Birth cohort analyses of dependent children and lone mothers living in one-parent families in Great Britain

This paper uses the recently published updated estimates of the numbers of one-parent families and dependent children living in them to construct two sets of birth cohort analyses. In the first set, the proportion of children who were living in one-parent families is analysed by the child’s age and birth year, whilst in the second set, the proportions of all mothers with dependent children who were lone mothers are analysed by the mother’s age and birth year. Finally, the paper presents trends in the proportions of lone mothers and married mothers who were working, and compares them with the corresponding trends for similar mothers whose youngest child was aged under 5.

INTRODUCTION

The number of one-parent families is estimated to have risen steadily in the early 1990s, as has also the estimated number of dependent children living in these families. Whilst the different data sources cannot very easily detect changes of pace in the annual increases in these two series, and despite the fact that the ‘best estimates’ were chosen to form a linear trend wherever the data permitted it, it is nevertheless surprising that the upward trend seems to have been so uniform over the past decade. For, since 1985, there have been some large changes in the numbers of women of specific ages within the entire child-bearing age range, a substantial decline in fertility rates for women aged under 25, an appreciable increase in fertility rates for women aged 30 or over, and a large increase in the incidence of births outside marriage.

This article estimates the chance of a child, born in a given year, being a child living in a one-parent family in successive years. Also estimated is the chance of a mother being a lone mother in a given year, according to the birth year of the mother. In essence, the idea behind these analyses is to obtain a better understanding of the trends in lone parenthood. However, before developing this theme further, it is appropriate to define the terms of ‘one-parent family’ and ‘dependent child’.

DEFINITION OF A ONE-PARENT FAMILY

The definition of a one-parent family is the one used by the Department of Social Security and has been used for official purposes since 1971. It is the definition adopted in the Finer report on one-parent families: ‘a mother or a father living without a spouse (and not cohabiting) with his or her never-married dependent child or children aged either under 16 or from 16 to (under) 19 and undertaking full-time education’.

In this article, attention will be concentrated upon dependent children in one-parent families, and also on lone mothers in one-parent families. Lone mothers therefore have one or more dependent children in their families.
THE DERIVATION OF THE NUMBERS OF ONE-PARENT FAMILIES AND THEIR DEPENDENT CHILDREN

The difficulties involved in deriving accurate estimates of the number of one-parent families have been described in earlier articles in which a series of ‘best estimates’ were made. The ‘best estimates’ were decided such that they were either consistent with a linear trend in the immediately preceding ‘best estimates’, or else consistent with a smoothly changing rate of increase.

Table 1 presents the two series of ‘best estimates’: the number of one-parent families, and the number of dependent children living in them – for each year from 1986. (The number of dependent children living in one-parent families was obtained by multiplying the ‘best estimate’ of the number of one-parent families by the average number of dependent children per one-parent family, derived from the General Household Survey (GHS).)

USE OF GHS DATA IN BIRTH COHORT EXPERIMENTS

GHS data were available for the most recent 11 years, that is, from 1986 to 1996 inclusive. The number of children and mothers of each age from each GHS year were rearranged into birth cohort form. As an illustration, consider the earliest GHS year available, 1986, and the sample numbers of children at each age under 16 from it. Those who were aged under 1 in 1986 were assumed to have been born in the same year, 1986; those aged 1 were assumed to have been born in 1985; and so on, up to those aged 15, who were assumed to have been born in 1971. These sample numbers were entered into a matrix showing age – by single year – across the top, and birth year down the side (see Box 1). In particular, data from the 1986 GHS formed a diagonal of sample numbers across the matrix. Similarly, corresponding sample numbers from the 1987, 1988, ... 1996 GHS formed parallel successive diagonals across the matrix going from left to right.

Box 1

Illustration of rearranging sample numbers of children by age from each of the GHSs from 1986 to 1996

<table>
<thead>
<tr>
<th>Birth year of child</th>
<th>Age of child</th>
<th>GHS year</th>
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<tbody>
<tr>
<td>1971</td>
<td>0</td>
<td>1986</td>
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<tr>
<td>1972</td>
<td>1</td>
<td>1987</td>
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<tr>
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<td></td>
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<tr>
<td>1985</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>15</td>
<td></td>
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</tbody>
</table>

Each cell element shows the GHS year from which the sample number of children of the given age and birth year was extracted.

So, those aged 0 and born in 1986 were taken from the ’86 GHS, and those aged 10 and born in 1986 were taken from the ’96 GHS, etc.

In fact, the birth year was estimated by subtracting the age from the GHS year.
Usually, data from the GHS are considered on a year by year basis, that is, one diagonal at a time; the objective of the present exercise is to explore the data by birth cohort and age, that is, by row and column of the matrix. As may be appreciated from the lozenge shape of the sample numbers in the matrix, when the data are examined in this way, either data for youngest ages are not available or else data for the earlier cohorts are not available. This situation applied equally to birth cohort and age analyses of mothers, as well as of children.

**BIRTH COHORT ANALYSIS OF CHILDREN IN ONE-PARENT FAMILIES**

An insight into the trends in the prevalence of children affected by lone parenthood may be gained by considering the numbers of children born in different years who were living in one-parent families at different ages. A matrix of the sample numbers of such children was obtained, as was also a corresponding matrix of all dependent children in one-parent families, and of all dependent children in families, were then estimated using the ‘best estimates’ in Table 1, and Child Benefit statistics, respectively. (Essentially the sample numbers along diagonals of the two matrices were used to disaggregate the annual totals.) Finally, the corresponding proportions of children living in one-parent families by age and birth year were derived by dividing corresponding cells of the two matrices.

All these operations were carried out including dependent children who were aged from 16 to 18 and undertaking full time education, although for simplicity those aged 16 and over have not been shown in the matrix in Box 1. Some extra technical details about the calculations are provided in Box 2.

The results of this birth cohort analysis are shown in Figure 1a, in which the proportion of children who were living in one-parent families is shown for every other birth cohort of children. The set of proportions for each birth cohort covers 11 separate consecutive ages, the range of 11 years’ ages changing from one birth cohort to the next, the results of having a band of GHS data, as explained in Box 1; for details of the averaging process, see Box 2.

A number of features can be seen in Figure 1a. The first, and most notable, is that the proportion of children from a given birth cohort who live in one-parent families generally increases with increasing age of the children. In some respects this is a not unexpected finding, since at the same time as children of a given birth year have become older, the rate of divorce has generally risen, as has also the proportion of births which have taken place outside marriage – both of which factors tend to increase the prevalence of lone parenthood. However, as children from one-parent families become older, their lone parents may either marry or start cohabiting – which will decrease the prevalence of lone parenthood, since they both result in the families concerned ceasing to be one-parent families according to the Finer definition.

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**Table 1**

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</thead>
<tbody>
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<td>0.75</td>
<td>0.90</td>
<td>1.01</td>
<td>1.05</td>
<td>1.09</td>
<td>1.16</td>
<td>1.23</td>
<td>1.30</td>
<td>1.37</td>
<td>1.44</td>
<td>1.51</td>
<td>1.56</td>
<td>1.60</td>
</tr>
<tr>
<td>Dependent children in OPFs</td>
<td>1.0</td>
<td>1.3</td>
<td>1.5</td>
<td>1.6</td>
<td>1.7</td>
<td>1.8</td>
<td>1.9</td>
<td>2.0</td>
<td>2.2</td>
<td>2.3</td>
<td>2.4</td>
<td>2.6</td>
<td>2.7</td>
<td>2.8</td>
</tr>
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* estimates for 1995 onwards are provisional

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**Figure 1a**

Percentage of children estimated to have been living in one-parent families, by age and birth cohort, Great Britain

**Figure 1b**

Percentage of children of each given age who were living in one-parent families from successive birth cohorts, Great Britain
The second feature concerns the trend over time: for example, amongst children born in 1980, just over one in 5 were living within a one-parent family when they were aged 15, but this proportion was reached by age 5 amongst children born one decade later, in 1990.

Figure 1b portrays exactly the same set of results, but plotted so that the estimated proportions for children of the same age from successive birth cohorts may be directly compared. It may be seen, for the most part, the proportion of children of each age who were living in one-parent families when they were aged 2 and born in 1990 was replaced by the average of the 9 sample numbers enclosed within the box shown in Box 1.) For cells along the extreme two diagonals – that is, those for 1986 and 1996 – there were only 5 immediately adjacent cells, and so the averages were based on slightly smaller sample sizes (about 7/5, rds).

In addition, some slight smoothing of the “best estimate” of the number of such children in 1987 was undertaken to avoid the possibility of introducing some spurious variations in the estimates. As a consequence of these two smoothing operations, and also because of the uncertainty in the national estimates, the results should be regarded as tentative, and giving only a broad impression of the likely picture, rather than an accurate representation of it.

**BIRTH COHORT ANALYSIS OF LONE MOTHERS**

A similar analysis was also undertaken for lone mothers – the details of the calculations involved are described in Box 3. The results from these birth cohort analyses are shown in Figures 2a and 2b. Each line in Figure 2a represents a particular birth cohort of mothers; there are two main features which are notable in this analysis. The first is that, in general, the more recent the birth cohort of mothers, that is, the younger the set of mothers, the larger the proportion who are lone mothers. Furthermore, this finding is in general true at every age of mother. The second result from Figure 2a is the relatively large proportions of young mothers who were lone mothers – over one third of all mothers aged under about 25 from the 1966 and 1968 birth cohorts. Undoubtedly this finding reflects the rapid growth which has occurred since 1980 in the proportion of all births which have taken place outside marriage, many of which are to young women who then became single lone mothers.
The same results are portrayed in an alternative way in Figure 2b, where each line represents not a birth cohort of mothers, but a set of mothers of the same age from successive birth cohorts. In general, the graph shows that the younger the mother, the larger the proportion who were lone mothers, and, in addition, the younger the mother the greater has been the increase in the prevalence of lone motherhood over the past decade. Overall, the prevalence of lone motherhood was very similar between mothers who were born in successive years of the 1950s, but really started to increase for mothers who were born in the early 1960s. Amongst teenage mothers born since the late 1960s, around one half were lone mothers.

**BIRTH COHORTS OF LONE MOTHERS BY THEIR MARITAL STATUS**

It has been well documented\(^1\,^{3,4,5}\) that the age profile of lone mothers varies considerably according to their marital status. Thus, single – never-married – lone mothers tend to be the youngest, followed by separated lone mothers, divorced lone mothers, and widowed lone mothers. It follows that the marital status composition of a particular birth cohort of lone mothers varies according to how recent or distant in the past that birth cohort is; for example, more recent birth cohorts contain proportionately more single lone mothers, and earlier birth cohorts proportionately fewer.
This feature is quantified in Figure 3 which depicts for a recent five-year period the profile of all lone mothers according to their birth cohort, separately by their marital status. By this means, the relative numerical importance of lone mothers of each marital status can be appreciated amongst all lone mothers of a given birth cohort. In addition, the overall relative sizes of the four distinct groups of lone mothers can be seen.

Single lone mothers predominate in all birth cohorts since the mid-1960s, whereas divorced, and to a lesser extent, separated lone mothers are by far the most important numerically amongst the birth cohorts of late 1940s, and 1950s. Hence the large proportions of mothers who were lone mothers amongst the later birth cohorts in Figure 2b would largely be single lone mothers, whereas the lower proportions in the centre part of Figure 2b would mostly be divorced and separated lone mothers.

The age of a lone mother, and, more especially, the number and ages of her children, are important factors in whether she decides, or is able, to find a job. The patterns of working of both lone mothers and married mothers with dependent children can be explored using data from the GHS, and time trends in these characteristics are now considered.

WORKING PATTERNS OF LONE MOTHERS AND MARRIED MOTHERS WITH DEPENDENT CHILDREN

The financial position of lone parents in general, and of lone mothers with dependent children in particular, either depends critically upon State Benefits, or alternatively upon the availability of suitable employment and the provision of child care. Figure 4 (left hand side) presents trends in the proportions of lone mothers and married mothers who were working, both full-time and part-time, and also for two important groups of lone mothers – the single and the divorced. All graphs refer to mothers with dependent children.

Overall, the proportion of lone mothers who were working has declined from about 5 in every ten in 1980, to about 4 in every ten in 1995 (Figure 4(a)). Despite this fall, the proportion who were working part-time has remained virtually constant at about one in 4, whilst the proportion who were working full-time has declined from about one in 5 to one in 6. There was a clear fall in the overall proportion working between 1980 and 1984, almost certainly the result of the recession at that time.

In contrast, the proportion of married mothers who were working has increased, from about one half in the late 1970s, to two thirds in 1995 (Figure 4(c)). There was a small drop in the proportion working between 1980 and 1982, but it was not so large as that observed amongst lone mothers. In contrast to the situation for lone mothers, the proportion of married mothers who were working part-time has been approximately double that of those working full-time, although there has been a slowly widening gap between the proportions of lone mothers who have been working part-time and full-time.

The picture for single lone mothers (Figure 4(e)) contrasts with that for all lone mothers and, particularly, with that for married mothers. Not only did single lone mothers decreasingly work full-time during the 1980s – the proportion fell substantially – but for the past decade roughly equal proportions – about one in 6 – of single lone mothers have been working full-time and part-time. The mid-1980s witnessed an important change in the pattern of working of single lone mothers; before that time more worked full-time than part-time, whilst the reverse was true subsequently.

Apart from the late 1970s and early 1980s, when smaller proportions of divorced than single lone mothers were working full-time, relatively more divorced lone mothers have worked both full-time and part-time than single lone mothers (Figure 4(g)). Overall, in 1995, about one in 2 lone divorced mothers were working, compared with fewer than one in 3 single lone mothers.

The right hand side of Figure 4 shows the corresponding trends for a subset of each of the same groups of mothers with dependent children - those whose youngest child was aged under 5. As may be appreciated from the earlier birth cohort analyses of lone mothers, the age profile of lone mothers whose youngest child was aged under 5 would have been predominately youthful. Understandably, the proportions of these latter mothers who were working were

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**Figure 3**
Profile by birth cohort of all lone mothers, by their marital status, 1991–96, Great Britain

Source: General Household Survey
Note: the data have been smoothed; the total area under all 4 graphs is 100, so that the area under any one graph reflects the relative number of lone mothers of that marital status.
Percentages* of lone mothers and married mothers with dependent children who were working, full-time and part-time, and for those whose youngest child was aged under 5, 1978-95, Great Britain

*a estimated – based on 3-year averages

Source: General Household Survey
lower than those with dependent children of any age, and the proportions who were working full-time were proportionately lower than those who were working part-time. Perhaps the most notable feature is the relative lack of change in the proportions working – either full-time or part-time – amongst lone mothers (and single lone mothers in particular), compared with the growth in employment amongst married mothers with a child aged under 5. Undoubtedly these trends have lead to a widening gap between the financial circumstances of lone parents and their married counterparts.

**CONCLUSIONS**

Some distinctive patterns of children living in one-parent families and of lone motherhood have been distinguished, with some substantial differences between birth cohorts and the prevalences at different ages. Whilst the prevalences of lone motherhood at the youngest ages seem especially high, it should be borne in mind that the cohort analyses provide snapshots at each successive age of the mothers involved; at one particular time a mother may be a lone mother, but several years later may well be a married or cohabiting mother. Similarly, although the proportion of children who were living in one-parent families has recently been approaching one in 4 for certain subgroups of children, it does not necessarily follow that all such children will spend their entire childhood living in a one-parent family.

Nevertheless, the analyses presented in this article do indicate that the proportions of mothers who have ever been lone mothers have risen considerably for successive birth cohorts since the 1960s. Similarly, the proportion of children who have lived in a one-parent family at some stage of their childhood years has increased steadily for successive birth cohorts.

**References**


Endnote: A range of papers on lone parenthood presented at a conference have recently been published in a book entitled: *Private lives and public responses: lone parenthood and future policy in the UK* (Policy Studies Institute/University of Bath, 1998). The conference and publication were jointly funded by the Joseph Rowntree Foundation and the Department of Social Security.