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Abstract

In this paper we provide evidence on how the UK government's welfare reforms since 1998 have affected the material well-being of children in low-income families. We examine changes in expenditure patterns and ownership of durable goods for low- and higher-income families between the pre-reform period (1995-1998) and the post-reform period (2000-2003), using data from the Family Expenditure Survey. The methodological approach is a difference-in-difference-in-difference analysis that exploits the fact that age variation in the reforms favoured low-income families over higher-income ones and families with children age under 11 over those with older children. We find that low-income families with children are catching up to more affluent families, in their expenditures and their possession of durable goods. Moreover, expenditures on child-related items are increasing faster than expenditures on other items.

Editorial Note:

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INTRODUCTION

Since the Labour government came into office in 1997, there has been a raft of reforms to UK labour market and welfare policies, with a particularly important set coming into effect between late 1998 and early 2000. Many of these reforms were designed to affect mothers' labour market status and child poverty. These include the National Minimum Wage (introduced in April 1999), Child and Working Families Tax Credits (starting in October 1999 and expanded thereafter), National Childcare Strategy (including substantial increases in childcare subsidies in October 1999), improved maternity and family leave provision (starting in 1999), and New Deals for Lone Parents and Partners of the Unemployed (welfare-to-work programs, started in some areas in October 1997 and extended nationwide in 1998). There have also been benefit increases for families with children, whether or not parents are in work, with particularly large increases for low-income families with children age 10 and under (in October 1998, April 1999, October 1999, and April 2000). The rapid pace of reform means that there have been sharp increases in household income among poor families with children, whose incomes have risen faster than incomes on average. As a result, the number of children in poverty, in both absolute and relative terms, has started to fall.

What have these changes in income meant for the material well-being of children in low-income families? How are these welfare payments being spent? Are children in low-income families starting to catch up to children in higher-income families? In this paper, we provide new evidence on this question, examining changes in expenditure patterns and ownership of durable goods for low- and higher-income families. The data used come from the Family Expenditure Survey (and its successor from 2001-02, the Expenditure and Food Survey), the UK's largest and most detailed source of expenditure data. Because many of the reforms we consider are concentrated in the period from late 1998 to early 2000, we pool data

from April 1995 to March 1998 to represent the pre-reform period, and we use data from April 2000 to March 2003 (the three most recent survey years) for the post-reform period.

Our overall aim is to determine to what extent low-income families with children are catching up to their more affluent peers, in terms of patterns of household consumption and ownership of goods. We pay particular attention to spending on items used or consumed by children (such as children's clothing and footwear) or likely to promote their learning and development (toys, books, games, computers, etc). Prior research shows low-income families lagging behind others in their spending on these items; we would like to know whether, as incomes rise, low-income families increase their spending and narrow the gaps.

The methodological approach is a difference-in-difference-in-difference analysis. We begin by making comparisons between these estimates for families with children who are more or less likely to be affected by the reforms (this constitutes a high intensity to low intensity treatment difference-in-difference). Specifically, we divide families by the age of their children, taking advantage of the fact that low-income families with children age 10 and under have seen far larger benefit increases. However, some goods are purchased with greater frequency according to the age of children within the family. To take account of any differential variations in prices and tastes for such goods we make comparisons with spending shifts for higher income groups with similar aged children (giving the difference-in-difference-in-difference estimator). The aim of this approach is to assess how the specific age related benefits are being spent. In addition we wish to ask whether low-income families with young children are catching-up with higher-income counterparts.

We also examine how measures of material deprivation move as incomes rise. Specifically, we look at the share of low-income families owning durable goods such as a car, telephone, washing machine, tumble dryer, or computer. Understanding how these measures of material deprivation move is important if we are to draw inferences about children's actual

living conditions. What low income means for children's well-being will depend in part on whether families with low incomes nevertheless possess similar material goods, or whether they are lacking items possessed by more affluent families.¹

To briefly preview our results, we see a marked shift in spending by low-income families with children towards items with especially large deficits pre-reform, in particular motoring, clothing and leisure goods and services. There is a marked convergence with more affluent families, in expenditures patterns and possession of durable goods. Moreover, expenditures on child-related items are increasing faster than expenditures on other items. When trying to isolate where the age-related payments are being spent (netting off universal benefit increases and the impact of improved work incentives common to families with children of all ages) we find clear evidence of increased spending on motoring, food, housing and clothing but, if anything, decreased spending on alcohol and tobacco. On specific items we find markedly increased spending on children's footwear and clothing, books, and fruit and vegetables, relative to low-income families with older children. Patterns of ownership of durable goods such as cars and telephones by low-income families with children are also tending to converge to those of more affluent families, although there are also areas where low-income families are not catching up, most markedly in the ownership of computers.

So the overall picture that emerges is one of low-income families seeing rising material circumstances and spending the extra money in a way that is likely to improve children's material well-being and that narrows the gap between low-income children and

¹ Considering measures of material deprivation is also of policy relevance in light of the UK government's decision to include an indicator of consistent poverty, akin to the Irish measure, in its new official poverty measurement. The new Family Resources Survey, will identify families who would like to have but can not afford the following items for their children: a holiday away from home at least once a year; swimming at least once a month; a hobby or leisure activity; friends round for tea or snack once a fortnight; a separate bedroom for each child over age 10 of different sex; leisure equipment (such as a bicycle); celebrations on special occasions (such as birthdays); playgroup or nursery at least once a week for preschoolers; and school trips at least once a term for school-age children. See Department for Work and Pensions (2003a) for details.

their more affluent peers. This must be extremely reassuring to UK policy makers and campaigners arguing for resources to tackle child poverty.

BACKGROUND

When the Labour government of Prime Minister Tony Blair and Chancellor Gordon Brown came into office in 1997, poverty and “worklessness” had reached record high levels in the UK. Over the twenty years prior to 1997, children had replaced the elderly as the group with the highest poverty rate in the UK. Indeed, the poorest fifth of children in 1996-97 were in households with real incomes no different in absolute terms than the incomes for the poorest fifth of children in 1979 (Gregg, Harkness, and Machin, 1999, Dickens and Ellwood, 2003). These adverse trends in poverty were related to the increase in “workless” households – households where no adult had a job. In 1996, just prior to when the Labour government came into office, 20 percent of families with children were living in workless households, up from only 7 percent in the mid-1970s (Gregg, Hansen, and Wadsworth, 1999)

A number of studies have highlighted the material deprivation experienced by Britain’s poor (see, most recently, Gordon et al., 2000) and the hardships that poor children face (Middleton et al., 1997; Shropshire and Middleton, 1999). Gregg, Harkness, and Machin (1999) documented how the poorest families with children fell further behind other families from 1968 to 1995-96 in spending on children’s clothing, shoes, toys and fresh fruit and vegetables, even though low-income families spend proportionately more of their income on these goods, forgoing spending on other items.

Since coming into office in 1997, the Labour government has introduced extensive reforms to welfare and labour market policies, and the real incomes of low-income families with children have risen sharply. Analyses by Sefton and Sutherland (2004) show that the gains have been heavily focused on the bottom three deciles, with the change for the poorest decile representing an increase in income of close to 25% in real terms.

The Labour government's agenda to reduce poverty and improve the life chances of low-income families with children has the overall theme of "work for those who can, security for those who cannot" (Department for Social Security 1998), and includes three main elements: measures designed to promote paid work and "make work pay"; measures to "end child poverty within a generation", including benefit increases for families where parents are not working; and investments in children, aimed at reducing disadvantage and "social exclusion" (a term that goes beyond poverty to incorporate social dimensions of disadvantage and also long-term and intergenerational poverty). These reforms have been described in detail elsewhere (see especially Hills and Stewart, 2005; Hills and Waldfogel, 2004).² We draw on those reviews in the following sections to briefly describe each of these elements and the evidence to date as to the impact of the reforms on family incomes and poverty.

Figure 1 provides a chronology of the reforms.³ For the purposes of our study, the crucial feature of this timeline is that the major changes in means-tested benefits (such as Family Credit, Income Support, and tax credits) and the universal Child Benefit all occurred in a window between October 1998 and April 2000. There are no major payment changes between April 1995 and March 1998, our pre-reform period, and all the major changes were in place by April 2000, the beginning of our post-reform period.⁴ Another key feature is the targeting of the reforms to young children in low-income families. While all families with children benefited from universal reforms, additional reforms were targeted on low-income families with young children.

Promotion of paid work and "making work pay"

This aspect of the UK reform package has much in common with US welfare reform (Hills and Waldfogel, 2004). However, the UK's welfare to work reform for lone parents,

² See also Brewer and Gregg, 2003; Hills, 2004; Waldfogel, 2004; Walker and Wiseman, 2003a and b.

³ Appendix 1 provides full details of the benefit rates in real terms and the structures throughout this period.

⁴ The UK reforms have continued since April 2000, but the major benefit increases occurred prior to that date; A second round of major reforms often described as the New Tax Credits came into force on April 2003, after the end of our post-reform period

the New Deal, is a voluntary program, in which lone parents receiving means-tested Income Support must attend job-focused meetings but are not required to take up training or work.

To help “make work pay”, the Labour government brought in the UK’s first National Minimum Wage in April 1999.⁵ At the same time, various reforms to income tax and National Insurance Contributions reduced the tax burden on the low paid and their employers. Additionally, the government introduced a new tax credit, the Working Families Tax Credit (WFTC), in October 1999 for couples with children or single parents who worked 16 or more hours per week (with higher benefits if they worked 30 or more hours).⁶ The UK tax credits are somewhat similar to the US Earned Income Tax Credit (EITC), but, unlike the EITC, are paid regularly through the year. The WFTC, mimicking the structure of the pre-existing scheme, consisted of a family element and per child elements, which were set higher for older children. The withdrawal rate of WFTC was much slower than the previous scheme providing additional help further up the income distribution. However, from introduction the age variation in the per child element, in favour of older children, was progressively eliminated. Hence extra resources were focused on working families with younger children. There was also the introduction of a tax credit for all taxpayers with children except those with the highest incomes, doubled in the first year of a child’s life.,and a number of NI and tax reforms which reduced taxes/contributions for low wage workers and their employers.

Improved cash assistance for low-income families and other tax-benefit reforms

The Labour government also introduced a series of tax credit and benefit changes aimed at reducing child poverty, including: significant real increases in the value of the universal child allowance, Child Benefit; substantial increases in the generosity of in-work tax credits for low-income working families with children under age 11; and substantial

⁵ In the UK, the minimum wage is equivalent to 45 per cent of median hourly full-time earnings, compared to only 34 per cent of the median in the US (Low Pay Commission, 2003, table A5.2).

⁶ This was split into a Working Tax Credit and an integrated Child Tax Credit, which includes all means-tested support for children, in April 2003.

increases in allowances for children under age 11 in non-working families receiving Income Support.⁷ As with WFTC this evened out levels of support for children, ending the system of higher payments for older children. As noted earlier (and shown in Figure 1), most of these changes were concentrated in the period from late 1998 to early 2000, and the largest sums in cash terms were targeted on low-income families with young children, a crucial design feature which we exploit later. Low-income families with older children received only small welfare increases, through the rise in the universal Child Benefit increases and perhaps also the later withdrawal of tax credits if they earned enough.

Benefit levels are high by US standards. Families with no adult working now receive benefits equivalent to about 70-80 per cent of the poverty line, while lone-parent families with at least one adult working part-time receive benefits sufficient to bring their income up to at least 110-130 per cent of the poverty line (Hills and Waldfogel, 2004). The reforms and increasing generosity of the system have led to a substantial increase in the numbers receiving in-work tax credits. As of 2002-03, the WFTC was received by twice as many families as the in-work cash benefit it replaced.⁸ By early 2003, some 1 ¼ million families were in receipt of Income Support and a further 1.3 million in receipt of WFTC. This represented approximately one third of families with children and predominantly the poorest third (some families not taking up welfare payments can also be very poor).

Taken together, these tax and benefit changes represent a very substantial investment in low-income children and families. In real terms, the cost of benefits, tax credits, and tax allowances related to children rose from £14 billion in 1997-98 to £19 billion in 2002-03 (at

⁷ After the period we examine, in April 2003, all of the various benefits and tax credits for children (apart from Child Benefit) were combined into a single fully refundable Child Tax Credit.

⁸ The April 2003 reforms further increased the numbers receiving assistance, and the system became more generous again in real terms in April 2004. We should also note that the treatment of child support has been reformed and maternity allowances for mothers who worked prior to the birth have been extended to more mothers and made more generous. The government has also introduced a system of Child Trust Funds (popularly known as “baby bonds”) for all children born since September 2002. These funds will receive an initial endowment (more for those from poorer families) and will build up through matched savings to produce an asset to be accessed on reaching adulthood.

2003 prices; Adam and Brewer, 2004, figure 3.1), an increase equivalent to nearly 0.5% of GDP (Hills and Sutherland, 2004).⁹ The Institute of Fiscal Studies micro-simulation estimation suggests that on average single parent families gained £30.77 per week, no earner couples £42.55, single earner couples £22.51 and two earner couples £7.52 when compared to a base of benefits just rising in line with prices (Brewer, Clark and Wakefield, 2002).¹⁰ Crucially for our purposes here welfare payments for the workless and very low earning families rose by £9 a week faster for a child aged 1 to 11 than for one aged 11 to 15. For a child in its first year of life this extra payment was doubled.

Other investments in children

The reforms also includes many measures to reduce disadvantage and combat social exclusion. Although we can not discuss them in detail here, we note that “early years” programs that deliver child care or other services for pre-school age children have been particularly emphasized (HM Treasury, 2001; 2002). Part-time universal preschool provision is now in place for all 3 and 4-year olds.¹¹ Additional spending on education, which rose from 4.5 to 5.1 per cent of GDP between 1999-00 and 2002-3 (and is budgeted to reach 5.6 per cent of GDP in 2005-6) has reduced class sizes in the primary grades and provided support for other reforms. Taken together, spending on these child-related programs was expected to approach 0.3% of GDP by 2004 (Hills and Waldfogel, 2004). Thus, expenditures in this area, while less than in tax credit and benefit increases, were still substantial.

The impact of the reforms on caseloads, employment, incomes, and poverty

The number of single parents claiming Income Support fell from 1 million in 1997 to

⁹ Spending on children is projected to rise to £23 billion by 2004-05, which would represent an increase equivalent to 0.8% of GDP (Hills and Sutherland, 2004).

¹⁰ A second wave of reforms occurred in April 2003 and 2004, beyond our study period here, pulling together all child related welfare, tax credits and tax allowances. This second tranche also increased the generosity of support and meant that it is withdrawn less rapidly at low incomes.

¹¹ Funding for Sure Start, childcare, and other early education programs was budgeted to double between 2002-2003 and 2005-2006, and is set to increase further as part of the government’s Ten Year Childcare Strategy, announced in December 2004 (HM Treasury, 2004).

837,000 in 2003, a 17 percent reduction (Department of Work and Pensions, 2003b). Over roughly the same time period, single mother employment rose by 10 percentage points (Hills and Waldfogel, 2004). Gregg and Harkness (2003) analysed the increase in single mother employment that occurred between 1998 and 2002 and found that around 5 percentage points of this was due to the policy reforms. It is likely that the expansions in tax credits played a particularly important role (Brewer et al., 2005).

With regard to incomes and poverty, although it is still too early to measure the full impact of the measures described above, some preliminary evidence is available. Poverty rates (defined in relative terms, as is customary in the UK) fell by one to two percentage points for all households, and by four percentage points for families with children, between 1997-98 and 2002-03 (Department for Work and Pensions, 2004, tables H1 and H2). These reductions, while welcome, were not as large as might have been expected given the scope of the reforms (Hills and Waldfogel, 2004).

It is important to note that the UK uses a relative, rather than absolute poverty line. Using a relative poverty line means that if incomes are rising elsewhere in the income distribution, the poor will fall further behind. So in part, the projected poverty falls have not been met because of rapid rises in average incomes in the period; thus, even generous benefit increases may just enable them to hold the line. If we look at poverty in the U.K. using an absolute poverty line (as is used in the U.S.), we see a very substantial reduction in poverty: the number of children in poverty, if defined by income below 50 per cent of 1996-97 real mean income, fell by 1.6 million, or 12 per cent of all children, from 1997-98 to 2002-03 (Department for Work and Pensions, 2004, p. 65).

Prior research on how changes in income affect changes in expenditures on children

As we have seen,,low-income families with children have seen substantial income gains since Labour came into office, and surveys of low-income families suggest that they have

experienced important declines in financial hardship (Vegeris and Perry, 2003). Yet, we know surprisingly little about what these income gains and declines in hardship have meant in terms of children's material well-being. As incomes have risen for the lowest-income families with children, are these families purchasing more goods that contribute to children's well-being? Do the families' priorities shift away from bare necessities and if so are the children better-off? Are they starting to catch up to children in more affluent families?

Prior research sheds little light on these kinds of questions, because few studies have been able to look at how increases in income affect changes in expenditures or consumption. Most prior studies have compared the expenditures of low-income vs. higher-income families at a point in time, or over a period of time when low-income families have been losing ground. Gregg, Harkness, and Machin (1999) examine family expenditure patterns over the 1968 to 1995-96 period, using FES data and dividing families into fifths of the income distribution, and show that low-income families spend less overall, and fewer pounds on child-related items such as children's clothing, shoes, and toys as well as fresh fruit and vegetables than more affluent families. Moreover, these expenditure gaps between the lowest-income and more affluent families with children grew over the period, as spending on children in higher-income families grew while holding constant or rising just slightly in lower-income families. There is also a recent study by Blow, Walker and Zhu (2004) investigating the extent to which expenditure patterns are affected by the receipt of Child Benefit. They find that over a period of time when Child Benefit values were falling, low-income families reduced their spending on alcohol. However, this finding pertains only to married-couple families, and is further limited because they exclude families receiving means-tested benefits.

Fewer studies have looked at expenditures when income is increasing. In a study of child benefit reforms in the 1970s, Lundberg, Pollak, and Wales (1997) found that shifting

benefits from the man's wallet to the woman's purse led to increases in expenditures on both women's and children's clothing.¹² There is also suggestive evidence from South Africa, where families benefiting from the pension system increased their spending on children's items (Case and Deaton, 1998). More recently, a qualitative study of 37 low-income UK families who had moved from benefits to work between 2000 and 2001 found that as incomes rose, families' expenditures changed in a number of ways (e.g., more money spent on food, resulting in higher quantity and quality of food purchased, and more money spent on clothing) (Farrell and O'Connor, 2003). There is also a recent study of consumption patterns of single mothers following the US welfare reforms, which finds that their material well-being did not decline and in many cases improved slightly (Meyer and Sullivan, 2001).

In recent work (Gregg, Waldfogel, and Washbrook, 2005), we took a first step toward assessing how family expenditures change as incomes increase in the UK, by showing summary information on changes in families' expenditures from 1996-97 (pre-reform) to 2000-01 (post-reform). We considered the amount that families spent on essential items such as food and clothing, the share of their income devoted to these items, and the ownership of durable items. We found evidence across a number of expenditure categories and durable items that low-income families' spending was converging to that of higher-income families.

In this paper, we extend the analysis by more formally testing the links between the policy reforms of the Labour government and changes in family expenditures. As detailed below, we use a difference-in-difference-in-difference approach to compare the changes in expenditures for families most affected by the reforms to changes in expenditures for families not affected (or less affected) by the reforms. Hence, we can test formally whether the differences observed were greater for the families most affected by the policy reforms.

¹² The reforms in our period temporarily shifted benefits in the opposite direction for a small number of families who had previously received Family Credit paid to the mother but now receive in-work benefits through the man's paycheck. Future reforms will shift benefits back toward the mother, in a larger number of cases. We do not examine this aspect of the reforms here but intend to do so in future work.

Furthermore, by extending the period of comparison in the analysis we can assess the robustness of the evidence for shifting expenditure patterns around the reforms.

Data

Our data prior to 2001-2002 come from the UK Family Expenditure Survey (FES), a continuous survey of household expenditure and income, in existence since 1957. Starting in 2001-2002 the FES was merged with the National Food Survey to form the combined Expenditure and Food Survey (EFS).¹³ Annual samples of around 7,000 households provide information about household and personal incomes and certain payments that recur regularly (such as rent, gas, electricity and telephone bills) and also maintain a detailed expenditure record for 14 consecutive days.

In order to maximise the precision of our results, we pool three years of data to construct each of the before- and after-policy reform samples. As detailed above, the main welfare reform changes occurred between October 1998 and April 2000, hence we pool data from April 1995 to March 1998 to capture expenditure patterns prior to the reforms and data from April 2000 to March 2003 to capture patterns post-reform.

We restrict our samples by excluding households with no children under age 16, households in which the head or spouse is over retirement age or in full time education and also households in which the main source of household income is recorded as self-employment income.¹⁴ Consumption patterns in these households are likely to differ substantially from those of households of child-bearing age, which is our population of interest and, for students and the self-employed, the relationship between income and

¹³ The definitions of the majority of variables used in this study remained unchanged following the switch from the FES to EFS in 2001-02. The exceptions are the specific items of expenditure we discuss such as children's, women's and men's clothing, toys, books, etc. The changes to these variables were minor and supplementary analyses that exclude the final two years of EFS data indicate that our results are not substantially affected by these changes. A table on the changes in definitions is available from the authors upon request.

¹⁴ Throughout the term spouse refers to cohabitees as well as married partners. Note that in the UK, youth age 16 and up are not usually referred to as children. We follow that convention here and so include only families with children under age 16 in our sample of families with children. Note also that the unit of observation in the FES is the household. We use the term family and household interchangeably.

expenditure is notoriously noisy. This selection results in sample sizes of 5,565 households for 1995-98 (made up of 1,913, 1,826 and 1,826 households in each of the three years respectively) and 5,729 households for 2000-03 (1,782, 2,108 and 1,839 in each year).

Throughout our analysis, we distinguish between households in the bottom third of the income distribution of all households with children, and those in the top two-thirds of the distribution. Our construction of these income groups gives us confidence that we have separated those most affected by the reforms (the low-income group) from those least affected (the high-income group), while still leaving samples large enough to be analyzed. With increases in the universal Child Benefit and changes to tax and National Insurance, all families will be affected by the reforms to some degree, but among the highest income families the net effects are on average small. A potential concern with using income to identify treatment and control groups is that the benefit changes may have moved some families from the bottom third to the higher income group. For this reason, we check the demographic composition of our sample and run alternative specifications including demographic controls.¹⁵

The measure of household income used to define the income groups is normal weekly disposable household income, that is, gross income from all sources net of National Insurance contributions, income tax and council tax payments. Housing Benefit payments are included in our measure of income (and housing expenditure) regardless of whether they are paid directly to the household or to the landlord. To take account of differences in household size and composition we deflate the income and expenditure figures for each household by the relevant modified Organization for Economic Cooperation and Development (OECD) equivalence scale rate to give its equivalent for a childless couple (i.e., this scale assigns a weight of 0.67 to the first adult, 0.33 to all other persons in the household aged 14 and over,

¹⁵ We also estimated some alternative models dividing families by educational level rather than income. However, this division is crude as half of all families fall into the lower education group (adults who left school at age 16) so those results are not particularly helpful.

and 0.20 to children under 14; hence a couple without children has a scale rating of 1).¹⁶ The month in which the household is sampled can vary between January and December, and so to take account of within-year inflation, all income and expenditure figures are expressed in terms of the same price level (the All Items Retail Price Index for September 2003). The boundary between the low- and high-income groups is defined separately for each year as the 33rd percentile of real equivalised disposable household income in the sample for that year. The upper bound to the low income groups defined on this measure of real equivalised household income are £204, £201 and £209 per week respectively for the years 1995-98 and £239, £259 and £264 per week for the years 2000-03.

The FES groups spending on individual items into a large number of categories which are then further grouped into 14 broad categories of goods and services. To simplify our analysis we combine a number of these broad categories and comment on nine broad types of expenditure.¹⁷ Weekly household expenditure on each of the broad groups is equivalised in the same way as disposable income and expressed in September 2003 prices.

We also present results relating to a number of more narrowly defined goods and services that can be assigned to individual members of the household, or that are particularly relevant for child well-being. The analysis of separate expenditures on children's, women's and men's clothing gives us the rare opportunity to see how spending on a broad category of goods is distributed between different household members. For these expenditures, we do not equivalise using the modified OECD scale but rather by the number of household members of each type (i.e. children under 16, female over 15 and male over 15). Expenditure on toys, hobbies and games (including computer games) is similarly deflated by the number of children in the household. Other narrow groups of expenditure that we examine are books,

¹⁶ We use the modified OECD scale because it is the one now used in official UK and European Union (EU) statistics and will be used in monitoring future progress towards eradicating child poverty.

¹⁷ Specifically, we group housing with fuel, light and power; alcoholic drink with tobacco; household goods with household services; leisure goods with leisure services; and motoring with fares and other travel costs. Food, clothing and footwear, personal goods and services and miscellaneous expenditure stand alone.

newspapers, magazines and periodicals (these may be adult or child items, but we assume that in either case there will be some benefit to children of more reading material in the home); fruit and vegetables; and holidays (these three categories are equivalised in the standard way). As before we express expenditures in terms of the September 2003 All Items RPI. Deflating expenditures on all items by a single price index ignores changes in relative prices, but the difference-in-difference methodology means that spending changes induced by relative price movements will be netted out of our final estimates.

In addition to examining family spending patterns, we also explore the ownership of consumer durables that make an important contribution to quality of life but that are purchased infrequently and will not show up in weekly expenditure data. We document the proportion of households possessing a range of nine items such as a car or van, telephone, washing machine, and computer.

Methodology

The FES/EFS data allow us to track expenditures of similar types of families over time and to document how expenditures have changed over time. Thus, we can easily track, for instance, the growth in expenditures for families with children since Labour came into office in 1997. This raw rise in expenditures is given by a simple first difference, which can be defined in one of two ways:

$$\text{Levels method : } \Delta_{lowik} = \overline{x_{lowik}^{post}} - \overline{x_{lowik}^{pre}}$$

$$\text{Percentage method: } \Delta_{lowik} = \frac{\overline{x_{lowik}^{post}} - \overline{x_{lowik}^{pre}}}{\overline{x_{lowik}^{pre}}}$$

where $\overline{x_{lowik}^{pre}}$ is the mean real equivalised expenditure on good k by low income households of type i in the pre-reform period and $\overline{x_{lowik}^{post}}$ is mean expenditure on good k by low income households of type i in the post-reform period. Hence under the Levels method, Δ_{lowik} gives

the absolute change in mean expenditures in £ per week, while under the Percentage method, Δ_{lowik} gives the percentage change in mean expenditures.

There are two questions we wish to address with the data. The first relates to what low- income households spend their money on when incomes rise, the second to whether this leads to a convergence in spending with similar families who are less income constrained. We ask whether the increasing incomes among the poor lead to shifts in spending patterns that are more (or less) focused on child-related goods than among more affluent families. The second and perhaps more substantial question regards the specific effects of welfare reforms on consumption patterns. We cannot infer that the simple changes in spending reflect only the impact of policy-induced income increases after 1997-98. Other sources of changing incomes and changes in tastes or relative prices could have led to changing spending patterns even in the absence of any welfare reforms. To control for these differences we can exploit the specific nature of the reforms introduced under Labour during the 1998 to 2000 period. Among low-income families, those with younger children saw larger benefit increases than those with a youngest child age 11 or more. This variation in the impact of welfare reform by child age means that we can use the relative changes for low-income households with a youngest child age 11 to 15 as a base against which to compare the relative expenditure changes for low-income households with younger children. Hence we compare similar low-income populations, one with high intensity treatment and one with low intensity treatment. To do this we calculate the difference-in-difference (DD) estimate:

$$\Delta_{ik}^2 = \Delta_{low0-10ik} - \Delta_{low1-15ik}$$

Where $\Delta_{low0-10ik}$ can be calculated by either of the Levels or Percentage methods above and $\Delta_{low1-15ik}$ is the equivalent estimate for spending on good k by low-income households of type i with children aged 11-15. The D-in-D estimate thus tells us whether spending rose more quickly for low-income households with younger children, who attracted the larger age-

of-child-related benefit increases, than for the low-income households with older children who were less affected by the reforms. A positive estimate of Δ_{ik}^2 indicates a greater increase in spending on the good among high treatment households relative to low treatment ones and thus can be an estimate of the effects of the different intensity of treatment rather than other confounding factors. Here though it is assumed that the variation in consumption patterns by age of children is not changing over this period.

This assumption may not be valid as we may still be concerned that expenditures might have been changing differentially according to ages of children within families, perhaps as a result of differential price movements among goods which are differentially purchased according to the age of child (e.g. baby related goods). To control for this we can compare changes in spending patterns between higher income families with older and younger children. Both of these groups were affected by the reforms in the same way, due to the modest increases in universal welfare and tax payments. This provides the ‘triple difference’ or D-in-D-in-D estimate for low-income households with a youngest child aged 0 to 10:

$$\Delta_k^3 = \Delta_{lowk}^2 - \Delta_{highk}^2$$

It should be noted that in the classic triple difference methodology, the base D-in-D estimate is calculated on a group similar to the group of interest, but which did not receive the policy ‘treatment’. In our case, households with a youngest child age 11 or over did receive some treatment in that they benefitted from welfare reforms, but to a far lesser extent than those with younger children. Hence we are removing some of the expenditure change in the D-in-D-in-D estimate – in effect it tells us the effects of welfare reform for those with young children *over and above* the effects for those with older children. Hence, we are also netting out the effects of employment increases resulting from the emphasis on “making work pay” which were common to all families. However, by this process we are netting out the impact

of general improvements in the labour market on incomes and spending of low-income families and are thus more closely honing in on the differential impact of the welfare reforms.

The difference estimates outlined above can be calculated directly from the data. However, in order to provide standard errors for our estimates, which allow us to test their significance, we use a linear regression framework. This approach also allows for the inclusion of demographic controls. For each type of good k we estimate the following equation by OLS:

$$x_k = \mathbf{b}_0 + \mathbf{b}_1 low_Y + \mathbf{b}_2 post + \mathbf{b}_3 ch010 + \mathbf{b}_4 low_Y * post + \mathbf{b}_5 low_Y * ch010 + \mathbf{b}_6 ch010 * post + \mathbf{b}_7 low_Y * ch010 * post + e_k$$

Where x_k is expenditure on good k by an individual household; low_Y is a dummy equal to 1 if the household is in the low income group; $post$ is a dummy equal to 1 if the observation is from the 2001-03 period; $ch010$ is a dummy equal to 1 if the household has a child under 11 and e_k is a random error term. The above regression is estimated on all the households with children in our sample.

It is straightforward to show that the difference quantities outlined above are equivalent to various combinations of coefficients from the regression. So

Level method:

$$\Delta_{low0-10k} \equiv \mathbf{b}_2 + \mathbf{b}_4 + \mathbf{b}_6 + \mathbf{b}_7$$

$$\Delta_{lowk}^2 \equiv \mathbf{b}_2 + \mathbf{b}_4$$

$$\Delta_k^3 \equiv \mathbf{b}_7$$

Percentage method:

$$\Delta_{low0-10k} \equiv \frac{\mathbf{b}_2 + \mathbf{b}_4 + \mathbf{b}_6 + \mathbf{b}_7}{\mathbf{b}_0 + \mathbf{b}_1 + \mathbf{b}_3 + \mathbf{b}_5}$$

$$\Delta_{lowk}^2 \equiv \frac{\mathbf{b}_2 + \mathbf{b}_4 + \mathbf{b}_6 + \mathbf{b}_7}{\mathbf{b}_0 + \mathbf{b}_1 + \mathbf{b}_3 + \mathbf{b}_5} - \frac{\mathbf{b}_2 + \mathbf{b}_4}{\mathbf{b}_0 + \mathbf{b}_1}$$

$$\Delta_k^3 \equiv \frac{b_2 + b_4 + b_6 + b_7}{b_0 + b_1 + b_3 + b_5} - \frac{b_2 + b_4}{b_0 + b_1} - \frac{b_2 + b_6}{b_0 + b_3} + \frac{b_2}{b_0}$$

Point estimates, standard errors and t-statistics can be calculated for each combination of coefficients using the ‘delta’ method, an approximation appropriate in large samples. This allows us to test whether the desired estimate is significantly different from zero. We use Huber/White/sandwich estimates of the standard errors as this method allows for arbitrary heteroscedasticity in the data. Given that the variability of expenditures is likely to increase with household income, this method is a more appropriate way to conduct inference than via the usual OLS standard errors.

As a robustness check we repeat the analysis with three alternative specifications. First, we include basic demographic controls in the regression described above. This is designed to make sure that the demographic make-up of our low-income population is not shifting over the period. Second, we focus on alternative high and low treatment groupings among families with younger children. Specifically, we focus on families with one or two children under age 11 vs those with three or more children under age 11. This captures the per child elements in welfare payments which favour larger families. Third, we repeat the second robustness check but including demographic controls. For brevity we do not report the results from all these specifications but rather note how they compare to our main results.

RESULTS

Changes in total expenditures

Table 1 summarizes changes in real equivalised total expenditures in pounds per week over the 1995-98 to 2000-03 period for low- and higher-income households with children.¹⁸

The top panel of the table shows that mean expenditures rose by about 17% of their pre-reform baseline for low-income families with younger children, compared to a rise of just 5%

¹⁸ We focus on means, rather than medians, because some expenditures even within these broad categories may be lumpy or sporadic and averaging over a number of households will give a more accurate picture than concentrating on only a single household at the median position.

for low-income families with children aged 11-15, giving a simple D-in-D estimate a 12 percentage point faster rise in total expenditures among our high treatment group.¹⁹

As noted earlier, although benefit changes were directed to lower-income groups, earnings were rising rapidly in the population as a whole and so high-income families with young children were seeing incomes rise almost as rapidly as their low-income counterparts. But across the age divide used here, the D-in-D estimate for more affluent families actually favors the higher-income families with older children.

The D-in-D estimates – of £22 a week extra spending for low-income families with younger children as a result of the benefit reforms -- are large in financial terms and strongly significant. On an annualised basis this additional gain in levels is worth around £1150. The D-in-D-in-D estimates point to a significant £34 pounds per week ($p < .05$) increase above the spending changes of lower-income families with older children compared to their higher income equivalents. Taken together, these results suggest that the age variation in the impact of the welfare and tax credit reforms translates through to expenditures and that the D-in-D and D-in-D-in-D methodologies will enable us to detect expenditure variations due to the policy reforms.

Patterns of expenditure

Having established that low-income families with young children did experience relatively large expenditure increases over our period, we now turn to patterns of expenditures. Figure 2 summarizes the patterns of spending of lower- and higher-income families with children in our initial pre-reform period. The clear picture is that lower-income households spend far less on household goods and services, leisure goods and services and especially motoring and travel and spend a far larger percentage of their income on housing and heating and on food. They also spend a slightly higher share of their incomes on alcohol

¹⁹ Similar calculations using disposable household income, rather than expenditure (not shown but available on request), show an increase in average incomes of around £10 per week (or around 7 percentage points) more for low-income families with younger children than for those with older children.

and tobacco. However, it is hard from such cross-section data to say what would happen to spending patterns if these families had more or fewer resources. Higher-income households spend differently but it does not follow that giving poor households more resources would lead to the same patterns of spending. There is no way to ascertain whether these households would behave altruistically toward their children if given greater resources. It may be that they have different tastes or priorities.

Table 2 summarizes the first of our results for the 9 major categories of goods and services recorded in the FES, covering all household expenditures. The table shows simple differences in means and percentage differences in means over the 1995-98 to 2000-03 periods for low-income families with children under age 11, as well as D-in-D and D-in-D-in-D estimates for the level and percentage differences in means. Our (high) treatment group is low-income families with a youngest child age 0 to 10. Our comparison groups are first low income groups with children aged 11-15 and then in the triple difference the same comparison is made with richer families. Thus, the D-in-D-in-D estimates are the difference between the D-in-D for low-income families with children age 0 to 10 and 11-15 and the D-in-D for high-income families with children in the same age groupings.

Table 2, for total expenditures, simply recapitulates the results from Table 1 and shows the strong expenditure gains for low-income families with children age 0 to 10, in both levels and percentage terms. What categories account for this overall increase in expenditures? A simple representation of how lower-income families with children altered their spending patterns can be seen in level and percentage terms in columns 1 and 4 (entitled 1st D). The figures in these columns show where extra real resources have been spent by low-income families with younger children over this period, combined with any shifts due to changes in preferences or relative prices. These families are raising money expenditures on all items except alcohol and tobacco, where spending falls by just over a pound a week, but

the increases in housing and personal goods and services are not significant. The largest money and percentage increases in spending are on clothing, household goods, leisure goods and most dramatically motoring and travel. Hence it seems that the extra resources are being spent very differently from initial pre-reform spending patterns. One question that can be answered simply at this stage is whether low-income families most affected by the reforms are catching up in spending with higher income families with children of the same age. Despite the rapid percentage growth in spending, lower income families' total expenditure grew by less in pounds per week (bottom of column 7). Despite this, expenditures on two categories actually saw convergence in pounds per week: food, and clothing and footwear. However, in terms of percentage increases (column 8) we see much larger increases in motoring and travel, clothing, leisure goods and services, and there is also a modestly faster rise in food spending. At first brush this suggests that these spending areas are the key priorities among poorer families who receive extra resources. However, these trends may have occurred anyway and may not reflect the specific effects of policy reform.

The D-in-D estimates presented in columns 2 (money changes) and 5 (percentage changes) allow us to compare expenditure changes for low income groups according to whether they received the large age related benefit increases over this period. This higher treatment for families with younger compared to older children gives a sense of whether these shifts in spending are general to all low income families or only where benefit increases have been focused. Whether we look at the changes in money values or the percentage changes, the D-in-D estimates are significant for three categories. Low-income families with children under 11 significantly increased their relative spending on housing, food, and especially motoring and travel. The only relative spending decline came for alcohol and tobacco but the shift is not significant. Thus, low-income groups who received large age related increases in benefits and tax credits spent these extra resources on motoring, food and housing.

As these are D-in-D estimates, common shifts in tastes and relative prices that impact on both the low-income families with younger and older children are netted out. But so far we have not conditioned out changes in tastes or price shifts to which households with younger (or older) children are particularly sensitive. Furthermore there could have been shifts in parental employment or earnings more focused on those with younger or older children (such as the long term trend for mothers with younger children to enter the labour market sooner). However, as shown in Table 1 the percentage increases in expenditures among high-income families were reasonably similar across the two age of child groupings.

To adjust for these concerns we go a stage further and net off similar shifts that have happened to more affluent families. These families received some universal benefit increases, however, they did not receive the large increases in welfare payments focused on low-income families. Our triple difference estimates focus in on welfare reforms that raised the generosity of welfare payments and tax credits focused on poorer families with children under 11 and net off the effects of other income sources for low income families in general and any age of child related shifts in expenditure.

The D-in-D-in-D estimates (columns 3 and 6) show a broadly consistent pattern of shifting spending patterns. Looking at the increases in percentage terms, we find significantly positive D-in-D-in-D estimates for five of the categories, with faster increases in housing (13 percentage points), food (9 percentage points), clothing and footwear (28 percentage points), leisure goods and services (34 percentage points), and motoring and travel (a massive 44 percentage points, but from a very low base). The D-in-D-in-D estimates are negative, and statistically significant, in both levels and percentages for alcohol and tobacco. The evidence is striking that the extra spending by low-income families eligible for more direct financial support from the government than other low-income families (compared to equivalent high-

income groups) suggests a clear focus on housing, food, clothing and footwear, leisure, and motoring. There is also a clear switch away from alcohol and tobacco.

A possible concern is that the income cut-offs we use to separate our populations lead to instability in the characteristics of populations defined as low income across the two periods. In Table 3 we report means for populations groups for a range of demographic characteristics. The low income third of families with children sees little change in the characteristics reported except for a marked decline in the share of lone parents. Because our expenditure measures are equivalised for family size and hence will have a bigger impact on lone parent family expenditures, there is a concern that this compositional shift may affect our results. One way of addressing this is to include controls for family demographic characteristics in our regressions. These results (available from the authors on request) are broadly unchanged, with very similar coefficient magnitudes.²⁰

Changes in expenditures on children's items

We are particularly interested in items that are used by children or that potentially relate to children's health and development. Accordingly, we next examine detailed expenditure patterns on specific items such as children's clothing and footwear, toys, books, games, etc. We also examine families' expenditures on adult clothing and footwear, to see whether low-income families prioritise spending on children or whether, as incomes rise, parents who may have been constrained in spending on their own clothing start to catch up.

The expenditure patterns shown in Figure 3 indicate that low-income families with children age 0 to 10 were allocating their expenditures differently pre-reform from more affluent families with children the same age. For instance, the low-income families were

²⁰ The inclusion of the control variables has the effect of raising the standard errors on our estimates of interest, and hence we lose some significance, most notably in the areas of alcohol and tobacco and leisure goods. The only area where the addition of controls has a substantial impact is in spending on housing, where the coefficients halve in magnitude. As a further robustness check, we also estimated alternative specifications taking advantage of variation by family size within families with children under age 11. Again, coefficient magnitudes were roughly comparable, with the exception of results for alcohol and tobacco.

spending a higher share of their budgets on children's clothing and footwear, and a lesser share on adults' clothing and footwear and especially holidays.

Table 4 repeats the exercise shown in Table 2 for the narrow items of expenditure of interest. It indicates that low-income families significantly increased their spending on most items over the period, and that for children's and women's clothing, toys and books the rate of increase was substantially higher than for their more affluent counterparts. Looking at Columns 1 and 4 we see that although the sums involved in the increased spending are small, they represent substantial percentage increases, particularly in the areas of holidays and toys and games which see 60-70% rises in spending, from very low initial levels. These large growth rates represent much faster increases than for higher income families with younger children, with the exception of fruit and vegetables. But in cash terms absolute spending gaps on holidays and fruit and vegetables widened between rich and poor families with young children. However, spending gaps on books and newspapers and children's clothes narrowed.

Making the comparison between the high intensity treatment for families with young children and those with older children suggests the only differential changes are for increased spending on fruit and vegetables and books, magazines and newspapers. The triple difference netting out changes that might be happening to relative prices of goods used differentially between young and older children suggests that spending on children's clothing has also increased more markedly for the high treatment group. So, the only items where low-income families with a youngest child age 0 to 10 significantly increased their spending in D-in-D-in-D terms are children's clothing and footwear (D-in-D-in-Ds of 3 pounds in levels, and 38 percentage points), fruit and vegetables (D-in-D-in-Ds of under 1 pound in levels, and 17 percentage points), books, newspapers, and magazines (an insignificant 50p D-in-D-in-D in pounds but a significant gain of 22 percentage points), and holidays (a 6 pound D-in-D-in-D in levels, but no significant gain in percentage terms).

Once again we may wish to make sure that compositional shifts are not driving these results. Introducing controls into the regression leaves all magnitudes and significance measures unaffected except for fruit and vegetables where magnitudes are reduced by a third and lose statistical significance.²¹

These results suggest that as incomes were increasing for low-income families with children, these gains were being spent on child-related items, in particular clothing and footwear, books, and holidays. This result is consistent with evidence from qualitative interviews, in which low-income parents report prioritizing spending on children (Farrell and O'Connor, 2003). Increases in incomes among other families are not necessarily spent with the same emphasis on children. At the same time, while low-income families with young children were increasing spending on adult clothing, this was common to families with older children who were not getting large increases in financial support for children. This latter result is striking given the evidence in Figure 3 that these families were lagging in their purchases of adult goods pre-reform.

Changes in possession of durable goods

As families' incomes rise, they may also be more likely to possess durable goods such as a car or van, telephone, computer, and so on. We consider a broad set of goods: a car or van; telephone; washing machine; freezer; microwave; tumble dryer; computer; video cassette recorder; and CD player. Some of these goods may make a direct contribution to a child's health and development, while others may make an indirect contribution by helping the family connect with employment or leisure activities or by reducing parental stress and isolation. The spread of some of these goods within society will reflect falling relative prices rather than changing incomes.

²¹ We also estimated models within the sample of families with children under age 11, taking advantage of variation by family size. In this comparison, we found significant D-in-D-in-D increases in children's clothing and footwear and toys, but not in books.

Figure 4 shows the gaps that existed in ownership of our broad set of durable goods pre-reform. Low-income families with children age 0 to 10 were substantially less likely to own a car or computer than were higher-income families with children in the same age range. Gaps also existed in the ownership of consumer goods such as a telephone, microwave, or CD player.

In Table 5, we show in column 3 that there were sharp increases in ownership of all these goods among low-income families with young children, our full treatment group. There was again extensive catch-up when compared to higher income families with the same age children (column 6), especially for car ownership and the presence of a telephone, microwave and CD player in the home, but this may reflect general price movements. When comparing to low-income groups with older children (D-in-D) there is evidence of substantial catch-up only for phone access (which includes mobile phones). Thus, many of these items were also increasingly found in low-income households with older children but there are small but insignificant gains for all goods except tumble dryers. The D-in-D-in-D shows that car ownership and having a telephone saw faster increases in low-income families with young children compared to those with older ones relative to higher-income households. These results indicate a good deal of catch-up over the period in the ownership of durables by low-income families with young children. However, this seems broadly common to all low-income families rather than just those receiving large benefit increases. The introduction of controls into these regressions results in no substantive changes in results except that the D-in-D estimate for car ownership is now statistically significant.²²

Thus, the results for durable goods are mixed. Low-income families with a youngest child age 0 to 10 significantly increased their ownership of each of the items shown in the table. For two of the items – a car or a van, and a telephone – their increased ownership

²² Estimating models for families with children under age 11, taking advantage of variation by family size, suggests catch up in telephone ownership compared to higher-income counterparts but no significant D-in-D-in-D increases in telephone or car ownership.

significantly outpaced that of other groups. For other goods there has been a general improvement among low-income households. The main exception is that low-income families, if anything, lost ground in computer ownership, because although low-income families increased their ownership of computers, their gains were dwarfed by even larger gains by higher-income families (although the D-in-D-in-D is not significant). Given the rapid rise in the use of computers in UK schools and the emphasis being placed on information technology as a core subject in primary schools, the continued lower rates of computer ownership among low-income families with young children are worrisome.

CONCLUSIONS

The Labour government that came into office in 1997 inherited a legacy of rising child poverty and income inequality. Led by Prime Minister Tony Blair and Chancellor Gordon Brown, the new government made tackling child poverty and improving the life chances of children a priority, increasing spending on children by close to 1% of GDP and implementing a wide range of reforms that continue to the present day.

Prior research has documented that the reforms brought about by the Labour government since 1997 have translated into sizeable income gains for low-income families with children. These gains have been sufficient to substantially reduce levels of child poverty in absolute terms and have also made headway in reducing child poverty in relative terms. However, prior research has been mostly silent on the question of what the money has been spent on and in isolating the impact of benefit increases from other income gains such as earnings.

Our analysis provides new evidence that the reforms have helped children in the lowest-income families catch up to children in higher-income families, in terms of both family expenditures on items used by children as well as family ownership of durable goods that most middle-class families now own. We find children in low-income families catching

up in terms of their families' spending in the overall areas of housing and utilities, food, clothing, leisure goods and services, and motoring and travel. The evidence also suggests reduced spending on alcohol and tobacco, perhaps because of an increase in other opportunities for leisure. Moreover, when we look in detail within these broad spending categories, we find gains for low-income children in spending on specific items such as children's clothing and footwear, fruit and vegetables, and books. Low-income families with children are also catching up in terms of ownership of durable goods, in particular, a car or van, and a telephone, both items increasingly essential for employment and social relations. What do these changes in expenditures and ownership of durables mean in terms of family hardship and child well-being? The overall pattern of our results suggests that low-income families with children should be experiencing less hardship and improved well-being, and this is indeed what the recent Families and Children Survey (FACS) found. Analyses of cross-sections of low-income families in 1999, 2000, and 2001 indicated that as family incomes rose, there were substantial drops in hardship (as measured by items such as problems with heat or accommodation, money worries, or shortfalls in food, clothing, consumer durables, or leisure items), leading the authors to conclude that "families are using their extra finances to improve living conditions for their children" (Vergeris and Perry, 2003, p. 140).

How important are these gains in income, and reductions in hardship, for children living in low-income families? Although parents try hard to protect their children from the effects of low-income and hardship, even young children are aware of their parents' financial situation and the constraints that it places on their families (Middleton et al., 1997; Shropshire and Middleton, 1999). And, many of the items that money can buy – items such as books, or toys -- matter for child health and development (Burgess et al., 2004; Duncan and Brooks-Gunn, 1997). As incomes rise and those constraints are eased, and parents are able to

purchase more items for their children, we would expect to see some improvements in child health and development. How large those improvements are, and in what areas of health and development, is a topic we hope to tackle in further research. We would also like to carry out this type of analysis for the US, where welfare reforms have also led to increases in employment and income for low-income families, but where the effects on expenditures and the material well-being of children and families have been little studied (Blank, 2002). One point of difference between the US and UK is that in the UK, the reforms were explicitly labelled as being about children, while in the US, the focus was more squarely on moving single parents from welfare to work. The explicit child focus in the UK may have been a factor in producing the child-oriented shifts in expenditures.

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Figure 1 – Chronology of main UK reforms

July 1995

- **Family credit:** 30 hours credit introduced

April 1996

- Amount to be offset for **childcare** increased from £40 to £60

October 1997

- **Child Benefit** rates for first child equalised for lone parents with that of couples for new claims, existing lone parent claims were frozen in nominal terms.

1997-1998

- **New Deal for Lone Parents** launched in 8 pilot areas and then extended nationally from April 1998.

Oct 1998

- Age 0-10 child rates in **Family Credit** raised by £2.50 in real terms.

April 1999

- **Income Support** rates for children aged 0-10 raised by £2.50 in real terms
- **Child Benefit** first child rate increased by £2.80 per week in real terms
- **National minimum wage** introduced

Oct 1999

- **Working Families Tax Credit** introduced, age 0-10 child rates raised by nearly £5 in real terms. Adult credit raised by £2 per week, earnings allowance before credits withdrawn raised by £10 in real terms and taper rate cut from 70% to 55% of after tax earnings. 70% of **childcare** costs up to limit of £70 for one child and £105 for two or more children can be added to credits
- First **Sure Start** programs get underway.

April 2000

- **WFTC and Income Support** rates for all children under 11 raised by around £6 per week in real terms so as to eliminate differential with rates for those aged 11-16.

April 2001

- Roll-out of **Work Focused Interviews** to enhance effectiveness of NDLP:
- WFTC and Income Support rise in line with prices

April 2002

- WFTC and Income Support rise in line with prices

Note: There were also increases in the real value of WFTC in June 2000 and 2001. See Appendix 1 for details.

Figure 2

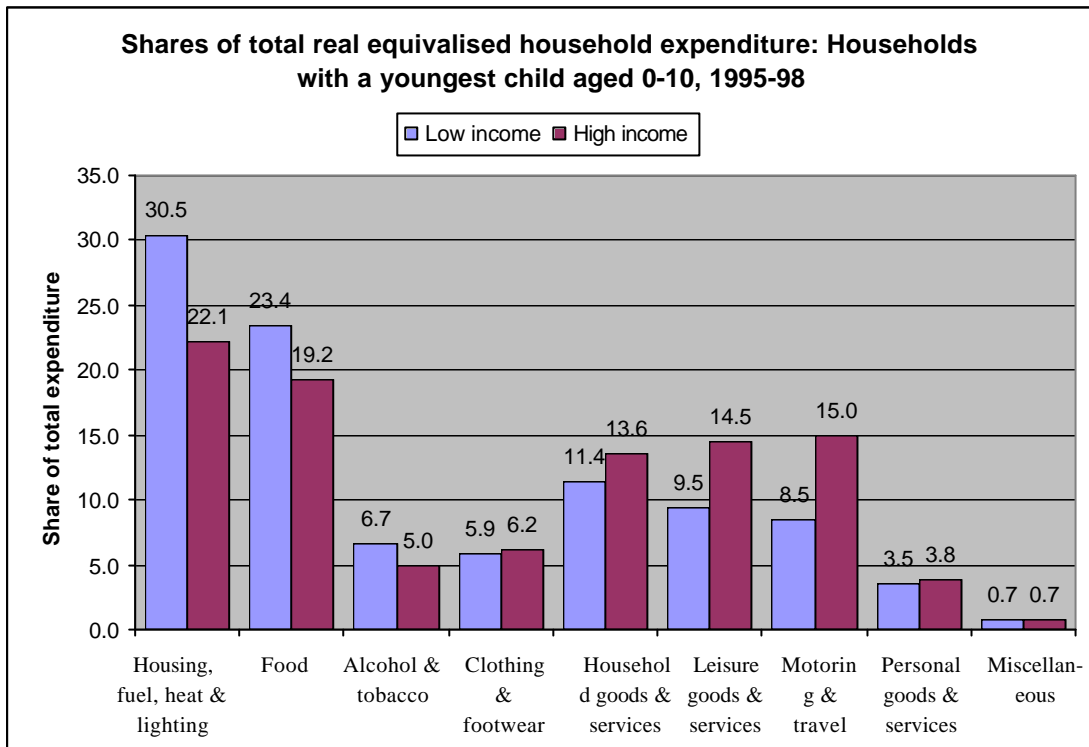


Figure 3

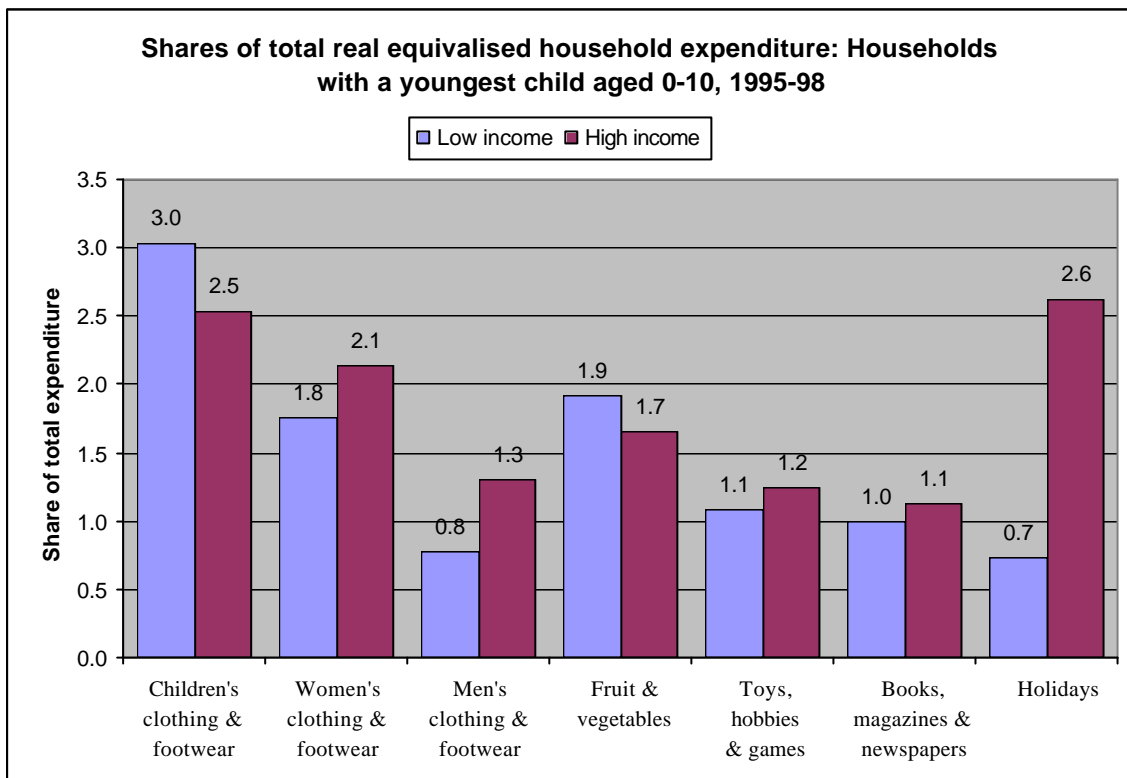


Figure 4

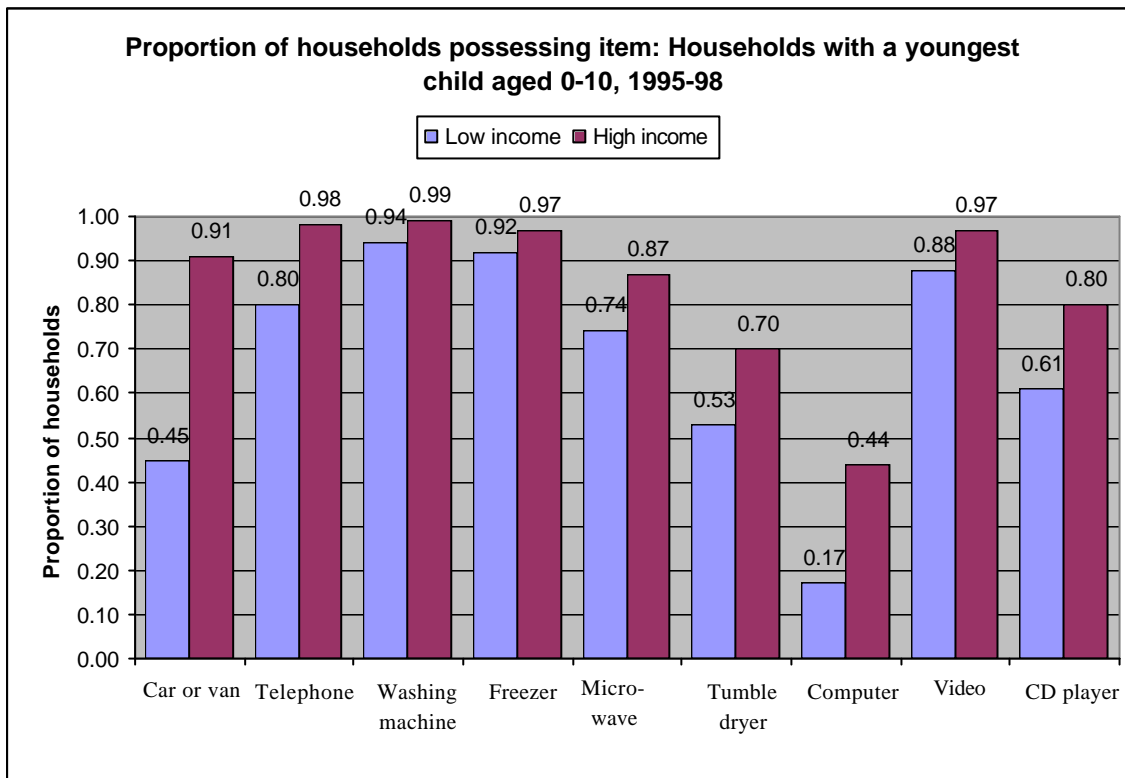


Table 1: Changes in total expenditure over time, by income group and age of child

	Total equivalised household expenditure (Sept 2003 prices)			
	Mean 1995-98	Mean 2000-03	Level difference in mean (in £)	% change in mean
<u>Low-income</u>				
Youngest child 0-10	194.3	227.7	33.4 ***	17.2 ***
Youngest child 11-15	223.0	234.0	11.0	4.9
<i>D-in-D</i>			22.4 **	12.2 ***
<u>Higher-income</u>				
Youngest child 0-10	375.0	420.9	45.9 ***	12.2 ***
Youngest child 11-15	377.5	435.4	57.9 ***	15.4 ***
<i>D-in-D</i>			-12.0	-3.2
<u>D-in-D-in-D</u>			34.5 **	15.4 ***

Table 2: Results for broad categories of expenditure

Treated group = low-income households with a youngest child 0 - 10
 Less-treated group = low-income households with a youngest child age 11-15
 Comparison group = higher-income households

	Level differences in mean (£ per week)			Percentage differences in mean (percentage points)			'Catch-up' with higher-income counterparts	
	1 st D	D-in-D	D-in-D-in-D	1 st D	D-in-D	D-in-D-in-D	£ per week	% points
Housing, fuel, heat & lighting	1.56 <i>1.15</i>	4.85 * <i>2.53</i>	7.09 * <i>3.74</i>	2.80 <i>2.09</i>	9.10* <i>4.64</i>	13.39** <i>6.33</i>	-0.80 <i>1.85</i>	-0.25 <i>2.83</i>
Food	2.60*** <i>0.71</i>	4.35 ** <i>1.86</i>	4.02 * <i>2.38</i>	5.98 *** <i>1.67</i>	9.32** <i>3.64</i>	8.77 ** <i>4.20</i>	1.96** <i>1.00</i>	4.99** <i>1.98</i>
Alcohol & tobacco	-1.11** <i>0.50</i>	-1.68 <i>1.23</i>	-2.85* <i>1.60</i>	-8.78 ** <i>3.78</i>	-13.07 <i>9.42</i>	-18.16 * <i>10.70</i>	-0.46 <i>0.68</i>	-4.90 <i>4.66</i>
Clothing & footwear	3.58*** <i>0.74</i>	1.72 <i>2.08</i>	4.86 * <i>2.74</i>	28.33 *** <i>6.57</i>	17.83 <i>13.36</i>	28.41 * <i>15.12</i>	2.21 * <i>1.13</i>	22.66*** <i>7.50</i>
Household goods & services	6.64*** <i>1.16</i>	2.36 <i>2.13</i>	3.62 <i>4.60</i>	28.05 *** <i>5.46</i>	9.61 <i>10.05</i>	16.52 <i>13.54</i>	-4.59* <i>2.67</i>	8.00 <i>7.29</i>
Leisure goods & services	9.72*** <i>1.25</i>	1.29 <i>4.11</i>	12.61 * <i>7.49</i>	49.49 *** <i>7.18</i>	20.51 <i>17.00</i>	34.21 * <i>19.99</i>	-8.33*** <i>2.67</i>	19.01** <i>8.42</i>
Motoring & travel	10.25*** <i>1.20</i>	8.76 *** <i>3.12</i>	4.86 <i>5.00</i>	56.65 *** <i>7.81</i>	50.88*** <i>13.98</i>	43.59*** <i>15.60</i>	-2.19 <i>2.31</i>	35.65*** <i>8.62</i>
Personal goods & services	0.52 <i>0.33</i>	0.11 <i>1.03</i>	1.32 <i>1.81</i>	7.44 <i>4.88</i>	1.73 <i>14.54</i>	9.21 <i>18.13</i>	-0.49 <i>0.61</i>	0.27 <i>6.13</i>
Miscellaneous	-0.41*** <i>0.14</i>	0.61 * <i>0.34</i>	-1.08* <i>0.57</i>	-28.70 *** <i>8.11</i>	19.08 <i>12.49</i>	-12.52 <i>14.87</i>	0.19 <i>0.22</i>	-5.96 <i>9.64</i>
Total	33.36*** <i>3.60</i>	22.37 ** <i>9.62</i>	34.45** <i>16.19</i>	17.16 *** <i>1.96</i>	12.24*** <i>4.56</i>	15.36*** <i>5.82</i>	-12.51 * <i>7.02</i>	4.93* <i>2.59</i>

(Robust) standard errors in italics

***, ** and * indicate significance at the .01, .05 and .10 levels respectively

Expenditure levels equalised and expressed in Sept. 2003 prices

1st D = First difference/percentage change over time for treated group

D-in-D = [1st D for treated group] – [1st D for less-treated group]

D-in-D-in-D = [D-in-D for low-income households] – [D-in-D for higher-income households]

Catch-up = [1st D for low-income treated group] – [1st D for higher-income treated group]

Table 3: Composition of sample: Households with children

Proportion of sample with following characteristics (standard deviations in brackets):

	Low-income		Higher-income	
	1995-1998	2000-03	1995-1998	2000-03
N	1856	1910	3709	3819
Youngest child < 11	0.84 (0.37)	0.81 (0.39)	0.75 (0.43)	0.75 (0.43)
Mean number of children	2.0 (1.1)	2.0 (1.0)	1.7 (0.7)	1.7 (0.8)
Lone parent household	0.51 (0.50)	0.47 (0.50)	0.11 (0.32)	0.16 (0.37)
Neither head nor spouse (if present) works	0.41 (0.49)	0.42 (0.49)	0.04 (0.20)	0.03 (0.17)
80% + household income from benefits	0.56 (0.50)	0.50 (0.50)	0.03 (0.18)	0.02 (0.15)
Low education	0.75 (0.43)	0.68 (0.47)	0.42 (0.49)	0.38 (0.48)
Medium education	0.18 (0.38)	0.22 (0.41)	0.29 (0.45)	0.30 (0.46)
High education	0.08 (0.27)	0.11 (0.31)	0.29 (0.45)	0.32 (0.47)

Table 4: Results for specific items of expenditure

Treated group = low-income households with a youngest child 0 - 10
 Less-treated group = low-income households with a youngest child age 11-15
 Comparison group = higher-income households

	Level differences in mean (£ per week)			Percentage differences in mean (percentage points)			'Catch-up' with higher- income counterparts	
	1 st D	D-in-D	D-in-D-in-D	1 st D	D-in-D	D-in-D-in-D	£ per week	% points
Children's clothing & footwear	0.92*** <i>0.27</i>	0.74 <i>1.18</i>	2.79* <i>1.50</i>	21.00*** <i>6.81</i>	18.86 <i>15.73</i>	37.75** <i>18.45</i>	0.87** <i>0.40</i>	20.33** <i>7.86</i>
Women's clothing & footwear	2.53*** <i>0.54</i>	-0.33 <i>1.60</i>	1.55 <i>2.17</i>	49.62*** <i>12.68</i>	15.16 <i>24.20</i>	22.73 <i>26.50</i>	0.58 <i>0.84</i>	33.21** <i>13.93</i>
Men's clothing & footwear	1.52** <i>0.76</i>	-1.78 <i>2.09</i>	-1.43 <i>2.51</i>	32.82* <i>18.72</i>	-17.73 <i>41.11</i>	-17.06 <i>43.28</i>	0.95 <i>1.01</i>	25.81 <i>20.51</i>
Fruit & Vegetables	0.21* <i>0.11</i>	0.82*** <i>0.31</i>	0.70* <i>0.39</i>	6.05* <i>3.29</i>	19.61*** <i>6.80</i>	17.09** <i>7.99</i>	-0.36** <i>0.16</i>	-4.04 <i>3.94</i>
Toys (inc. computer games)	1.05*** <i>0.24</i>	-0.37 <i>0.62</i>	0.10 <i>0.96</i>	63.80*** <i>17.98</i>	-39.94 <i>56.95</i>	-21.06 <i>62.36</i>	0.10 <i>0.38</i>	40.68** <i>19.69</i>
Books, magazines & newspapers	0.21** <i>0.09</i>	0.44* <i>0.25</i>	0.54 <i>0.36</i>	11.15** <i>5.14</i>	18.76** <i>8.99</i>	21.80** <i>10.67</i>	0.50*** <i>0.16</i>	18.34*** <i>6.04</i>
Holidays	1.29*** <i>0.40</i>	-0.56 <i>1.34</i>	5.78** <i>2.44</i>	71.50** <i>27.91</i>	12.74 <i>57.13</i>	61.86 <i>60.99</i>	-2.22** <i>0.91</i>	39.96 <i>29.15</i>

(Robust) standard errors in italics

***, ** and * indicate significance at the .01, .05 and .10 levels respectively

Expenditure levels equalised and expressed in Sept. 2003 prices

1st D = First difference/percentage change over time for treated group

D-in-D = [1st D for treated group] - [1st D for less-treated group]

D-in-D-in-D = [D-in-D for low-income households] - [D-in-D for higher-income households]

Catch-up = [1st D for low-income treated group] - [1st D for higher-income treated group]

Table 5: Results for Durable items

Treated group = low-income households with a youngest child 0 - 10
 Less-treated group = low-income households with a youngest child age 11-15
 Comparison group = higher-income households

	Mean 1995-8	Mean 2000-3	Level differences in proportion possessing good			'Catch-up' with higher- income counterparts
			1 st D	D-in-D	D-in-D-in-D	
Car or van	0.45	0.57	0.12*** <i>0.02</i>	0.06 <i>0.04</i>	0.09 ** <i>0.05</i>	0.11*** <i>0.02</i>
Telephone (any type)	0.80	0.96	0.15*** <i>0.01</i>	0.05 ** <i>0.2</i>	0.05 ** <i>0.03</i>	0.14*** <i>0.01</i>
Washing machine	0.94	0.97	0.03*** <i>0.01</i>	0.01 <i>0.02</i>	0.01 <i>0.02</i>	0.03*** <i>0.01</i>
Freezer	0.92	0.97	0.05*** <i>0.01</i>	0.02 <i>0.02</i>	0.01 <i>0.02</i>	0.03*** <i>0.01</i>
Microwave	0.74	0.89	0.15*** <i>0.01</i>	0.03 <i>0.03</i>	0.00 <i>0.04</i>	0.08*** <i>0.02</i>
Tumble dryer	0.53	0.58	0.05** <i>0.02</i>	-0.01 <i>0.04</i>	0.02 <i>0.05</i>	0.03 <i>0.02</i>
Computer	0.17	0.44	0.27*** <i>0.02</i>	0.01 <i>0.05</i>	-0.04 <i>0.05</i>	-0.03 <i>0.02</i>
Video	0.88	0.94	0.05*** <i>0.01</i>	0.01 <i>0.02</i>	0.02 <i>0.02</i>	0.04*** <i>0.01</i>
CD player	0.61	0.88	0.26*** <i>0.01</i>	0.03 <i>0.03</i>	-0.03 <i>0.04</i>	0.09*** <i>0.02</i>

(Robust) standard errors in italics

***, ** and * indicate significance at the .01, .05 and .10 levels respectively

Expenditure levels equalised and expressed in Sept. 2003 prices

1st D = First difference/percentage change over time for treated group

D-in-D = [1st D for treated group] – [1st D for less-treated group]

D-in-D-in-D = [D-in-D for low-income households] – [D-in-D for higher-income households]

Catch-up = [1st D for low-income treated group] – [1st D for higher-income treated group]

Appendix 1 Timeline of benefits reported in 2000 prices

	April 1995	April 1996	April 1997	April 1998	November 1998	April 1999	October 1999	April 2000	April 2001	April 2002
Child Benefit Rates										
1st Child (couple)	12.30	12.41	12.39	12.47		15.31		15.64	15.85	15.75
1st Child (Lone)	19.75	19.65	19.17	18.62		18.18		18.30	17.95	17.55
2 nd + Child	9.99	10.11	10.09	10.13		10.21		10.43	10.59	10.55
Income Support										
<u>Lone Parent</u>	55.00	55.05	55.11	54.84		54.65		54.44	54.26	53.95
<u>Couple</u>	86.34	86.43	86.51	86.04		85.76		85.47	85.15	84.65
Dependent children										
Under 11	18.87	18.91	18.95	18.84		21.48		27.74	32.17	33.50
11 to 15	27.68	27.70	27.75	27.61		27.54		27.74	32.17	33.50
16 to 17	33.12	33.16	33.19	33.00		32.91		33.11	32.99	34.50
Family Credit/Working Families Tax Credit²³										
Adult Credit	53.34	53.39	53.43	53.15	52.63	52.95	55.24	55.43	59.75 ²⁴	59.00
30 hour credit ²⁵	11.83	11.84	11.83	11.76	11.65	11.75	11.67	11.73	11.71	11.65
Child Credit										
Under 11	13.48	13.50	13.51	13.45	16.01	16.11	20.97	26.56 ²⁶	26.59	26.45
11 to 15	22.35	22.35	22.37	22.27	22.05	22.22	22.08	26.56 ²⁷	26.59	26.45
16 to 17	27.74	27.76	27.81	27.66	27.39	27.59	27.41	27.34 ²⁸	27.36	27.20
Applicable Earnings before WFTC										
WFTC withdrawn (at taper rate)	86.34 (70%)	86.43 (70%)	86.51 (70%)	86.04 (70%)	85.19 (70%)	85.76 (70%)	95.06 (55%)	94.87 (55%)	95.02 (55%)	94.50 (55%)

²³ Working families tax credit was introduced in October 1999 to replace Family Credit

²⁴ Increased June 2001

²⁵ Introduced July 1995

²⁶ Increased in June 2000

²⁷ Increased in June 2000

²⁸ Increased in June 2000

SUPPLEMENTARY APPENDICES – NOT FOR PUBLICATION

Appendix Table S1: Composition of sample with children age 0 to 10 only

	Low-income		Higher-income	
	1995-1998	2000-03	1995-1998	2000-03
N	1115	1041	2215	2123
1 or 2 children	0.81 (0.39)	0.83 (0.37)	0.91 (0.28)	0.92 (0.28)
3 + children	0.19 (0.39)	0.17 (0.37)	0.09 (0.28)	0.08 (0.28)
Lone parent household	0.52 (0.50)	0.51 (0.50)	0.09 (0.29)	0.14 (0.34)
Neither head nor spouse (if present) works	0.43 (0.49)	0.45 (0.49)	0.04 (0.20)	0.03 (0.17)
80% + household income from benefits	0.59 (0.49)	0.53 (0.50)	0.04 (0.19)	0.02 (0.15)
Low education	0.72 (0.45)	0.64 (0.48)	0.37 (0.48)	0.33 (0.47)
Medium education	0.19 (0.40)	0.23 (0.42)	0.31 (0.46)	0.32 (0.47)
High education	0.09 (0.28)	0.13 (0.33)	0.32 (0.47)	0.36 (0.48)

Appendix Table S2a: Broad categories of expenditure (households with children only, classification on income, + controls)

Treated group = low-income households with a youngest child 0 - 10
 Less-treated group = low-income households with a youngest child age 11-15
 Comparison group = higher-income households

	Level differences in mean (£ per week)			Percentage differences in mean (percentage points)			'Catch-up' with higher- income counterparts	
	1 st D	D-in-D	D-in-D-in-D	1 st D	D-in-D	D-in-D-in-D	£ per week	% points
Housing, fuel, heat & lighting	1.65 <i>1.08</i>	1.97 <i>2.48</i>	3.62 <i>3.64</i>	2.54 <i>1.67</i>	3.10 <i>4.25</i>	6.13 <i>5.78</i>	-0.20 <i>1.75</i>	0.28 <i>2.38</i>
Food	1.46** <i>0.70</i>	4.45** <i>1.82</i>	4.31* <i>2.32</i>	4.16** <i>2.03</i>	10.85*** <i>4.17</i>	10.57** <i>4.85</i>	1.30 <i>0.97</i>	3.86 <i>2.42</i>
Alcohol & tobacco	-1.17** <i>0.49</i>	-1.34 <i>1.19</i>	-2.37 <i>1.56</i>	-6.81** <i>2.75</i>	-7.81 <i>7.29</i>	-12.18 <i>8.52</i>	-0.72 <i>0.67</i>	-4.60 <i>3.52</i>
Clothing & footwear	2.99*** <i>0.75</i>	1.68 <i>2.07</i>	4.92* <i>2.74</i>	25.07*** <i>7.36</i>	17.22 <i>14.10</i>	29.05* <i>15.96</i>	2.18* <i>1.13</i>	21.41*** <i>8.12</i>
Household goods & services	5.59*** <i>1.22</i>	0.89 <i>2.19</i>	1.63 <i>4.58</i>	18.28*** <i>4.39</i>	0.66 <i>8.62</i>	6.48 <i>12.46</i>	-5.00* <i>2.74</i>	-1.13 <i>6.69</i>
Leisure goods & services	8.46*** <i>1.31</i>	0.72 <i>4.10</i>	11.62 <i>7.50</i>	126.06 <i>77.37</i>	83.29 <i>74.33</i>	94.17 <i>73.09</i>	-9.29*** <i>2.65</i>	71.85 <i>69.86</i>
Motoring & travel	8.59*** <i>1.17</i>	8.67*** <i>3.00</i>	3.99 <i>4.89</i>	74.70*** <i>20.37</i>	75.12*** <i>26.15</i>	59.93** <i>27.92</i>	-4.24* <i>2.26</i>	39.59** <i>19.65</i>
Personal goods & services	0.17 <i>0.34</i>	-0.25 <i>1.03</i>	0.82 <i>1.82</i>	1.90 <i>3.95</i>	-3.23 <i>12.89</i>	3.85 <i>17.57</i>	-0.77 <i>0.60</i>	-5.27 <i>5.54</i>
Miscellaneous	-0.46*** <i>0.14</i>	0.60* <i>0.34</i>	-1.08* <i>0.57</i>	-235.81 <i>250.59</i>	-150.72 <i>239.80</i>	-175.60 <i>236.37</i>	0.20 <i>0.22</i>	-189.46 <i>243.38</i>
Total	27.28*** <i>3.75</i>	17.40* <i>9.51</i>	27.46* <i>15.87</i>	14.59*** <i>2.20</i>	9.81** <i>4.85</i>	12.60** <i>6.39</i>	-16.56** <i>6.86</i>	0.67 <i>2.83</i>

(Robust) standard errors in italics

***, ** and * indicate significance at the .01, .05 and .10 levels respectively

Expenditure levels equivalised and expressed in Sept. 2003 prices

1st D = First difference/percentage change over time for treated group

D-in-D = [1st D for treated group] – [1st D for less-treated group]

D-in-D-in-D = [D-in-D for low-income households] – [D-in-D for higher-income households]

Catch-up = [1st D for low-income treated group] – [1st D for higher-income treated group]

Controls are: highest education of head or spouse (2 dummies); lone parent status (1 dummy), number of children (1 continuous variable); region (9 dummies)

Appendix Table S2b: Broad categories of expenditure (households with a child under 11 only, classification on income, no controls)

Treated group = low-income households with three or more children under 11
 Less-treated group = low-income households with one or two children under 11
 Comparison group = higher-income households

	Level differences in mean (£ per week)			Percentage differences in mean (percentage points)			'Catch-up' with higher-income counterparts	
	1 st D	D-in-D	D-in-D-in-D	1 st D	D-in-D	D-in-D-in-D	£ per week	% points
Housing, fuel, heat & lighting	-0.26 <i>3.15</i>	-2.86 <i>3.51</i>	0.70 <i>6.12</i>	-0.53 <i>6.30</i>	-4.77 <i>6.81</i>	-0.36 <i>9.56</i>	-0.34 <i>5.62</i>	-0.63 <i>8.90</i>
Food	3.78* <i>1.95</i>	2.36 <i>2.15</i>	3.35 <i>3.49</i>	9.43* <i>5.05</i>	6.03 <i>5.51</i>	7.58 <i>7.00</i>	3.98 <i>3.26</i>	9.73 <i>6.50</i>
Alcohol & tobacco	0.10 <i>1.12</i>	1.68 <i>1.33</i>	3.66* <i>2.00</i>	0.97 <i>10.92</i>	12.57 <i>11.98</i>	27.95* <i>15.51</i>	2.58 <i>1.78</i>	19.20 <i>14.33</i>
Clothing & footwear	4.85*** <i>1.76</i>	2.91 <i>2.03</i>	6.10 <i>3.96</i>	52.79** <i>22.99</i>	37.79 <i>24.44</i>	51.05* <i>28.15</i>	6.52* <i>3.68</i>	59.83** <i>26.54</i>
Household goods & services	7.47*** <i>2.72</i>	1.92 <i>3.20</i>	5.79 <i>9.04</i>	39.22** <i>16.06</i>	17.65 <i>17.58</i>	21.29 <i>25.00</i>	-1.41 <i>8.29</i>	21.67 <i>23.20</i>
Leisure goods & services	12.85*** <i>3.54</i>	4.50 <i>3.84</i>	12.21 <i>8.86</i>	77.50*** <i>24.68</i>	34.58 <i>26.18</i>	47.61 <i>30.26</i>	2.78 <i>8.38</i>	60.05** <i>28.59</i>
Motoring & travel	9.02*** <i>3.03</i>	-0.16 <i>3.42</i>	9.04 <i>6.57</i>	57.12*** <i>21.74</i>	6.70 <i>24.06</i>	19.72 <i>26.66</i>	4.70 <i>5.87</i>	48.43** <i>24.19</i>
Personal goods & services	0.78 <i>0.62</i>	0.11 <i>0.81</i>	2.32 <i>1.53</i>	13.67 <i>11.40</i>	5.28 <i>13.26</i>	22.34 <i>16.48</i>	2.22* <i>1.31</i>	25.74* <i>14.49</i>
Miscellaneous	-0.48* <i>0.26</i>	-0.50* <i>0.28</i>	0.50 <i>0.65</i>	-36.69** <i>16.09</i>	-39.20* <i>22.42</i>	-6.00 <i>27.97</i>	0.56 <i>0.61</i>	-1.86 <i>21.55</i>
Total	38.10*** <i>9.54</i>	9.96 <i>10.66</i>	43.67* <i>23.18</i>	22.70*** <i>6.14</i>	8.76 <i>6.62</i>	17.06* <i>8.93</i>	21.60 <i>21.52</i>	17.96** <i>8.36</i>

(Robust) standard errors in italics

***, ** and * indicate significance at the .01, .05 and .10 levels respectively

Expenditure levels equivalised and expressed in Sept. 2003 prices

1st D = First difference/percentage change over time for treated group

D-in-D = [1st D for treated group] – [1st D for less-treated group]

D-in-D-in-D = [D-in-D for low-income households] – [D-in-D for higher-income households]

Catch-up = [1st D for low-income treated group] – [1st D for higher-income treated group]

Controls are: highest education of head or spouse (2 dummies); lone parent status (1 dummy); region (9 dummies)

Appendix Table S3a: Specific items of expenditure (households with children only, classification on income, + controls)

Treated group = low-income households with a youngest child 0 - 10
 Less-treated group = low-income households with a youngest child age 11-15
 Comparison group = higher-income households

	Level differences in mean (£ per week)			Percentage differences in mean (percentage points)			'Catch-up' with higher-income counterparts	
	1 st D	D-in-D	D-in-D-in-D	1 st D	D-in-D	D-in-D-in-D	£ per week	% points
Children's clothing & footwear	0.77*** <i>0.27</i>	0.69 <i>1.18</i>	2.74* <i>1.50</i>	13.37*** <i>5.15</i>	12.43 <i>14.19</i>	31.14* <i>17.09</i>	0.79* <i>0.40</i>	13.58** <i>6.25</i>
Women's clothing & footwear	2.16*** <i>0.55</i>	-0.31 <i>1.60</i>	1.58 <i>2.17</i>	38.45*** <i>13.01</i>	9.35 <i>23.15</i>	17.65 <i>25.46</i>	0.52 <i>0.84</i>	24.25* <i>13.49</i>
Men's clothing & footwear	0.98 <i>0.76</i>	-1.80 <i>2.09</i>	-1.43 <i>2.51</i>	19.01 <i>17.69</i>	-22.41 <i>37.60</i>	-20.21 <i>39.86</i>	0.74 <i>1.01</i>	16.19 <i>18.76</i>
Fruit & Vegetables	0.06 <i>0.11</i>	0.68** <i>0.29</i>	0.49 <i>0.37</i>	2.18 <i>3.89</i>	18.64** <i>7.52</i>	12.14 <i>9.31</i>	-0.48*** <i>0.16</i>	-12.15** <i>5.02</i>
Toys (inc. computer games)	1.01*** <i>0.24</i>	-0.39 <i>0.62</i>	0.01 <i>0.97</i>	29.38*** <i>8.30</i>	-31.30 <i>30.18</i>	-12.92 <i>38.28</i>	-0.04 <i>0.39</i>	7.91 <i>10.43</i>
Books, magazines & newspapers	0.11 <i>0.10</i>	0.38 <i>0.25</i>	0.45 <i>0.36</i>	6.99 <i>6.37</i>	17.43 <i>10.58</i>	21.68* <i>12.80</i>	0.43*** <i>0.16</i>	17.91** <i>7.63</i>
Holidays	1.16*** <i>0.41</i>	-0.40 <i>1.35</i>	5.87** <i>2.44</i>	219.52 <i>512.76</i>	147.12 <i>488.25</i>	209.92 <i>493.87</i>	-2.37*** <i>0.91</i>	169.26 <i>502.31</i>

(Robust) standard errors in italics

***, ** and * indicate significance at the .01, .05 and .10 levels respectively

Expenditure levels equivalised and expressed in Sept. 2003 prices

1st D = First difference/percentage change over time for treated group

D-in-D = [1st D for treated group] - [1st D for less-treated group]

D-in-D-in-D = [D-in-D for low-income households] - [D-in-D for higher-income households]

Catch-up = [1st D for low-income treated group] - [1st D for higher-income treated group]

Controls are: highest education of head or spouse (2 dummies); lone parent status (1 dummy), number of children (1 continuous variable); region (9 dummies)

Appendix Table S3b: Specific items of expenditure (households with a child under 11 only, classification on income, no controls)

Treated group = low-income households with three or more children under 11
 Less-treated group = low-income households with one or two children under 11
 Comparison group = higher-income households

	Level differences in mean (£ per week)			Percentage differences in mean (percentage points)			'Catch-up' with higher-income counterparts	
	1 st D	D-in-D	D-in-D-in-D	1 st D	D-in-D	D-in-D-in-D	£ per week	% points
Children's clothing & footwear	1.40*** <i>0.47</i>	1.04 * <i>0.60</i>	2.20** <i>1.03</i>	65.47** <i>25.95</i>	58.03** <i>27.21</i>	76.47** <i>30.00</i>	2.30*** <i>0.88</i>	80.77*** <i>28.44</i>
Women's clothing & footwear	2.39* <i>1.41</i>	0.59 <i>1.58</i>	2.06 <i>2.80</i>	55.59 <i>40.81</i>	21.15 <i>43.67</i>	32.78 <i>48.54</i>	2.15 <i>2.59</i>	53.41 <i>45.49</i>
Men's clothing & footwear	2.63* <i>1.53</i>	2.33 <i>1.88</i>	2.59 <i>3.13</i>	74.22 <i>52.72</i>	68.23 <i>57.40</i>	71.33 <i>65.40</i>	2.42 <i>2.83</i>	71.61 <i>60.57</i>
Fruit & Vegetables	0.15 <i>0.30</i>	-0.02 <i>0.34</i>	0.55 <i>0.55</i>	4.66 <i>9.36</i>	-0.22 <i>10.34</i>	9.41 <i>13.11</i>	-0.07 <i>0.51</i>	0.67 <i>12.04</i>
Toys (inc. computer games)	1.91*** <i>0.64</i>	0.89 <i>0.74</i>	2.17** <i>1.00</i>	209.32** <i>96.30</i>	157.31 <i>98.61</i>	186.48* <i>100.66</i>	2.07** <i>0.84</i>	214.65** <i>97.93</i>
Books, magazines & newspapers	0.36 <i>0.25</i>	0.13 <i>0.29</i>	-0.52 <i>0.65</i>	23.45 <i>17.44</i>	10.88 <i>18.91</i>	-6.02 <i>25.12</i>	0.04 <i>0.62</i>	14.69 <i>23.71</i>
Holidays	2.39* <i>1.26</i>	1.08 <i>1.35</i>	2.96 <i>3.04</i>	199.31 <i>144.06</i>	113.56 <i>149.72</i>	128.92 <i>152.50</i>	0.73 <i>2.83</i>	182.85 <i>146.59</i>

(Robust) standard errors in italics

***, ** and * indicate significance at the .01, .05 and .10 levels respectively

Expenditure levels equivalised and expressed in Sept. 2003 prices

1st D = First difference/percentage change over time for treated group

D-in-D = [1st D for treated group] – [1st D for less-treated group]

D-in-D-in-D = [D-in-D for low-income households] – [D-in-D for higher-income households]

Catch-up = [1st D for low-income treated group] – [1st D for higher-income treated group]

Appendix Table S4a: Durable items (households with children only, classification on income, + controls)

Treated group = low-income households with a youngest child 0 - 10
 Less-treated group = low-income households with a youngest child age 11-15
 Comparison group = higher-income households

	Mean	Mean	Level differences in proportion possessing good			'Catch-up' with higher-income counterparts
	1995-8	2000-3	1 st D	D-in-D	D-in-D-in-D	
Car or van	0.22	0.32	0.10*** <i>0.02</i>	0.07* <i>0.04</i>	0.10** <i>0.04</i>	0.08*** <i>0.02</i>
Telephone (any type)	0.77	0.92	0.15*** <i>0.01</i>	0.05** <i>0.02</i>	0.05** <i>0.03</i>	0.13*** <i>0.01</i>
Washing machine	0.92	0.95	0.03*** <i>0.01</i>	0.01 <i>0.02</i>	0.02 <i>0.02</i>	0.03*** <i>0.01</i>
Freezer	0.90	0.95	0.05*** <i>0.01</i>	0.02 <i>0.02</i>	0.01 <i>0.02</i>	0.03*** <i>0.01</i>
Microwave	0.71	0.85	0.15*** <i>0.01</i>	0.03 <i>0.03</i>	0.00 <i>0.04</i>	0.07*** <i>0.02</i>
Tumble dryer	0.34	0.39	0.05*** <i>0.02</i>	0.01 <i>0.04</i>	0.04 <i>0.05</i>	0.03 <i>0.02</i>
Computer	-0.02	0.23	0.26*** <i>0.02</i>	0.02 <i>0.04</i>	-0.03 <i>0.05</i>	-0.05** <i>0.02</i>
Video	0.86	0.91	0.05*** <i>0.01</i>	0.02 <i>0.02</i>	0.02 <i>0.02</i>	0.04*** <i>0.01</i>
CD player	0.59	0.86	0.27*** <i>0.01</i>	0.04 <i>0.03</i>	-0.02 <i>0.04</i>	0.09*** <i>0.02</i>

(Robust) standard errors in italics

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Expenditure levels equivalised and expressed in Sept. 2003 prices

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D-in-D-in-D = [D-in-D for low-income households] – [D-in-D for higher-income households]

Catch-up = [1st D for low-income treated group] – [1st D for higher-income treated group]

Controls are: highest education of head or spouse (2 dummies); lone parent status (1 dummy), number of children (1 continuous variable); region (9 dummies)

Appendix Table 4b: Durable items (households with a child under 11 only, classification on income, no controls)

Treated group = low-income households with three or more children under 11
 Less-treated group = low-income households with one or two children under 11
 Comparison group = higher-income households

	Mean	Mean	Level differences in proportion possessing good			'Catch-up' with higher-income counterparts
	1995-8	2000-3	1 st D	D-in-D	D-in-D-in-D	
Car or van	0.48	0.58	0.10** <i>0.05</i>	0.00 <i>0.06</i>	0.00 <i>0.06</i>	0.10* <i>0.06</i>
Telephone (any type)	0.77	0.95	0.19*** <i>0.03</i>	0.01 <i>0.04</i>	0.02 <i>0.04</i>	0.18*** <i>0.03</i>
Washing machine	0.97	0.97	0.00 <i>0.02</i>	-0.04* <i>0.02</i>	-0.04* <i>0.02</i>	0.00 <i>0.02</i>
Freezer	0.95	0.98	0.03* <i>0.02</i>	-0.02 <i>0.02</i>	-0.01 <i>0.02</i>	0.02 <i>0.02</i>
Microwave	0.75	0.84	0.10** <i>0.04</i>	-0.07 <i>0.04</i>	-0.04 <i>0.05</i>	0.05 <i>0.05</i>
Tumble dryer	0.62	0.63	0.01 <i>0.05</i>	-0.05 <i>0.05</i>	0.00 <i>0.07</i>	0.03 <i>0.07</i>
Computer	0.17	0.35	0.18*** <i>0.05</i>	-0.07 <i>0.05</i>	-0.11 <i>0.08</i>	-0.15** <i>0.07</i>
Video	0.86	0.94	0.08*** <i>0.03</i>	0.04 <i>0.03</i>	0.02 <i>0.04</i>	0.05 <i>0.04</i>
CD player	0.61	0.80	0.19*** <i>0.05</i>	-0.08* <i>0.05</i>	-0.10* <i>0.06</i>	0.00 <i>0.06</i>

(Robust) standard errors in italics

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Catch-up = [1st D for low-income treated group] – [1st D for higher-income treated group]