership models. Our data shows diverging trajectories for people who went into home ownership in the 1950s and 1960s compared with those who did not. Given already very high rates of home-ownership, high house prices and increasing costs of borrowing, the benefits of home-ownership against social housing need to be carefully weighed up.

Another alternative is to de-couple subsidies from the physical stock. One obvious drawback of home-based housing subsidies with local allocations and secure tenancies is that tenants may not easily move their home to take up new work. Hills (2007) using evidence from the Survey of English Housing 2006, shows that social tenants move less than private renters, and also less far than other tenures. However, tenants are more likely to move than owner occupiers. Given pronounced differences in worklessness between social and private renters, this seems an important issue. On the other hand, the idea that it is characteristics of social housing tenure that are constraining mobility is contested. The most that can be said at this stage is that some people may be constrained in their mobility by tenure, supporting Hills (2007) proposal of a varied menu of tenures in order to support different individuals' needs at various life stages, rather than any blanket removal of tenure security.

A final policy issue is that of mixed communities; the idea that social housing would be less disadvantageous if not geographically clustered. It may be that the concentration of people with diverse experiences of multiple deprivation compounds difficulties, in which case it makes sense to build new social housing in mixed communities. However, it has not been demonstrated that changing an area from a social housing area to a mixed income/tenure area will remove effects rather than move people on. The real problem is probably the marginalisation and poverty of social housing tenants. It is important to be cautious about what housing policy can achieve.

Table 10, reproduced from Silverman et al. (2006) identifies possible ways in which negative area effects might arise in disadvantaged neighbourhoods and how a mixed communities approach might address them.

Table 14: Neighbourhood Effects and Mixed Communities

Assumed area effects of concentrated poverty	Assumed benefits of mixed communities
<p>Arising from lack of resources:</p> <ul style="list-style-type: none"> ○ absence of private sector facilities like shops or banks ○ high demands on public services, and poor quality ○ a poor reputation ○ high crime and anti-social behaviour 	<p>Arising from more resources</p> <ul style="list-style-type: none"> ○ more money to support facilities ○ fewer demands on services, particularly schools. More cultural and social capital to shape improved provision ○ improved reputation ○ fewer residents with motivation for crime and anti-social behaviour
<p>Arising from limited interaction between social groups:</p> <ul style="list-style-type: none"> ○ exposure to disaffected peer groups ○ isolation from job-finding or health-promoting networks for adults 	<p>Arising from greater interaction between social groups:</p> <ul style="list-style-type: none"> ○ exposure to aspirational peer groups ○ access to more advantaged and aspirational social networks

Reproduced from Silverman et al. (2006)

Many of these remain untested, and some research casts doubt on whether mixed communities can offset neighbourhood effects in the ways assumed. In particular, owner-occupiers and renters and households from different income and class groups tend to occupy different social spheres and not to mix (Atkinson and Kintrea 2000, Allen et al. 2005, Silverman et al., 2006), suggesting that any potential benefits from extended social networks or peer interactions cannot be assumed.

Cheshire (2007) has recently suggested that enthusiasm for mix neglects the benefits that may arise from ‘specialised neighbourhoods’ where people share the same consumption needs, interests and lifestyles and where networks with people like themselves are of value. He cites Bayer et al.’s (2005) work showing the value of networks with similar people for low skilled workers in urban labour markets. The work of Ros Edwards and colleagues at London South Bank University is also

important here, highlighting the particular importance of bonding social capital for vulnerable or semi-vulnerable communities.

Social housing, throughout its history, has mainly been built with the aim of housing families with children. Families have featured prominently in policies to decide who gets priority for available social rented homes. It may be that understanding how the resources, capabilities, needs and values of diverse individuals and households interact to create communities within and across physical space, is key to understanding what is meant by a mixed community. There are dangers to a mixed communities policy that micro-manages lives. Again, the community is key.

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Appendix Table 1.1: Control variables, 1946 Cohort

Var name	Label	N	M	Min	Max
<i>DISTAL FACTORS</i>					
v46D1_SEG1	Father's Occupation Category (SEG)=I	12472	0.02	0	1
v46D1_SEG2	Father's Occupation Category (SEG)=II	12472	0.10	0	1
v46D1_SEG3n	Father's Occupation Category (SEG)=III non-manual	12472	0.09	0	1
v46D1_SEG3m	Father's Occupation Category (SEG)=III manual	12472	0.39	0	1
v46D1_SEG4	Father's Occupation Category (SEG)=IV	12472	0.17	0	1
v46D1_SEG5	Father's Occupation Category (SEG)=V	12472	0.08	0	1
v46D1_SEGmiss~g	Father's Occupation Category (SEG)=missing	12472	0.01	0	1
v46D1_SEGpadead	Father's Occupation Category (SEG)=father dead	12472	0.14	0	1
v46D2_paed1	Father's education=primary only	12472	0.56	0	1
v46D2_paed2	Father's education= primary + no diploma; primary + tech/course dip; secondary only	12472	0.18	0	1
v46D2_paed3	Father's education=primary + prof. degree/dip; secondary + no diploma; secondary + tech/course	12472	0.05	0	1
v46D2_paed4	Father's education=secondary + prof. degree/dip	12472	0.03	0	1
v46D2_paedmiss	Father's education=missing	12472	0.18	0	1
v46D3_maed1	Mother's education=primary only	12472	0.59	0	1
v46D3_maed2	Mother's education= primary + no diploma; primary + tech/course dip; secondary only	12472	0.17	0	1
v46D3_maed3	Mother's education=primary + prof. degree/dip; secondary + no diploma; secondary + tech/course	12472	0.05	0	1
v46D3_maed4	Mother's education=secondary + prof. degree/dip	12472	0.01	0	1
v46D3_maedmiss	Mother's education=missing	12472	0.17	0	1
v46D6_pproom2	Age 2: People per room	12472	2.01	1	6
v46D7_maworks2	Age 2: Mother working in March 1948	12472	0.06	0	1
v46D8_maage	Mother's age at birth of cohort child	12472	28.86	15	48
v46D10_nsibs0	Number of older siblings	12455	1.20	0	14
v46D11_lm0	Lone mother at birth	12468	0.00	0	1
v46D11_lm8	Lone mother age 8	12472	0.04	0	1
v46D11_lm16	Lone mother age 16	12472	0.14	0	1
v46D12_Pdegree	Father has degree	12472	0.03	0	1
v46D13_Mdegree	Mother has degree	12472	0.01	0	1

Appendix Table 1.1: Control variables, 1946 Cohort, continued

v46D8_maage_m	Mother's age missing	12472	0.21	0	1
v46D6_pproom2_m	Over-crowding missing	12472	0.07	0	1
v46D7_maworks~m	Mother works missing	12472	0.10	0	1
v46D11_lm8_m	Lone mother at 8 missing	12472	0.17	0	1
PROXIMAL FACTORS					
v46P1_6_1gram~r	Mother's secondary school choice at age 6 = grammar	12472	0.29	0	1
v46P1_6_2secmod	Mother's secondary school choice at age 6 = sec modern	12472	0.07	0	1
v46P1_6_3priv~e	Mother's secondary school choice at age 6 = technical	12472	0.02	0	1
v46P1_6_4other	Mother's secondary school choice at age 6 =fee paying	12472	0.02	0	1
v46P1_6_5noch~e	Mother's secondary school choice at age 6 = special school	12472	0.41	0	1
v46P1_6_6miss~g	Mother's secondary school choice at age 6 = comprehensive	12472	0.18	0	1
v46P2_8_1gram~r	Mother's secondary school choice at age 8 = grammar	12472	0.21	0	1
v46P2_8_2secmod	Mother's secondary school choice at age 8 = sec modern	12472	0.06	0	1
v46P2_8_3priv~e	Mother's secondary school choice at age 8 = technical	12472	0.01	0	1
v46P2_8_4other	Mother's secondary school choice at age 8 =fee paying	12472	0.04	0	1
v46P2_8_5noch~e	Mother's secondary school choice at age 8 = special school	12472	0.41	0	1
v46P2_8_6miss~g	Mother's secondary school choice at age 8 = comprehensive	12472	0.28	0	1
v46P3_mpain~im	Parents' interest in primary education	12472	29.54	0	50
v46P3_mpain1~c	Parents' interest in secondary education	12472	22.76	0	50
v46P3_mpain~c_m	Parents' interest in primary education - missing	12472	0.37	0	1
v46P3_mpain~m_m	Parents' interest in secondary education - missing	12472	0.22	0	1
COGNITIVE DEVELOPMENT					
v46C1_8nv_picture	Non-verbal intelligence: picture test, age 8	12472	39.43	0	60
v46C2_8v_comprehension	Age 8: Sentence completion	12472	13.36	0	34
v46C3_8v_reading	Age 8: Reading test	12472	15.92	0	49
v46C4_8v_vocab	Age 8: Vocabulary test	12472	15.60	0	40
v46C5_11nv_arithmetic	Age 11: Arithmetic test	12472	25.17	0	50
v46C6_11v_verbal	Age 11: Verbal intelligence test	12472	22.41	0	40
v46C7_11nv_nonverbal	Age 11: Non-verbal intelligence test	12472	20.87	0	40
v46C8_11v_reading	Age 11: Reading test	12472	35.43	0	50
v46C9_15nv_maths	Age 15: Maths test	12472	12.96	0	46
v46C10_15v_verbal	Age 15: Verbal intelligence test	12472	34.27	0	65
v46C11_15nv_nonverbal	Age 15: Non-verbal intelligence test	12472	37.93	0	65

Appendix Table 1.1: Control variables, 1946 Cohort, continued

v46C12_15v_reading	Age 15: Reading comprehension test	12472	23.75	0	36
v46C1_8nv_picture_m	Non-verbal intelligence: picture test, age 8 - missing	12472	0.19	0	1
v46C2_8v_comprehension_m	Age 8: Sentence completion - missing	12472	0.19	0	1
v46C3_8v_reading_m	Age 8: Reading test - missing	12472	0.19	0	1
v46C4_8v_vocab_m	Age 8: Vocabulary test - missing	12472	0.19	0	1
v46C5_11nv_arithmetic_m	Age 11: Arithmetic test - missing	12472	0.23	0	1
v46C6_11v_verbal_m	Age 11: Verbal intelligence test - missing	12472	0.23	0	1
v46C7_11nv_nonverbal_m	Age 11: Non-verbal intelligence test - missing	12472	0.23	0	1
v46C8_11v_reading_m	Age 11: Reading test - missing	12472	0.23	0	1
v46C9_15nv_maths_m	Age 15: Maths test - missing	12472	0.23	0	1
v46C10_15v_verbal_m	Age 15: Verbal intelligence test - missing	12472	0.23	0	1
v46C11_15nv_nonverbal_m	Age 15: Non-verbal intelligence test - missing	12472	0.23	0	1
v46C12_15v_reading_m	Age 15: Reading comprehension test - missing	12472	0.23	0	1
AFFECTIVE & BEHAVIOURAL DEVELOPMENT					
v46A1_10att_work	Age 10: Child's attitude to work, teacher-rating	12472	3.74	1	9
v46A2_10concentration	Age 10: Child's concentration: teacher-rating	12472	1.79	0	9
v46A3_13_behaviour	Age 13: Teacher's global assessment of behaviour	12472	19.21	0	99
v46A4_15_behaviour	Age 16: Teacher's global assessment of behaviour	12472	19.93	0	99

Appendix Table 1.2: Control variables, 1958 Cohort

Var name	Label	N	M	Min	Max
<i>DISTAL FACTORS</i>					
v58D1_SEG1	Father's Occupation Category (SEG)=I	18568	0.04	0	1
v58D1_SEG2	Father's Occupation Category (SEG)=II	18568	0.11	0	1
v58D1_SEG3n	Father's Occupation Category (SEG)=III non-manual	18568	0.08	0	1
v58D1_SEG3m	Father's Occupation Category (SEG)=III manual	18568	0.35	0	1
v58D1_SEG4	Father's Occupation Category (SEG)=IV	18568	0.14	0	1
v58D1_SEG5	Father's Occupation Category (SEG)=V	18568	0.05	0	1
v58D1_SEGnopa	Father's Occupation Category (SEG)=no father present	18568	0.02	0	1
v58D1_SEGmiss	Father's Occupation Category (SEG)=missing	18568	0.22	0	1
v58D2_paed1	Age father left ft education=SLA only	18568	0.55	0	1
v58D2_paed2	Age father left ft education=SLA+1	18568	0.02	0	1
v58D2_paed3	Age father left ft education=SLA+2	18568	0.05	0	1
v58D2_paed4	Age father left ft education=SLA+3 or more	18568	0.08	0	1
v58D2_paed5miss	Age father left ft education=missing	18568	0.30	0	1
v58D3_maed1	Age mother left ft education=SLA only	18568	0.65	0	1
v58D3_maed2	Agemother left ft education=SLA+1	18568	0.03	0	1
v58D3_maed3	Agemother left ft education=SLA+2	18568	0.04	0	1
v58D3_maed4	Age mother left ft education=SLA+3 or more	18568	0.05	0	1
v58D3_maed5miss	Age mother left ft education=missing	18568	0.23	0	1
v58D4_income	Parent's income at aged 16	18568	8.61	5.83	9.88
v58D6_pproom0	persons per room CM age 0	18568	1.55	1	6
v58D7_maworkp~h	Mother working before child age 5	18568	0.35	0	1
v58D8_maage	Mother's age	18568	27.46	14	48
v58D9_paage	Father's age	18568	30.57	16	78
v58D10_nsibs0	Number of sibs at birth of child	18568	2.31	1	20
v58D10_nsibs7	Number of sibs at child age 7	18568	3.11	1	14
v58D11_lm7	Lone mother at birth of child	18568	0.02	0	1
v58D12_7hards~p	financial hardship @7	18568	0.06	0	1
v58D12_11hard~p	Financial hardship @11	18568	0.08	0	1
v58D13_nopaonce	no father at least once at 0, 7, 11	18568	0.10	0	1
v58D12_16hard~p	Financial hardship @ age 16	18568	0.06	0	1

Appendix Table 1.2: Control variables, 1958 Cohort, continued

v58D4_income_m		18568	0.52	0	1
v58D6_pproom0_m		18568	0.09	0	1
v58D10_nsibs7_m		18568	0.29	0	1
v58D8_maage_m		18568	0.06	0	1
v58D9_paage_m		18568	0.10	0	1
v58D10_nsibs0_m		18568	0.23	0	1
v58D7_maworkp~m	Dummy variables to indicate missing values	18568	0.23	0	1
v58D11_lm7_m		18568	0.21	0	1
v58D12_7hards~m		18568	0.21	0	1
v58D12_11hard~m		18568	0.26	0	1
v58D12_16hard~m		18568	0.37	0	1
v58D13_nopaon~m		18568	0.32	0	1
PROXIMAL FACTORS					
v58P1_cmstayon7	Parents expect child to stay on post SLA at child age 7	18568	0.65	0	1
v58P2_mread7	Mothers read to children@7 weekly	18568	0.38	0	1
v58P3_1intere~7	Parent's interest in education at child age 7, teacher rated=low	18568	0.12	0	1
v58P3_2intere~7	Parent's interest in education at child age 7, teacher rated=medium	18568	0.32	0	1
v58P3_3intere~7	Parent's interest in education at child age 7, teacher rated=high	18568	0.29	0	1
v58P3_4intere~7	Parent's interest in education at child age 7, teacher rated=over-concerned	18568	0.02	0	1
v58P4_mabook7	Mother reads books or technical journals	18568	0.43	0	1
v58P4_pabook7	Father reads books or technical journals	18568	0.53	0	1
v58P5_1inter~11	Parent's interest in education at child age 11, teacher rated=low	18568	0.08	0	1
v58P5_2inter~11	Parent's interest in education at child age 11, teacher rated=medium	18568	0.10	0	1
v58P5_3inter~11	Parent's interest in education at child age 11, teacher rated=high	18568	0.28	0	1
v58P5_4inter~11	Parent's interest in education at child age 11, teacher rated=over-concerned	18568	0.27	0	1
v58P6_1inter~16	Parent's interest in education at child age 16, teacher rated=low	18568	0.03	0	1

Appendix Table 1.2: Control variables, 1958 Cohort, continued

v58P6_2inter~16	Parent's interest in education at child age 16, teacher rated=medium	18568	0.08	0	1
v58P6_3inter~16	Parent's interest in education at child age 16, teacher rated=high	18568	0.10	0	1
v58P6_4inter~16	Parent's interest in education at child age 16, teacher rated=over-concerned	18568	0.21	0	1
v58P1_cmstayo~m		18568	0.29	0	1
v58P2_mread7_m		18568	0.22	0	1
v58P4_mabook7_m		18568	0.23	0	1
v58P4_pabook7_m	Dummy variables to indicate missing values	18568	0.25	0	1
v58P3_5intere~m		18568	0.25	0	1
v58P5_5intere~m		18568	0.26	0	1
v58P6_5intere~m		18568	0.36	0	1
COGNITIVE DEVELOPMENT					
v58C5_speech7	Mispronounced words-test, age 7	18568	1.51	0	36
v58C12_talks2	CM talked by age2	18568	0.73	0	1
v58C13_walks18m	CM walked by 18m	18568	0.75	0	1
v58C11_bward7	CM mental backwardness@7	18568	0.11	0	1
v58C3_trating7	Teacher's rating child's progress @ age 7	18568	0.00	-1.98	2.21
v58C1_maths7	age 7 standardised maths score	18568	0.00	-2.05	1.96
v58C2_reading7	age 7 standardised reading score	18568	0.00	-3.27	0.93
v58C4_draw7	age 7 standardised draw man score	18568	0.00	-3.37	4.12
v58C6_trateor~7	oral ability teacher rating at 7	18568	2.11	0	4
v58C7_tratewo~7	world awareness teacher rating at 7	18568	1.93	0	4
v58C8_tratere~7	reading teacher rating at 7	18568	2.08	0	4
v58C9_tratecr~7	creativity teacher rating at 7	18568	1.85	0	4
v58C10_traten~7	number work teacher rating at 7	18568	1.85	0	4
v58C17_trati~11	Single index of teacher's rating child's progress @ 11	18568	0.00	-2.54	2.50
v58C14_maths11	age 11 standardised maths score	18568	0.00	-1.61	2.26
v58C15_readi~11	age 11 standardised reading score	18568	0.00	-2.54	3.02
v58C16_copying	age 11 standardised copying score	18568	0.00	-5.58	2.45
v58C18_maths16	age 16 standardised maths score	18568	0.00	-1.82	2.61
v58C19_readi~16	age 16 standardised reading score	18568	0.00	-3.57	1.37
v58C1_maths7_m	Dummy variables to indicate missing values	18568	0.20	0	1

Appendix Table 1.2: Control variables, 1958 Cohort, continued

v58C2_reading~m		18568	0.20	0	1
v58C3_trating~m		18568	0.19	0	1
v58C4_draw7_m		18568	0.21	0	1
v58C5_speech7_m		18568	0.25	0	1
v58C6_trateor~m		18568	0.19	0	1
v58C7_tratewo~m		18568	0.19	0	1
v58C8_tratere~m		18568	0.19	0	1
v58C9_tratecr~m		18568	0.19	0	1
v58C10_traten~m		18568	0.19	0	1
v58C14_maths1~m		18568	0.24	0	1
v58C15_readin~m		18568	0.24	0	1
v58C16_copyin~m		18568	0.24	0	1
v58C17_tratin~m		18568	0.24	0	1
v58C18_maths1~m		18568	0.36	0	1
v58C19_readin~m		18568	0.35	0	1
v58C11_bward7_m		18568	0.20	0	1
v58C12_talks2_m		18568	0.22	0	1
v58C13_walks~_m		18568	0.22	0	1
AFFECTIVE & BEHAVIOURAL DEVELOPMENT					
v58A1_7bsagtot	Total of all adjustment problems, all syndromes at age 7	18568	8.81	0	64
v58A6_7wets5	CM wets at night by age 5	18568	0.11	0	1
v58A5_7rutter	Behavioural problems- avg Rutter parental scale at 7	18568	0.40	0	1.05
v58A2_7behavd~f	CM behavioural difficulties @ age 7	18568	0.10	0	1
v58A7_7depress	depression over 80% BSAG score at 7	18568	0.31	0	1
v58A8_7hostile	hostility towards adults over 80% BSAG score at 7	18568	0.33	0	1
v58A9_7antiad~t	writing off adults and as' standards over 80% BSAG score at 7	18568	0.29	0	1
v58A10_11bsag~t	Bristol Soc.Adjustment @ age 11	18568	8.50	0	70
v58A14_11rutter	avg Rutter parental scale at 11	18568	0.43	0	1
v58A12_11beha~f	CM behavioural difficulties @ age 11	18568	0.02	0	1
v58A15_11depr~s	depression bsag 11	18568	1.05	0	10
v58A16_11host~e	hostility towards adults bsag 11	18568	0.90	0	19
v58A17_11anti~t	writing off adults and adult standards bsag 11	18568	1.02	0	16

Appendix Table 1.2: Control variables, 1958 Cohort, continued

v58A18_16rutter	avg Rutter parental scale at 11	18568	0.45	0	1
v58A20_16exte~l	single index of teacher's rating external behavioural problems	18568	1.21	1	3
v58A21_16inte~l	single index of teacher's rating internal behavioural problems	18568	1.23	1	3
v58A22_police	attendance in bottom 30% in 1972 and 3	18568	0.11	0	1
v58A4_7happys~l	Happy at school age 7, teacher rated	18568	0.93	0	1
v58A3_7disob	Disobedient at school age 7, teacher rated	18568	0.04	0	1
v58A11_11bull~d	Bullied at school age 11, teacher rated	18568	0.04	0	1
v58A13_11disob	Disobedient at school age 11, teacher rated	18568	0.03	0	1
v58A19_16fights	Fights at school age 16, teacher rated	18568	0.01	0	1
v58A20_16exte~m		18568	0.32	0	1
v58A21_16inte~m		18568	0.33	0	1
v58A2_7behavd~m		18568	0.19	0	1
v58A3_7disob_m		18568	0.22	0	1
v58A4_7happys~m		18568	0.22	0	1
v58A6_7wets5_m		18568	0.22	0	1
v58A1_7bsagto~m		18568	0.20	0	1
v58A10_11bsag~m	Dummy variables to indicate missing values	18568	0.24	0	1
v58A15_11depr~m		18568	0.24	0	1
v58A16_11host~m		18568	0.24	0	1
v58A17_11anti~m		18568	0.24	0	1
v58A11_11bull~m		18568	0.28	0	1
v58A12_11beha~m		18568	0.24	0	1
v58A13_11diso~m		18568	0.26	0	1
v58A22_police_m		18568	0.39	0	1
v58A19_16figh~m		18568	0.37	0	1
SCHOOL FACTORS					
v58S1_7indep	Child in independent school @ age 7	18568	0.03	0	1
v58S2_7pgpa	proportion in CM classroom with dad's ses1	18568	23.73	0	100
v58S2_7pgpb	proportion in CM classroom with dad's ses5	18568	19.35	0	100
v58S4_11pgroup	2s % of 11 yr olds suitable for	18568	26.40	0	99
v58S3_11indep	CM in independent school @11	18568	0.03	0	1

Appendix Table 1.2: Control variables, 1958 Cohort, continued

v58S6_16pgpa	% of fathers in non-manual jobs for child in school age < 16	18568	4.07	1	9
v58S5_16comp	CM in comprehensive school	18568	0.40	0	1
v58S5_16gram	CM in grammar school	18568	0.07	0	1
v58S5_16secmod	CM in secondary modern	18568	0.15	0	1
v58S5_16priv	CM in private secondary	18568	0.04	0	1
v58S6_16pgpb	% studying for GCE O level	18568	25.82	0	100
v58S6_16pgpc	% studying for CSE only	18568	28.27	0	100
v58S6_16pgpd	% remained at school after they could have left	18568	59.91	0	100
v58S6_16pgpe	% pupils expelled	18568	0.00	0	0.16
v58S5_16spec	CM in special needs edu @16	18568	0.02	0	1
v58S2_7pgpa_m		18568	0.36	0	1
v58S2_7pgpb_m		18568	0.36	0	1
v58S4_11pgrou~m		18568	0.27	0	1
v58S6_16pgpa_m		18568	0.41	0	1
v58S6_16pgpb_m		18568	0.35	0	1
v58S6_16pgpc_m	Dummy variables to indicate missing values	18568	0.35	0	1
v58S6_16pgpd_m		18568	0.36	0	1
v58S6_16pgpe_m		18568	0.35	0	1
v58S1_7indep_m		18568	0.19	0	1
v58S3_11indep_m		18568	0.23	0	1
v58S5_16type_m		18568	0.31	0	1

Appendix Table 1.3: Control variables, 1970 Cohort

Var name	Label	N	M	Min	Max
<i>DISTAL FACTORS</i>					
v70D1_SEG1	Father's Occupation Category (SEG)=I	19122	0.0	0	1
v70D1_SEG2	Father's Occupation Category (SEG)=II	19122	0.1	0	1
v70D1_SEG3n	Father's Occupation Category (SEG)=III non-manual	19122	0.1	0	1
v70D1_SEG3m	Father's Occupation Category (SEG)=III manual	19122	0.4	0	1
v70D1_SEG4	Father's Occupation Category (SEG)=IV	19122	0.1	0	1
v70D1_SEG5	Father's Occupation Category (SEG)=V	19122	0.1	0	1
v70D1_SEGnopa	Father's Occupation Category (SEG)=no father present	19122	0.0	0	1
v70D1_SEGmiss	Father's Occupation Category (SEG)=missing	19122	0.1	0	1
v70D2_paednone	Father's highest qualifications=None	18616	0.3	0	1
v70D2_paedO_V	Father's highest qualifications=O'Level or equivalent vocational	18616	0.3	0	1
v70D2_paedA	Father's highest qualifications=A'Level or equivalent vocational	18616	0.1	0	1
v70D2_paedD	Father's highest qualifications=Degree	18616	0.1	0	1
v70D2_paedmiss	Father's highest qualifications=missing	18616	0.3	0	1
v70D3_maedO_V	Mother's highest qualifications=None	18616	0.3	0	1
v70D3_maedA	Mother's highest qualifications=O'Level or equivalent vocational	18616	0.1	0	1
v70D3_maedD	Mother's highest qualifications=A'Level or equivalent vocational	18616	0.0	0	1
v70D3_maedmiss	Mother's highest qualifications=Degree	18616	0.3	0	1
v70D3_maednone	Mother's highest qualifications=missing	18616	0.4	0	1
v70D4_income	Parent's income at child age 16	19122	7.1	5.69	8.30
v70D6_pproom	persons per room ratio	19122	1.2	1	6
v70D7_mworks0	Mother works at birth of child	19122	0.6	0	1
v70D7_mworks5	Mother works at child age 5	19122	0.3	0	1
v70D8_maage0	Mother's age	19122	26.0	14	53
v70D9_paage5	Father's age	19122	29.0	14	72
v70D10_nsibs0	Number of sibs at birth of child	18616	1.2	0	17
v70D10_nsibs5	Number of sibs at child age 5	18616	1.7	0	17.52
v70D11_lm0	Lone mother at birth of child	18616	0.0	0	1
v70D4_income_m		19122	0.6	0	1
v70D6_pproom_m	Dummy variables to indicate missing values	19122	0.3	0	1
v70D8_maage0_m		19122	0.1	0	1

Appendix Table 1.3: Control variables, 1970 Cohort, continued

v70D9_paaage5_m		19122	0.4	0	1
v70D7_mworks0_m		19122	0.2	0	1
v70D7_mworks5_m		19122	0.3	0	1
PROXIMAL FACTORS					
v70P1_1spprobm	Mother over-concerned about child, teacher-rating, child age 10	18616	0.0	0	1
v70P1_2spprobm	Mother hostile to child, teacher-rating, child age 10	18616	0.0	0	1
v70P1_3spprobm	Mother dismissive to child, teacher-rating, child age 10	18616	0.0	0	1
v70P2_1spprobp	Father over-concerned about child, teacher-rating, child age 10	18616	0.0	0	1
v70P2_2spprobp	Father hostile to child, teacher-rating, child age 10	18616	0.0	0	1
v70P2_3spprobp	Father dismissive to child, teacher-rating, child age 10	18616	0.0	0	1
v70P5_mamal5	Mother's depression rating (Malaise Score index, self-report)	19122	0.2	0	7.64
v70P3_anttv	Mother's attitude to TV-watching, child age 10	19122	0.0	-1.14	1.75
v70P4_unauth	Unauthoritarian parenting style, mother-survey questions, child age 10	19122	0.0	-2.34	2.69
v70P3_anttv_m		19122	0.5	0	1
v70P4_unauth_m	Dummy variables to indicate missing values	19122	0.5	0	1
v70P5_mamal5_m		19122	0.5	0	1
COGNITIVE DEVELOPMENT					
v70C11_16maths	Age 16 maths score	19300	36.8	0	60
v70C1_5copy	Age 5 copying score	19122	58.6	0	100
v70C2_5reads	Age 5 reading score	19122	40.8	0	100
v70C3_5hfd1	Age 5 Human Figure Drawing Score 1	19122	45.8	0	100
v70C4_5hfd2	Age 5 Human Figure Drawing Score 2	19122	44.8	0	100
v70C5_5profile	Age 5 profile drawing score	19122	41.0	0	100
v70C6_5vocab	Age 5 vocabulary score	19122	57.4	0	100
v70C7_10maths	Age 10 maths score	19122	0.0	-3.4	2.2
v70C8_10reading	Age 10 reading score	19122	0.0	-2.9	1.9
v70C9_10bas	Age 10 British Ability Scales	19122	0.0	-3.8	3.4
v70C10_10plt	Age 10 Picture Language test	19122	50.3	0.0	100.0
v70C1_5copy_m		19122	0.3	0	1
v70C2_5reads_m		19122	0.4	0	1
v70C3_5hfd1_m	Dummy variables to indicate missing values	19122	0.3	0	1
v70C4_5hfd2_m		19122	0.3	0	1
v70C5_5profil~m		19122	0.3	0	1

Appendix Table 1.3: Control variables, 1970 Cohort, continued

v70C6_5vocab_m		19122	0.3	0	1
v70C7_10maths_m		19122	0.4	0	1
v70C8_10readi~m		19122	0.3	0	1
v70C9_10bas_m		19122	0.3	0	1
v70C10_10plt_m		19122	0.3	0	1
v70C11_16math~m		19122	0.8	0	1
AFFECTIVE & BEHAVIOURAL DEVELOPMENT					
v70A14_10exte~r	Age 10 teacher-rated externalising behaviour	19122	21.7	0	100
v70A15_10inte~r	Age 10 teacher-rated internalising behaviour	19122	28.1	0	100
v70A17_10truant	Age 10 truanting	19122	0.0	0	1
v70A4_10loc	Age 10 Locus of control (education-based)	19122	0.0	-2.64	2.72
v70A5_10esteem	Age 10 self-esteem score (self-report)	19122	0.0	-2.93	1.87
v70A6_10asoc	Age 10, teacher-rated conduct disorder	19122	0.0	-1.51	4.39
v70A7_10peer	Age 10 teacher-rated peer-relations score	19122	0.0	-3.45	2.02
v70A8_10att	Age 10 teacher-rated attentiveness score	19122	0.0	-2.93	1.78
v70A9_10ext	Age 10 teacher-rated extraversion score	19122	0.0	-3.07	2.11
v70A10_10comm	Age 10 teacher-rated communications score	19122	0.0	-3.21	2.27
v70A11_10anx	Age 10 teacher-rated anxiety score	19122	0.0	-2.04	3.75
v70A12_10clum	Age 10 teacher-rated clumsiness score	19122	0.0	-1.45	5.44
v70A13_10hyper	Age 10 teacher-rated hyperactivity score	19122	0.0	-1.55	4.28
v70A3_5wets	Child soils self, age 5	19122	0.0	0	1
v70A1_5ext	Age 5 mother-rated externalising behaviour	19122	0.0	-1.36	5.27
v70A2_5int	Age 5 mother-rated internalising behaviour	19122	0.0	-1.28	4.43
v70A16_10wets	Child soils self, age 10	19122	0.0	0	1
v70A1_5ext_m		19122	0.2	0	1
v70A2_5int_m		19122	0.2	0	1
v70A4_10loc_m		19122	0.3	0	1
v70A5_10este~_m		19122	0.3	0	1
v70A6_10asoc_m	Dummy variables to indicate missing values	19122	0.3	0	1
v70A7_10peer_m		19122	0.3	0	1
v70A8_10att_m		19122	0.3	0	1
v70A9_10ext_m		19122	0.3	0	1
v70A10_10comm_m		19122	0.3	0	1

Appendix Table 1.3: Control variables, 1970 Cohort, continued

v70A11_10anx_m		19122	0.3	0	1
v70A12_10clum_m		19122	0.3	0	1
v70A13_10hype~m		19122	0.3	0	1
v70A14_10exte~m		19122	0.3	0	1
v70A15_10inte~m		19122	0.3	0	1
v70A3_5wets_m		19122	0.5	0	1
v70A16_10wets_m		19122	0.2	0	1
v70A17_10trua~m		19122	0.3	0	1
SCHOOL FACTORS					
v70S2_10remed~g	Age 10 receipt of Remedial Reading Help	19122	3.5	0	35
v70S2_10remed~s	Age 10 receipt of Number Remedial Maths Help	19122	1.9	0	35
v70S1_10priv	Independent school, age 10	19122	0.0	0	1
v70S3_10spg1	% of children in class with fathers in high skill occupational groups	18616	14.5	0	100
v70S3_10spg2	% of children in class with high academic achievement	18616	7.3	0	100
v70S3_10spg3	% of children in class with fathers in lowh skill occupational groups	18616	33.1	0	100
v70S3_10spg4	% of children in class with fathers with low academic achievement	18616	7.2	0	100
v70S2_10rem~g_m		19122	0.4	0	1
v70S2_10rem~s_m	Dummy variables to indicate missing values	19122	0.4	0	1
v70S1_10priv_m		19122	0.3	0	1