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Analysis Programme**

Childcare use and mothers' employment: a review of British data sources

Mike Brewer and Jonathan Shaw

A report of research carried out by the Institute for Fiscal Studies on behalf of the Department for Work and Pensions

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Contents

Acknowledgements	xi
The Authors	xii
Summary	1
1 Introduction	7
2 Creating consistent definitions of childcare use from household survey data	9
2.1 The questions on childcare in the surveys	9
2.1.1 <i>The time period covered by the childcare questions</i>	10
2.1.2 <i>The routing to the questions on childcare</i>	11
2.1.3 <i>The question about types of childcare used</i>	12
2.1.4 <i>Possible responses to the question about childcare types</i>	13
2.1.5 <i>Impact of differences between the surveys</i>	14
2.2 Creating consistent definitions of childcare use	15
2.2.1 <i>Types of childcare</i>	15
2.2.2 <i>Other variables</i>	17
2.2.3 <i>Other features (and limitations) of the datasets</i>	17
2.3 Summary of findings	18
3 Cross-sectional comparisons of household survey data	21
3.1 Summary statistics and maternal employment	22
3.2 Childcare use	25
3.2.1 <i>Childcare use at the family level</i>	25
3.2.2 <i>Childcare use at the child level</i>	28
3.2.3 <i>Use of centre-based care and early years' education</i>	31
3.2.4 <i>Use of out-of-school clubs</i>	36
3.2.5 <i>Use of close relatives</i>	38

3.3	How many hours of childcare is used, and how much does it cost?	41
3.3.1	<i>Spending on childcare, and total hours of childcare at the family level</i>	42
3.3.2	<i>Expenditure on childcare, and total hours of childcare at the child level</i>	44
3.3.3	<i>Expenditure on and hours spent in different types of childcare</i>	57
3.3.4	<i>The price of childcare</i>	70
3.4	Childcare use for families with non-working mothers	78
3.5	Summary of findings	83
3.5.1	<i>Differences between surveys</i>	83
4	Changes in patterns of childcare use over time	85
4.1	Trends in maternal employment	86
4.2	Trends in childcare use	88
4.2.1	<i>Childcare use at the family level</i>	88
4.2.2	<i>Childcare use at the child level</i>	91
4.3	Trends in hours used and expenditure on childcare	100
4.3.1	<i>Hours spent in and expenditure on different types of childcare</i>	100
4.3.2	<i>The price of childcare</i>	113
4.4	Summary of findings	115
4.4.1	<i>Differences between surveys</i>	115
4.4.2	<i>Key facts about trends in childcare use</i>	116
5	Comparison with administrative data on childcare tax credit awards	117
5.1	Description of the administrative and survey data	117
5.2	Comparison of key demographic variables	120
5.3	Comparison of childcare use	122
5.4	Summary of findings	126
6	Recommendations for policy-making and future practice	127
Appendix A	Overview of the datasets used and childcare information included in each	129
Appendix B	Variable definitions	139
Appendix C	Dataset-specific information	143
Appendix D	Other tables and graphs	151
References	159

List of tables

Table 3.1	Summary statistics	23
Table 3.2	Proportion of working mothers using childcare during term time	27
Table 3.3	Proportion of working mothers using childcare during term time, by number of children aged 14 or under in the family	28
Table 3.4	All children with working mother: proportion of children using different types of childcare during term time	30
Table 3.5	All children with working mother: proportion of children using centre-based care (excluding early years' education) during term time	36
Table 3.6	Proportion of working mothers using childcare during term time (excluding early years' education)	36
Table 3.7	All families with working mother: mean weekly hours of childcare for the family as a whole during term time	42
Table 3.8	Proportion of working mothers who pay for childcare, and mean weekly expenditure on childcare	43
Table 3.9	Average weekly hours of, expenditure on, and proportion paying for childcare, by childcare type, for all children using the relevant type of childcare and whose mother works	57
Table 3.10	Average price per hour of childcare for children who use any paid childcare	71
Table 3.11	Mean price of childcare by childcare type, for children paying for the relevant type of childcare	71
Table 3.12	Number of non-working mothers and number of children with non-working mothers	78
Table 3.13	Proportion of mothers using childcare during term time	79
Table 3.14	Children in non-working lone parent families: proportion of children using different types of childcare during term time	82
Table 4.1	Trends in the proportion of families with a working mother using childcare	90
Table 5.1	Summary statistics	121
Table 5.2	Childcare use amongst lone parents receiving WFTC (survey data) or receiving WFTC and CCTC (administrative data)	123
Table 5.3	Childcare use amongst lone parents receiving WFTC (administrative data) and receiving WFTC and working at least 16 hours per week (survey)	124
Table 5.4	Lone parents, all receiving WFTC and working 16 hours or more per week	125
Table A.1	Overview of datasets	130
Table A.2	Childcare information contained in each dataset	133

Table A.3	Our childcare type classification	136
Table B.1	Other variables	141
Table D.1	Number of children in families with working mother, by age of child	151

List of figures

Figure 3.1	Children in lone parent families: proportion of children with working mother, by age of child	24
Figure 3.2	Children in couple families: proportion of children with working mother, by age of child	25
Figure 3.3	Proportion of working mothers using childcare during term time	26
Figure 3.4	Children in working lone parent families: proportion of children using childcare during term time, by age of child	29
Figure 3.5	Children in couple families with working mother: proportion of children using childcare during term time, by age of child ...	30
Figure 3.6	Children in working lone parent families: proportion of children using centre-based childcare during term time, by age of child	32
Figure 3.7	Children in couple families with working mother: proportion of children using centre-based childcare during term time, by age of child	33
Figure 3.8	Children in working lone parent families: proportion of children using centre-based childcare during term time (excluding early years' education), by age of child	34
Figure 3.9	Children in couple families with working mother: proportion of children using centre-based childcare during term time (excluding early – years' education), by age of child	35
Figure 3.10	Children in working lone parent families: proportion of children using out-of-school clubs during term time, by age of child	37
Figure 3.11	Children in couple families with working mother: proportion of children using out-of-school clubs during term time, by age of child	38
Figure 3.12	Children in working lone parent families: proportion of children using close relatives during term time, by age of child	39
Figure 3.13	Children in couple families with working mother: proportion of children using close relatives during term time, by age of child	40
Figure 3.14	Children in working lone parent families: mean weekly hours of childcare used by children during term time, by age of child	45

Figure 3.15	Children in working lone parent families: mean weekly hours of childcare for children using childcare during term time, by age of child	46
Figure 3.16	Children in couple families with working mother: mean weekly hours of childcare used by children during term time, by age of child	47
Figure 3.17	Children in couple families with working mother: mean weekly hours of childcare for children using childcare during term time, by age of child	48
Figure 3.18	Children in working lone parent families: mean weekly childcare expenditure for children during term time, by age of child	49
Figure 3.19	Children in working lone parent families: mean weekly childcare expenditure for children using childcare during term time, by age of child	50
Figure 3.20	Children in couple families with working mother: mean weekly childcare expenditure for children during term time, by age of child	51
Figure 3.21	Children in couple families with working mother: mean weekly childcare expenditure for children using childcare during term time, by age of child	52
Figure 3.22	Children in working lone parent families: distribution of weekly hours of childcare	53
Figure 3.23	Children in couple families with working mother: distribution of weekly hours of childcare	54
Figure 3.24	Children in working lone parent families: distribution of weekly expenditure	55
Figure 3.25	Children in couple families with working mother: distribution of weekly expenditure	56
Figure 3.26	Children in families with working mother: distribution of weekly hours at centre-based care	60
Figure 3.27	Children in families with working mother: distribution of weekly hours at out-of-school or holiday clubs.....	61
Figure 3.28	Children in families with working mother: distribution of weekly hours at childminders	62
Figure 3.29	Children in families with working mother: distribution of weekly expenditure at centre-based care	64
Figure 3.30	Children in families with working mother: distribution of weekly expenditure at out-of-school or holiday clubs	65
Figure 3.31	Children in families with working mother: distribution of weekly expenditure at childminders	66
Figure 3.32	Children in families with working mother: distribution of weekly hours term time at close relatives	68

Figure 3.33	Children in families with working mother: distribution of weekly hours term time at other relatives or friends	69
Figure 3.34	Children in working lone parent families: mean price of childcare for children using childcare during term time whose childcare is paid for, by age of child	72
Figure 3.35	Children in couple families with working mother: mean price of childcare for children using childcare during term time whose childcare is paid for, by age of child	73
Figure 3.36	Children in families with working mother: distribution of hourly price of centre-based childcare	74
Figure 3.37	Children in families with working mother: distribution of hourly price of out-of-school or holiday clubs	76
Figure 3.38	Children in families with working mother: distribution of hourly price of childminders	77
Figure 3.39	Proportion of mothers using childcare during term time	80
Figure 3.40	Children in lone parent families: proportion of children using childcare during term time, by age of child	81
Figure 3.41	Children in couple families: proportion of children using childcare during term time, by age of child	82
Figure 4.1	Employment rate of mothers	87
Figure 4.2	Proportion of working lone parent families using childcare	88
Figure 4.3	Proportion of couple families with working mother using childcare	89
Figure 4.4	Children in working lone parent families: proportion using centre-based childcare	91
Figure 4.5	Children in couple families with working mother: proportion using centre-based childcare	92
Figure 4.6	Children in working lone parent families: proportion using out-of-school or holiday clubs	93
Figure 4.7	Children in couple families with working mother: proportion using out-of-school or holiday clubs	94
Figure 4.8	Children in working lone parent families: proportion using childminders	95
Figure 4.9	Children in couple families with working mother: proportion using childminders	96
Figure 4.10	Children in working lone parent families: proportion using close relatives	97
Figure 4.11	Children in couple families with working mother: proportion using close relatives	98
Figure 4.12	Children in working lone parent families: proportion using other relatives	99
Figure 4.13	Children in couple families with working mother: proportion using other relatives	100

Figure 4.14	Mean weekly hours of childcare amongst working lone parent families	101
Figure 4.15	Mean weekly hours of childcare amongst working lone parent families using childcare	102
Figure 4.16	Mean weekly hours of childcare amongst couple families with working mother	103
Figure 4.17	Mean weekly hours of childcare amongst couple families with working mother using childcare	104
Figure 4.18	Mean weekly family childcare expenditure amongst working lone parent families	105
Figure 4.19	Mean weekly family childcare expenditure amongst working lone parent families using childcare	106
Figure 4.20	Mean weekly family childcare expenditure amongst couple families	107
Figure 4.21	Mean weekly family childcare expenditure amongst couple families using childcare	108
Figure 4.22	Proportion of working lone parent families who pay for childcare	109
Figure 4.23	Proportion of couple families with working mother who pay for childcare	110
Figure 4.24	Proportion of working lone parent families who pay for childcare amongst working lone parent families using childcare	111
Figure 4.25	Proportion of couple families who pay for childcare amongst couple families using childcare	112
Figure 4.26	Rate for children living in lone parent families, conditional on paying	114
Figure 4.27	Rate for children living in couple families, conditional on paying	115
Figure D.1	Children in working lone parent families: proportion of children using other relatives or friends during term time, by age of child	153
Figure D.2	Children in couple families with working mother: proportion of children using other relatives or friends during term time, by age of child	154
Figure D.3	Children in working lone parent families: proportion who use paid-for childcare during term time, by age of child	155
Figure D.4	Children in working lone parent families: proportion of children using childcare during term time whose childcare is paid for, by age of child	156
Figure D.5	Children in couple families with working mother: proportion who use paid-for childcare during term time, by age of child	157
Figure D.6	Children in couple families with working mother: proportion of children using childcare during term time whose childcare is paid for, by age of child	158

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The Authors

Mike Brewer, Programme Director, Direct Tax and Welfare sector, Institute for Fiscal Studies.

Jonathan Shaw, Research Economist, Institute for Fiscal Studies.

Summary

Chapter 2

- The aim of this part of the project was to ‘investigate recent trends in childcare use amongst families in Great Britain, and provide a thorough comparison of the different household survey and administrative datasets.’
- Families and Children Study (FACS), Family Resources Survey (FRS), Labour Force Survey (LFS) and Parents’ Demand for Childcare (PDFC) collect information on childcare use in different ways. Who the questions are asked of, how the question and preamble are phrased, what time period is referred to, and what options are on the showcard of childcare types, are all different between the surveys. We ascribe the majority of the differences that we find to these differences in the questionnaire.
- The most important factor seems to be whether parents are directed to think about ‘childcare’ or whether they are simply asked who else, other than the parents, looks after their children. Of lesser importance are: whether ‘work’ is mentioned in the questions about childcare use, how comprehensive is the list of childcare options shown to parents on the showcard, how well the showcard helps parents to distinguish between childcare and early years’ education, and whether the questions refer to last week’s or the ‘usual’ arrangements.
- We have constructed consistent variables of childcare use from the four surveys, but with a limited typology of childcare types, and restricted to a sample of children aged 14 or under with working mothers in England, observed during term time.

Chapter 3

- The majority of the analysis in this chapter is on a sample of children aged 14 or under with a working mother (or a working lone father) living in England. Section 3.4 also looks at children aged 14 or under with non-working mothers (or a non-working lone father) living in England.

Differences between surveys

- There is a clear ranking in the proportion of our sample recorded using childcare: LFS records the most, followed by PDFC, then FACS and FRS. This is primarily due to large differences in the proportion using centre-based care, out-of-school clubs, and in-close relatives. The proportion using childminders or nannies, though, is reasonably and reassuringly similar across the datasets.
- The differences in use of centre-based care seem to be driven in differences in the surveys' ability to capture early years' education. We think this is driven by the preamble to and wording of the key question about childcare use, and the comprehensiveness of the options given on the showcard. The differences in use of close relatives and out-of-school clubs, though, cannot be due to the showcard and so must be due to the differences in the preamble to and wording of the key question about childcare use.
- The LFS does not ask about hours of childcare nor expenditure on childcare services. The ranking of the other three surveys in recording the amount of childcare used, measured as hours/week/child, is the same as mentioned above: PDFC then FACS then FRS. This remains the case when we restrict the sample to children who use childcare: this means that PDFC captures more childcare use amongst both the kind of children who are recorded as using childcare and those not recorded as using childcare in other surveys.
- There is little difference in the average expenditure on childcare, measured across all children, recorded by the three surveys. Because of the large differences in the proportion of children recorded as using childcare across the three surveys, however, average expenditure for those using childcare varies markedly across surveys, with the ranking FRS then FACS then PDFC. This suggests that the surveys vary in their ability to record cheap or free childcare.
- Only PDFC and FACS can tell us about the price of childcare, which we have calculated as expenditure per child on a certain type of care, divided by hours of care used by that child. The two surveys agree on the relative expense of different types of care, and that couples using paid childcare use more expensive care than lone parents using paid care.
- Only PDFC, LFS and FACS (from wave 4) tell us about childcare used by all non-working mothers. A remarkably high proportion of these families use some form of childcare; the largest difference with working mothers is in their use of informal care, although working and non-working mothers have very different characteristics. The size of the bounds when estimating childcare use amongst non-working mothers using PDFC, are much greater than for working mothers because a high proportion of families with three or more children do not work.

Key facts about childcare use

- More families with working mothers use informal childcare than formal childcare. More working lone parents use childcare than couples with a working mother, with much of the difference due to a greater use of informal care. But a minority of working mothers do not use any form of childcare.
- The most common type of childcare used by families with working mothers is close relatives, followed by centre-based care and other relatives and friends. Childminders are used a small amount, and nannies and au pairs almost not at all.
- Around half of non-working mothers use some form of childcare, compared with 70-80 per cent for working lone parent families and 60-70 per cent for couple families with a working mother. The difference is mainly due to non-working mothers making much less use of informal care than working mothers.
- Childcare use amongst families with working mothers, falls as the age of child increases. For children in couple families there is a pronounced drop at age five. There is no such drop for children in lone parent families, suggesting that it is easier for parents in couples to organise work around school hours. Formal childcare is used mainly by pre-school children, while informal childcare is used more broadly across the age range.
- Use of centre-based care is higher for children with a non-working mother than for children with a working mother, but this reflects the fact that children of non-working mothers are more likely to be below school-age.
- Amongst working mothers who use childcare, lone parents use more hours than couples.
- A lot of families with working mothers use only a little childcare: for children using childcare, the hours distribution has a mode of roughly ten hours per week for children in lone parent families and five hours per week for children in couple families. Average hours are highest for centre-based care, somewhat lower for childminders and close relatives, lower still for other relatives, and lowest for out-of-school or holiday clubs.
- Working lone parents are more likely than couples with a working mother to use free childcare, presumably because more of it is informal. Amongst working mothers who pay for childcare, the price of childcare used by lone parents is lower than that used by couple families, on average, even when comparing childcare of the same type; this may be due to differences in the quality of childcare.
- Nannies/au pairs are the most expensive form of childcare, followed by childminders and centre-based care. The least expensive type of formal childcare is out-of-school or holiday clubs. Not all informal care is free, but, on average, it is substantially cheaper than formal care.

Chapter 4

- The analysis in this chapter used three datasets (FRS, FACS and LFS) with data spanning 1995 to 2003, although there are only two years where data from all three surveys exists.
- The majority of the analysis is on a sample of children aged 14 or under with a working mother (or a working lone father) living in Great Britain. The composition of the sample will have changed over time, not least because employment rates for mothers are on an upward trend.

Differences between surveys

- There is a worrying difference in the trend in overall childcare use: the FRS shows childcare use to be on a downward trend, but FACS and LFS show a constant or rising trend, albeit on a smaller span of data. This difference is largely due to a disagreement over the trend in informal care use: all surveys show that use of formal care is rising, driven by increasing use of centre-based care and out-of-school clubs, although childminder use is declining.

Key facts about trends in childcare use

- The analysis presented, has little to say about the total amount of childcare because we do not have a time-series of childcare used by non-working mothers.
- The FRS says that lone parents are using less childcare now, on average, than they were in 1995, but lone parents who use childcare are using the same number of hours, on average. Couples are using less childcare now, on average, than they were in 1995, and couples using childcare are using less childcare now, on average, than in 1995. These trends are less evident in FACS.
- Trends in expenditure or the proportion paying for care are not clear from FACS. The FRS suggests that the proportion of working mothers paying for care has hardly changed since 1995, but the proportion of childcare users who pay for some childcare is increasing. Similarly, while the average amount spent across all working mothers has not been changing in real terms, the amount spent by families who use care is rising.
- The FRS suggests average annual real growth since 1995 in the hourly price of childcare of around five per cent a year for lone parents and four per cent for couples. In recent years, there is evidence that the price of paid-for childcare used by lone parents has been rising markedly, but this has not been the case for childcare used by couples.

Chapter 5

- In general, household surveys capture more spending on formal childcare by lone parents receiving Working Families' Tax Credit (WFTC) than is recorded by lone parents claiming the Childcare Tax Credit (CCTC) in administrative data. The differences are not large, though (except for spending on out-of-school clubs).
- Two main factors can account for this: expenditure captured by surveys on formal care may not all be on eligible childcare, and some lone parents receiving WFTC may not have CCTC, even though they were eligible for it (i.e. they were spending money on formal childcare).
- When the survey data is made to look more like the administrative data – by restricting to a sample of lone parents who say they receive CCTC and who are still working 16 or more hours – then survey-based estimates of the proportion paying for formal childcare, and the average amount spent, are little different from administrative data on actual CCTC claims.

Practical and policy conclusions

Recommendations when using information on childcare use from FACS, FRS, LFS and PDFC

- These four surveys differ markedly in their ability to capture use of early years' education, out-of-school clubs and care from close relatives
- All four surveys tell us about childcare **use**, a combination of demand and supply.
- In the four surveys, there is an inverse correlation between the amount of information on childcare use, and the amount of information on other characteristics (such as employment, education attainment and income information, for example).
- The routing to the childcare questions varies considerably across the four surveys such that, even conditioning on families with a working mother, responses are not completely comparable.

Recommendations for future childcare survey questions

- Clarify the distinction between different types of childcare, and provide interviewers with definitions to help respondents classify childcare providers. This allows for the greater flexibility when performing secondary analysis.
- Ensure that the list of childcare options adequately incorporates early years' education.
- Collect childcare information for all families, not just those with adults in work.
- Be aware of how sensitive responses are to the precise wording of questions, and ensure that the wording is capable of collecting the information that is required.

Issues for further research

- Investigate what difference asking about actual arrangements makes, compared with asking about usual arrangements.
- Understand why the FRS gives a different picture of the trends in use of informal childcare amongst working mothers from other household surveys.
- Think about how childcare supply and childcare demand might be measured, independent of one another.

1 Introduction

The aim of this part of the project was to ‘investigate recent trends in childcare use amongst families in Great Britain, and provide a thorough comparison of the different household survey and administrative datasets.’

Chapter 2 describes how we set up our data. Chapter 3 compares all four datasets in the single year where there is approximate overlap: Families and Children Study (FACS) wave 3, Family Resources Survey (FRS) 2001/02, Parents’ Demand for Childcare (PDFC) 2001 – sometimes known as the Repeat Survey of Parents’ Demand for Childcare – and Labour Force Survey (LFS) autumn quarter 2001. Chapter 4 compares trends in childcare use in FRS, FACS and LFS. Chapter 5 compares data from claims for the Childcare Tax Credit (CCTC) part of the Working Families’ Tax Credit (WFTC) with our survey data, and Chapter 6 concludes.

2 Creating consistent definitions of childcare use from household survey data

In this chapter, we describe the data that we used, and what we did with it. Because our aim is to compare information from different datasets, our focus was on creating information from each of the datasets at as many different levels of aggregation as possible in as consistent a manner as possible.

Section 2.1 gives an overview of the differences between the four datasets that affected our data on childcare use. In Section 2.2, we describe the consistent datasets that we ended up with, and discuss the remaining inconsistencies and problems that bedevil our comparisons.

2.1 The questions on childcare in the surveys

We used data from four main surveys:

- waves 1 to 4 of the Families and Children Study (FACS);
- the Family Resources Survey (FRS), from 1995/96 to 2002/03;
- Parents Demand for Childcare (PDFC) 2001 (sometimes known as the Repeat Survey of Parents' Demand for Childcare);
- The Labour Force Survey (LFS), from 2001 to 2003 (autumn quarters only).

Appendix A, Table A.1 gives more details about each survey.¹

Several factors will affect the information about childcare use recorded in each survey, such as:

- the survey design/sampling frame/sampling unit;
- whether the survey records 'actual' or 'usual' childcare use (these terms are explained below);
- the routing to the questions on childcare;
- the person to whom the childcare questions are addressed;
- the age of children covered by the childcare questions;
- the wording of the childcare questions;
- the possible answers to the childcare questions (usually shown to respondents on a 'showcard').

The main surveys used in this report are all (approximately) random surveys within certain regions of Great Britain (i.e. England, England and Wales, or England, Wales and Scotland), and most address the questions on childcare to the main carer.² Therefore, the important differences between surveys analysed in this report relate to:

- whether the survey records 'actual' or 'usual' childcare use (terms explained below);
- the routing to the questions on childcare;
- the wording of the childcare questions;
- the possible answers to the childcare questions.

We summarise the differences below (full details are in Appendix A, Table A.2). Although we cannot be sure what features are leading to variation in childcare use across datasets, we ascribe most of the variation we find in subsequent chapters (having constructed comparable variables on comparable samples) to these differences listed above simply because there are no other convincing explanations.

2.1.1 The time period covered by the childcare questions

The four surveys have different approaches to defining the time period within which childcare information is collected. PDFC and LFS ask questions about childcare used

¹ We did not use the first Parents' Demand for Childcare Survey (1999) because the dataset deposited at the UK Data Archive contained some mistakes. It is our understanding that these will be corrected, and a new dataset supplied, in due course.

² We are not sure who answers the question in LFS; the FRS tries to address the questions to both parents.

in the week before the interview. FACS and FRS, though, collect information about childcare used over an unspecified period of time but excluding irregular uses of childcare: as Table A.2 shows, FRS has the words 'normally' and FACS the word 'usual' somewhere in the questions about childcare use. This distinction is very similar to questions in surveys about earnings or hours worked, where the concepts 'actual' and 'usual' are used, respectively, to refer to these two different measures (it is also similar to surveys on expenditure, and the difference between diary-based surveys and recall questions).

We don't know how important this difference is. This issue has been analysed in depth for hours of work, where it has been found that asking about hours worked last week ('actual hours') records a series with a similar mean but greater variance than asking about usual hours.³ We would expect a similar result to apply to questions on childcare: if some childcare arrangements do not take place every week, then it is possible that some parents may not tell interviewers about them when asked to recall arrangements that are 'usual' or happen 'on a regular basis'. On the other hand, if such care arrangements do not happen every week, then only a fraction of them will be picked up by surveys that ask parents about childcare used in the last week.⁴ Given that the surveys differ in so many other dimensions, it is not possible for us to say whether using data on 'usual' or 'actual' childcare arrangements makes an important difference.⁵

2.1.2 The routing to the questions on childcare

The routing to a particular question describes the circumstances under which that question is asked. For example, in an employment survey, an hours-of-work question might only be addressed to people who are currently working. The differences in routing to the childcare questions are:

- Only LFS and PDFC address questions about childcare use to all parents, regardless of employment status.
- In FACS, questions about current childcare use are only asked if the main carer is currently working. If this isn't the case, childcare questions relate to arrangements when the main carer last worked in waves 1-3. From wave 4, there are questions addressed to non-working mothers about their recent childcare use, but these are slightly different from the questions addressed to working mothers.

³ See Williams (2004), for example.

⁴ Both the surveys that ask about usual childcare use also distinguish between term time and school holidays. This information is not used in the 2001 cross-sectional comparison in Chapter 3, but is used for the time series comparison in Chapter 4 and the Working Families' Tax Credit (WFTC) administrative data comparison in Chapter 5 (see Section 2.2).

⁵ We would need two surveys with identical childcare questions except that one asked parents about actual arrangements and the other about usual arrangements.

- In the FRS, childcare questions are only asked if either parent says that they are working or pay for childcare, and parents respond positively to the question 'does anyone else normally look after [child's name] on a regular basis, excluding care for social occasions?'. Childcare information is not collected, therefore, from non-working parents (unless, since 2000/01, they pay for it) nor for working parents who respond negatively to the routing question. In particular, the words 'normally' and 'on a regular basis' may preclude some forms of childcare, and 'anyone else' is not qualified further (for example, does it mean anyone apart from the parents, or anyone outside the household?).

2.1.3 The question about types of childcare used

The phrasing of the question about childcare types is important because it may encourage respondents to omit particular types of childcare, and include some types of childcare only when it is used for a particular purpose.

The main differences are:

- There are two childcare-type questions in LFS, both of which are fairly open (i.e. non-leading): '*did [child's name] attend any of the following?*' and '*were there any other people who looked after [child's name]?*' Neither question includes the word 'childcare', which may encourage respondents to include activities not commonly perceived as childcare, such as sports clubs, babysitting, and time spent at friends' or relatives' houses where the child's parents are not present. Respondents are told to exclude resident parents/guardians.
- In PDFC, the preamble to the question includes the word 'childcare' but the question itself is still fairly open, asking '*who looks after [child's name]?*' Care by current partner is explicitly excluded.⁶
- FRS is fairly similar to PDFC: 'childcare' is mentioned, but the question is fairly open: '*who looks after [child's name]?*'. However, in order to be asked this question, parents must have already answered positively to earlier routing questions, including '*does anyone else normally look after [child's name] on a regular basis, excluding care for social occasions?*', and this is a much less open question. In particular, the words 'normally' and 'on a regular basis' are open to judgement. Current partners are not explicitly excluded from the question about childcare types, but the routing question should lead respondents not to mention care provided by partners or other people in the household.
- In FACS, however, the question might lead parents to volunteer only information about work-related childcare ('*when you are working, what are your usual arrangements for looking after [child's name]?*'). This might encourage parents to exclude childcare arrangements that take place when they are not in work. Current partners are explicitly included.

⁶ We use 'partner' throughout to mean spouse or cohabiting partner.

2.1.4 Possible responses to the question about childcare types

In all four surveys, respondents answer the childcare types question with the help of a list of childcare types to choose from. This showcard of options is important both because it may remind respondents what childcare they used, and because it could be taken to be an exhaustive list of what should be counted as childcare (although, in most surveys, parents can suggest other forms of childcare).

The main differences in the list of childcare types are:

- LFS and the PDFC have extensive lists of possible childcare types, and the differences between categories seem reasonably unambiguous to us, although we do not know how well parents were able to distinguish between them. Some of the childcare types are types of part-time or full-time education.
- FACS has a less extensive list of possible childcare types. There are no explicit early years' education categories (such as a 'nursery class attached to a primary school' option), and we were unclear how to distinguish between two of the categories ('nursery/crèche' and 'nursery school/playgroup'); no further information was given to interviewers or parents. Respondents are restricted to a maximum of three different childcare types.⁷ However, the possible responses allow parents to suggest why they did not use childcare, which is a useful way to check that parents really did not use any childcare when they do not volunteer any information about childcare use. FACS is the only survey with a childcare type that explicitly includes care provided by current partner.
- The FRS has the least extensive list of possible childcare types. Many of the childcare types are much more aggregated than the other surveys (i.e., 'close relative' is a single category where other surveys have 'ex-partner', 'grandparent' and 'sibling' separately), and the list does not have any explicit early years' education options, or (until 2002/03) out-of-school clubs.

The impact of omitting explicit early years' education options merits further discussion because one of our primary concerns is that the distinction between pre-school childcare and school has become increasingly blurred, making it more difficult to decide what should be counted as childcare and what as attending school (see also Lewis (2003)).

⁷ This restriction is unlikely to be very important. In FACS wave 3, for example, 1.43 per cent of children are recorded as using three different childcare types during term time, and 2.54 per cent during school holidays. This places an upper bound on the proportion of children using four or more childcare types. In reality, the figure is likely to be much lower: the proportion of children in PDFC who use four or more different types of childcare during term time is 0.17 per cent. Nevertheless, there has been an increase over time in FACS in the proportion of children using three childcare types: comparable figures for wave 2 are 0.59 and 0.87, and for wave 4, 2.20 and 3.05.

Children must start school at the beginning of the term following their fifth birthday, but most attend a full-time reception class at their primary school before they are five (the age at which this starts varies between local education authorities and by the child's month of birth). We suspect few parents count this as childcare, and we exclude full-time education from our definition of childcare below.

Since September 1998, all four-year olds have been entitled to a free, part-time, nursery place, and by April 2004, this should have been extended to all three-year olds (though, again, the way this has been implemented varies across local education authorities). These free nursery places are available at a number of different institutions, including nurseries, playgroups, some registered childminders and state nursery schools, but also at nursery and reception classes at infant or primary schools. We suspect that a free nursery place at a private nursery is likely to be counted by parents as childcare, since nurseries typically provide other childcare services. In contrast, free nursery classes at primary school (or at other early years' education providers) may be viewed by some parents as part of starting school, rather than as childcare. This confusion is likely to be particularly important where the showcard of childcare types does not include an explicit option such as 'nursery class attached to a primary school' – as FACS and FRS fail to do. In this case, it is not clear how parents will respond: some parents may not mention nursery education at all, thinking it to be different from childcare, and others may include it under the 'nursery school' option.

There are also differences in the way that out-of-school clubs are dealt with by the surveys. Before 2002/03, the FRS included no out-of-school clubs option, but in 2002/03, the single option 'after school or holiday play scheme' was added. This wording is identical to the out-of-school clubs option in FACS. PDFC and LFS include two, slightly broader, options on the showcard. In PDFC they are: 'out-of-school club (e.g. before/after school, during school holidays)', and 'holiday club/scheme'. The options in LFS are almost identical: 'out-of-school club (e.g. before/after school)', and 'holiday scheme'. It is conceivable that the wording in PDFC and LFS – 'out of school clubs' as opposed to 'play schemes' in FACS and FRS – may lead parents to volunteer more instances. As discussed earlier, a key difference between LFS and the other datasets, is that the wording of the childcare types question in LFS makes no mention of 'childcare'. This may be particularly important here since many out-of-school clubs or schemes may not be regarded by respondents as childcare (and indeed, may be activities we don't want to count as childcare either).

2.1.5 Impact of differences between the surveys

Overall, these differences in routing, the childcare question and possible responses lead us to expect that LFS and PDFC will record more childcare use than FACS and FRS, even if we condition on families where the main carer is in work.

More specifically, we expect to find the largest differences in three areas of childcare use:⁸

- activities not universally perceived as childcare, such as out-of-school activities and babysitting;
- care provided by partners and by people resident in the household, other than the main carer and partner;
- childcare used by pre-school children.

We also expect to find greater variability in the LFS and PDFC, which ask about childcare used last week, than in FRS and FACS, which ask about usual or normal arrangements.

So far, we have discussed differences between surveys in the *types* of childcare that are used, and hence, the proportion of families or children using childcare. However, this is also relevant to the hours of childcare and childcare expenditure that are recorded: clearly, if a particular provider isn't recorded as being used, then there won't be any hours or cost information. This means we would expect to find similar patterns for hours and expenditure as for childcare use. LFS contains no hours or expenditure information, so we only have three datasets to compare.

2.2 Creating consistent definitions of childcare use

Our aim was to create standardised datasets from each of these four surveys, with – as far as possible – consistent and comparable variable definitions. We outline this below, with more detail in Appendix B.

2.2.1 Types of childcare

Our definition of childcare is 'care provided by someone other than the respondent and their current partner, excluding full-time education, reception classes and babysitters.'

This definition is a compromise between following other researchers and common practice within government, and ensuring that we can construct a common definition of childcare in all four datasets.

For example:

- we have to exclude care by resident fathers and care from babysitters because these categories are excluded from some of the datasets (only FACS collects information about childcare provided by the partner of the main carer; only LFS and PDFC explicitly collect information about babysitters);

⁸ Some of these differences will disappear when we construct a consistent definition of childcare (see Section 2.2).

- we include early years' education (EYE) in our main analysis, although we present a few analyses that try to exclude it. Section 2.1.3 mentioned the growing difficulty that parents may have distinguishing between EYE and pre-school childcare, and how this will be exacerbated when the possible list of childcare types does not explicitly incorporate EYE options. It was not possible to exclude EYE in a consistent manner across the datasets, and so we have included all forms of EYE that are captured by the surveys;
- we omit full-time education and reception classes, both because it is rarely counted as childcare, and because we do not know whether children in FACS are in full-time education⁹.

To compare childcare use across surveys, we needed a common disaggregated classification of childcare types. This had to be the lowest common denominator across the four different surveys (as mentioned earlier and set out in Appendix A, Table A.2, the most restricted list of childcare types is in the FRS). Our consistent childcare classification is:

1. Centre-based care (except out-of-school and holiday clubs).
2. Out-of-school clubs and holiday clubs.
3. Childminder (registered and unregistered).
4. Nanny/au pair.
5. Close relative (not including the child's main carer and any resident partner).
6. Other relative/friend.
7. Other type/type unknown.

Appendix A, Table A.3 shows the mapping from the childcare types in each of the four surveys to this narrower classification.

Childcare is often classified as either formal or informal. Informal childcare is childcare provided by relatives and friends. All other childcare – including playgroups, childminders, nannies, after school schemes, and so on – counts as formal. This means that categories 1-4 of our classification count as formal, and 5-7 count as informal.¹⁰ The distinction between formal and informal childcare is used fairly heavily in the data sections of this report.

The distinction between formal and informal childcare is not the same as between eligible and ineligible childcare, which usually refers to whether childcare qualifies

⁹ 'Children in a reception class are usually completing the final year of the Foundation Stage. They then move on to Year One of the primary or infant school on reaching statutory school age' (from NAO, 2004).

¹⁰ It is possible that this will misclassify some childcare in category 7, but this is a very small proportion of overall childcare use.

for help under the tax credit system. All eligible care is formal, but some formal care is ineligible (unregistered childminders, nannies and au pairs). We are not able to split our formal childcare types between ineligible and eligible because not all surveys collect this information (there is also a distinction between paid and unpaid care, and this is explored in Section 3.3).

2.2.2 Other variables

We created a number of other variables with consistent definitions, and details of these are given in Appendix B.

2.2.3 Other features (and limitations) of the datasets

Limitations of the datasets meant that we had to make some restrictions to our sample in order to construct a consistent sample; unless otherwise stated, these apply to all analysis in Chapters 3 and 4.

Most importantly, almost all of our analysis relates to childcare among families where the mother works.¹¹ This is because neither FACS (except in wave 4) nor FRS collect information about current childcare for all families where the mother doesn't work (see Section 2.1.2). PDFC and LFS, however, do collect information for all families, so for these datasets, we present a brief cross-sectional analysis of childcare use among families with non-working mothers (Section 3.4).

A second restriction is that we only consider childcare used by children aged 14 or under because PDFC does not tell us about childcare use for children aged over 14. In the other datasets, however, almost no children aged over 14 use childcare, so this restriction is almost irrelevant.

In Chapter 3, we restrict our samples so that they tell us about childcare used during school terms, but for Chapters 4 and 5 we make use of holiday childcare information. The detailed information in PDFC relates to the previous week, and the design of the survey meant that this was always a school week. FACS asks respondents about their typical use in both term time and holiday. The FRS allows parents to suggest different hours and expenditure in term time and holiday, but the question about the types of childcare used is only asked once. Similarly, information in LFS also relates to the previous week, but we make this correspond to care used in term time by excluding people surveyed at the start of September and in the week after the most popular half-term week in October.

¹¹ We do mean 'mother', not main carer because FRS and LFS don't identify the main carer. Because FACS collects childcare information only from families where the main carer works, we will not know about childcare used in families where the mother works and the father does not work and identifies himself as the main carer. These families will have been dropped from our analysis. In addition, we have not separated lone fathers from lone mothers, and it should be understood that we usually mean 'lone parent' where we say 'lone mother'. Similarly, we treat the main carer in same-sex couples as the 'mother'.

In each of the four surveys, much of the childcare information was collected separately for each child. This allows us to compare childcare use at both the child level (*'what childcare do 4 year-olds use?'* for example) and at the family level (*'how much do lone parent families spend on childcare each week?'* for example). However, not all the surveys collect all the information we are interested in at both levels:

- LFS never includes hours or expenditure information;
- FRS records expenditure and hours at the child level summed over all types of care used by that child;
- FACS wave 1 does not record hours of childcare, and records only the types of childcare used by the family, and not by each child.

In the PDFC surveys, childcare information was only collected from two children in each family with three or more children. The two children were randomly selected from all the children in the family so, when analysing data at the child level, one can use probability weights to correct for this under-sampling, and we do this. But we also want to use the PDFC data to analyse childcare use (and hours and expenditure) at the family level. We do this by using the same probability weights when summing information over all the surveyed children in the family; effectively, this assumes that the children who are not surveyed use the same childcare, on average, as their two surveyed siblings. This will be right, on average, because the children were selected at random. However, using this procedure to create indicators for whether families with three or more children use particular types of childcare, gives an estimate that is a lower bound to the value that we would have obtained had we information on all children, and so we also report an upper bound (see Appendix C.1 for a full explanation). We think, though, that our approach is preferable, on balance, to excluding families with three or more children from all of our samples.

2.3 Summary of findings

- FACS, FRS, LFS and PDFC collect information on childcare use in different ways. Who the questions are asked of, how the question and preamble are phrased, what time period is referred to, and what options are on the showcard of childcare types, are all different between the surveys. We ascribe the majority of the differences that we find to these differences in the questionnaire.
- The most important factor seems to be whether parents are directed to think about 'childcare' or whether they are simply asked who else, other than the parents, looks after the children. Of lesser importance are: whether 'work' is mentioned in the questions about childcare use; how comprehensive is the list of childcare options shown to parents on the showcard; how well the showcard helps parents to distinguish between childcare and early years' education; and whether the questions refer to last week's or the 'usual' arrangements.

- We have constructed consistent variables of childcare use from the four surveys, but with a limited typology of childcare types, and restricted to a sample of children aged 14 or under with working mothers in England observed during term time.

3 Cross-sectional comparisons of household survey data

This chapter compares data on maternal employment and childcare use in four surveys that took place in 2001: Families and Children Study (FACS) 2001 (wave 3), the repeat Parents' Demand for Childcare (PDFC) study 2001, Family Resources Survey (FRS) 2001/02, and Labour Force Survey (LFS) autumn 2001. Data from three of these four surveys exist in 2002 (all but PDFC), and these are included in our analysis of changes in childcare use and employment over time, presented in Chapter 4.¹²

Our focus is on determining the extent to which the datasets agree with each other, and explaining what causes differences when they occur. Chapter 2 discussed how we constructed consistent definitions of the key variables, and the restrictions we had to place on our sample (principally, to children aged 14 or under with working mothers). But we had to make more restrictions to our sample to aid comparability between these four datasets in 2001:

- We restricted the sample to families in England because the repeat PDFC survey was limited to England.
- We limited the analysis to that of childcare used in term time. As discussed in Section 2.2.1, PDFC only tells us about term-time childcare use. In FACS and FRS, we use the answers to the questions about childcare use in term time and disregard those about holiday use (the question in the FRS about which types of childcare are used does not distinguish between term time and holiday, but the

¹² Counting the first PDFC survey, three surveys also exist for 1999. However, the PDFC 1999 dataset deposited at the UK Data Archive contained some mistakes so we were unable to use it. We understand these errors are in the process of being corrected.

questions on hours and expenditure do). The LFS asks about childcare used in the previous week, and so we exclude people surveyed at the start of September and in the week after the most popular half-term week in October in order to produce a sample that is largely observed during the autumn school term.

- We do not have population (or grossing weights) for the PDFC surveys, so we did not use them at all. We do, though, have sampling (or cross-sectional) weights for PDFC and FACS wave 3: these weights are designed to make the surveys look like cross-sectional samples of all children, as they reflect the non-random sampling of children in PDFC, and the fact that FACS can be used both as a cross-section and a longitudinal survey (see Appendix A, Table A.1).

Even though the surveys are all from 2001, there is a difference in the precise time-frame, with some of our sample observed more than 14 months apart (in detail, the repeat PDFC survey was carried out in January – April 2001, FRS was surveyed between April 2001 to March 2002, FACS was surveyed in autumn – winter 2001 and LFS is surveyed in September – November 2001). We do not attempt to correct for this.

The rest of the chapter is organised as follows: Section 3.1 investigates how comparable are our four main surveys in dimensions other than childcare use; Section 3.2 compares the use of various types of childcare across the surveys, focusing on the types where there is the least agreement; Section 3.3 explores differences in the hours of childcare used, expenditure on childcare, and its price; and section 3.4 briefly explores information on childcare used by non-working mothers in the two of the four surveys that collect this.

3.1 Summary statistics and maternal employment

Before comparing childcare use, it is helpful to look at a few summary statistics across datasets, to check that the sample composition does not differ significantly. Table 3.1 presents a number of summary statistics together with sample sizes.

LFS has the largest sample – around 50 per cent larger than FRS and FACS (which have very similar sample sizes), and almost double PDFC. Roughly 25 per cent of families are lone parent families, broadly in line with population shares. On average, families have 1.75 children aged under 14 (remember our data contains only families with children), and the mean age of these children is just over seven. Around 30 per cent of couples have one partner who works, and 65 per cent of couples have both partners working.¹³ Fewer lone parents work than mothers in couples: the employment rate for lone parents is between 45 per cent and 50 per cent, roughly 20 percentage points lower than the employment rate for mothers in couples.

¹³ PDFC defines employment as work of at least eight hours work a week, whereas the other three datasets allow any number of hours worked to count as employment. This may explain why PDFC records a slightly lower employment rate.

There is a good degree of consistency across the datasets. Lone parent families make up a slightly lower proportion of families in PDFC and LFS than in FACS and FRS. The mean number of children aged 14 or under is a bit higher in PDFC, and the mean age a bit lower. FRS records fewer lone parents who work, and PDFC has more couple families where one partner works and fewer where both work. Since our analysis of childcare relates only to those families where the mother is working, variation across datasets in the employment rate of mothers is particularly important.¹⁴ PDFC and FRS provide slightly lower estimates than FACS and LFS, but these differences are small.

Table 3.1 Summary statistics

	PDFC	FACS	FRS	LFS
Number of families (weighted)	4,619	5,846	6,165	8,794
Number of families (unweighted)	5,416	5,869	6,165	8,794
Number of children (weighted)	8,402	10,351	10,896	15,414
Number of children (unweighted)	8,657	10,402	10,896	15,414
Proportion of lone parents	0.254 (0.006)	0.263 (0.006)	0.270 (0.006)	0.247 (0.005)
Mean number of children aged 14 or under per family	1.83 (0.012)	1.77 (0.011)	1.77 (0.011)	1.75 (0.009)
Mean age of children aged 14 or under	7.02 (0.047)	7.12 (0.042)	7.16 (0.041)	7.24 (0.034)
Proportion of lone parents who work	0.457 (0.014)	0.483 (0.013)	0.459 (0.012)	0.494 (0.011)
Proportion of couples where one partner works	0.324 (0.008)	0.282 (0.007)	0.284 (0.007)	0.296 (0.006)
Proportion of couples where both partners work	0.624 (0.008)	0.663 (0.007)	0.646 (0.007)	0.641 (0.006)
Proportion of couples where mother works	0.657 (0.008)	0.699 (0.007)	0.676 (0.007)	0.686 (0.006)

Note: Except where marked 'unweighted', estimates use weights as described at the start of this chapter.

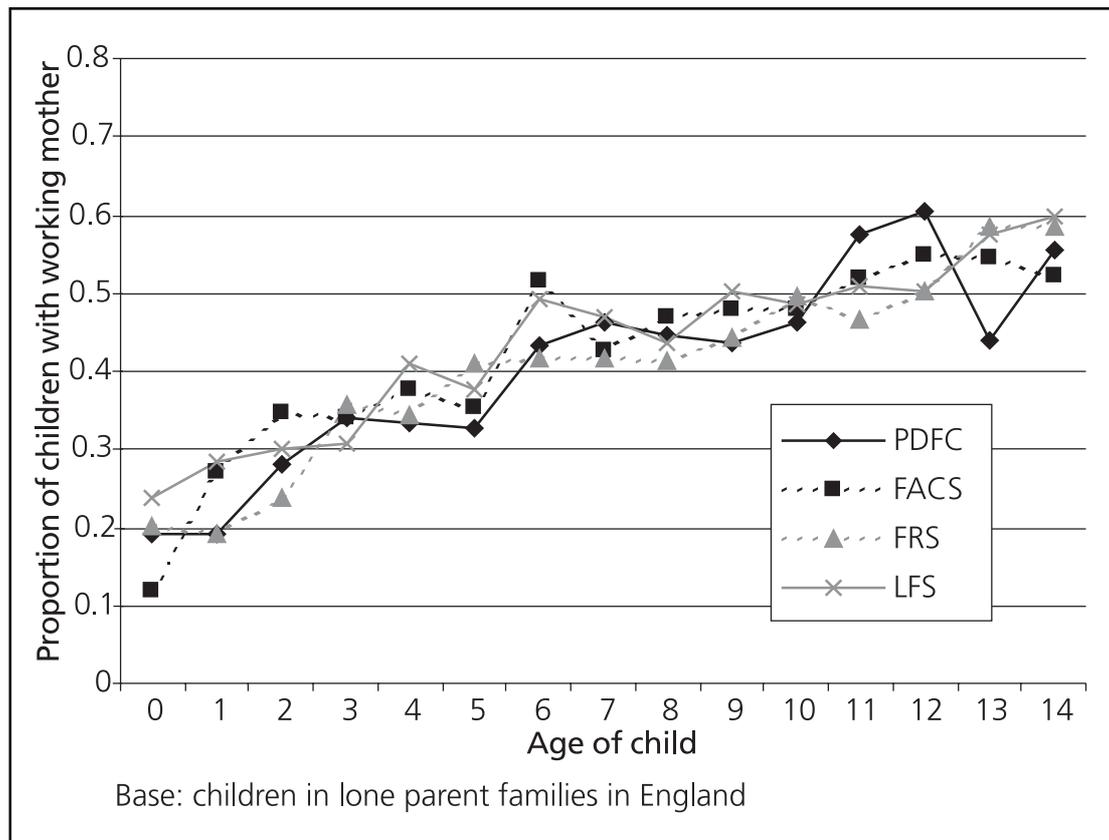
Figures 3.1 and 3.2 plot maternal employment rates by age of child for children in lone parent and couple families.¹⁵ It is more usual to look at employment rates by the age of the youngest child, but we have chosen this format because a number of tables and graphs below examine childcare use by age of child for children whose mother works. The maternal employment rate is higher for children in couple families than for children in lone parent families right across the age range, but rises slightly more rapidly with age for children in lone parent families (both in percentage

¹⁴ Recall that our sample of 'lone mothers' includes lone fathers.

¹⁵ See Appendix D for sample sizes by age of child.

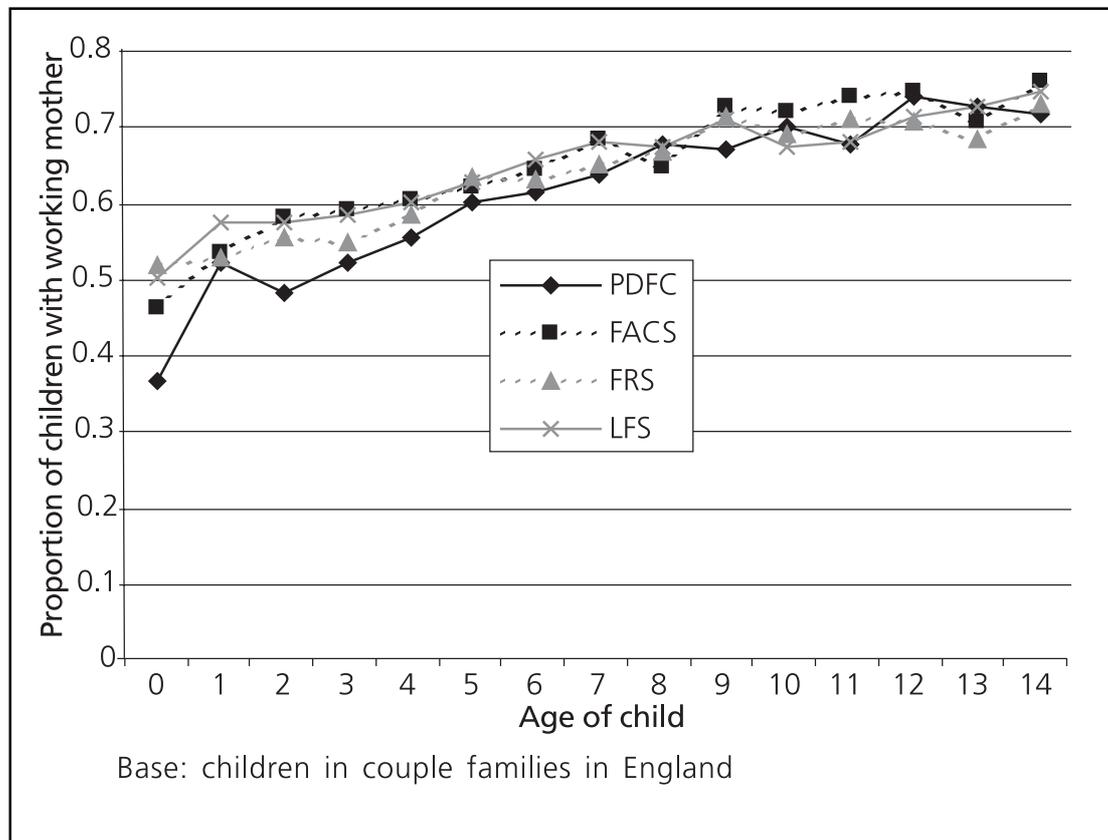
and percentage point terms). PDFC records a lower maternal employment rate for children aged 0-6 in couple families compared to the other datasets. By age of child, participation by mothers in couples is consistently higher in FACS than in PDFC. Differences for single parents are more difficult to discern because of the greater volatility, probably due to smaller sample sizes.¹⁶

Figure 3.1 Children in lone parent families: proportion of children with working mother, by age of child



¹⁶ Standard errors are four to five percentage points for lone parents and two to three percentage points for couples in PDFC, FRS and FACS, and lower in LFS.

Figure 3.2 Children in couple families: proportion of children with working mother, by age of child



Two, more common, ways to view employment rates are by number of children, and by age of youngest child, neither of which are shown here. For both lone parent and couple families, the maternal employment rate in one-child families is similar to that for two-child families, but it declines rapidly for families with more than two children. By age of youngest child, the maternal employment rate rises gradually, with age of youngest child once the youngest child is aged four for both lone parent and couple families. None of these trends is appreciably different across the four datasets.

3.2 Childcare use

This section analyses patterns of term time childcare use across the four datasets for children aged 14 or under who live in England and whose mother works.

3.2.1 Childcare use at the family level

A family is counted as using a particular form of childcare if one or more of their children use that form of childcare. Figure 3.3 sets out the proportion of families using formal childcare alone, informal childcare alone, and both formal and informal childcare, in each of the surveys. The total height of each of the bars is the proportion of families using any form of childcare. For PDFC, we give a lower bound estimate (see Section 2.2.3 and Appendix C.1).

Figure 3.3 Proportion of working mothers using childcare during term time

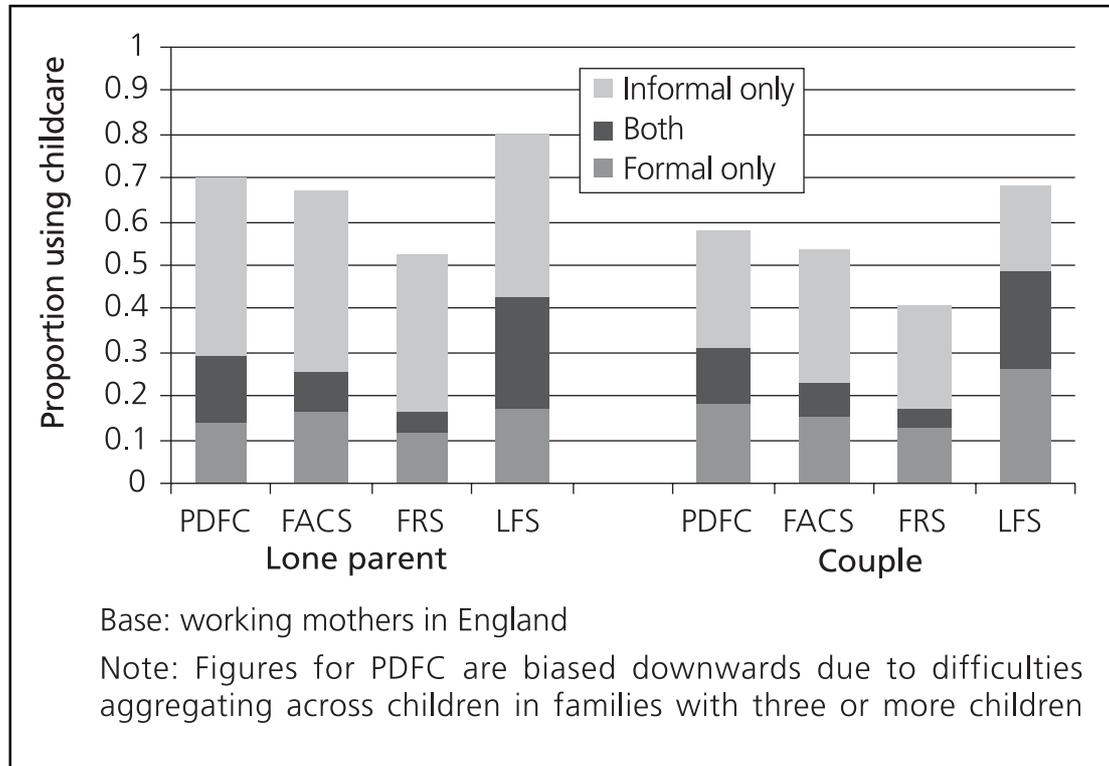


Table 3.2 presents the same information in a slightly different way by giving the proportion of families using formal childcare (regardless of whether informal care is also used), the proportion using informal care (regardless of whether formal care is used), and the proportion using any form of childcare. For PDFC, we give both upper and lower bounds. The difference between the upper and lower bounds is about three to five percentage points for lone parent families, while for couples it is five to nine percentage points.¹⁷

¹⁷ There are two possible reasons why the bounds are tighter for lone parents than for couples: either fewer lone parent families have three or more children or a greater proportion of surveyed children in these families use childcare. It turns out that both explanations are relevant, but the latter may be more important. The size of these bounds illustrates the uncertainty that arises from not surveying every child in every family.

Table 3.2 Proportion of working mothers using childcare during term time

	PDFC ¹	FACS	FRS	LFS
Lone parent family				
Formal	0.294-0.355	0.257	0.168	0.425
Informal	0.558-0.607	0.504	0.410	0.630
Any	0.701-0.729	0.669	0.524	0.799
Couple family				
Formal	0.311-0.396	0.234	0.174	0.489
Informal	0.396-0.467	0.380	0.276	0.420
Any	0.581-0.633	0.535	0.406	0.685

Base: working mothers in England

¹The two figures for PDFC are upper and lower bounds. The upper bound is derived by assuming all families with three or more children use childcare. The lower bound is derived by assuming all families where neither surveyed child uses childcare do not use childcare. It is not possible to provide unbiased point estimates due to difficulties aggregating across children in families with three or more children. The implied range is **not** a confidence interval.

Comparing the proportion of families using any form of childcare (the total height of bars in Figure 3.3, or the rows labelled 'any' in Table 3.2), about ten percentage points more lone parents use childcare than couples. Much of this difference is due to a greater proportion of lone parents using informal care alone (the top block in Figure 3.3). Couples may make slightly more use of formal care (with or without informal care – the bottom two blocks). Overall, formal care is much less common than informal care. The figure and table also remind us that a minority of working mothers do not use any form of childcare (a fifth of working lone parents, and a third of working mothers in couples, according to the LFS): this could be because their children are old enough not to need childcare, or because the mothers work only in school hours, or because fathers in couples are able to provide care.¹⁸

There is considerable variation in the patterns of childcare use across the datasets.¹⁹ The proportion using any childcare is highest in LFS (0.80 for lone parent families, 0.68 for couples), followed by PDFC (around 0.7 and 0.6), then FACS (0.67 and 0.54) and lastly, FRS (0.52 and 0.41). The ranking is the same when we consider the proportion using informal care (the sum of the top two blocks), and when we consider the proportion using formal care (the sum of the bottom two blocks).

Table 3.3 shows how childcare use varies by the number of dependent children in the family. For both lone parent and couple families, FACS and FRS record considerably fewer four-or-more-child families using childcare than one- to three-

¹⁸ FACS asks working mothers for a reason why they do not use childcare, but we lack information in other surveys to compare this to.

¹⁹ Similar patterns appear at the child level.

child families. In contrast, in LFS there is little change or perhaps a slight rise in the proportion using childcare as the number of children increases. For PDFC, the use of bounds means that there could be trends in either direction. Since there are few families with four or more children, the general lack of consistency between datasets may well be due to sampling variation.²⁰ Nevertheless, despite this lack of consistency, the ranking of childcare use noted in Figure 3.3 (LFS then PDFC then FACS then FRS) holds regardless of the number of children.

Table 3.3 Proportion of working mothers using childcare during term time, by number of children aged 14 or under in the family

	Number of children aged 14 or under			
	1	2	3	4+
Lone parent family				
PDFC ¹	0.682	0.735	0.692-1.000	0.675-1.000
FACS	0.655	0.697	0.701	0.537
FRS	0.536	0.492	0.585	0.385
LFS	0.777	0.842	0.783	0.8
Couple family				
PDFC ¹	0.583	0.585	0.572-1.000	0.489-1.000
FACS	0.553	0.523	0.542	0.368
FRS	0.418	0.408	0.395	0.143
LFS	0.627	0.723	0.749	0.791

Base: working mothers in England

¹Where there are two figures for PDFC, these are upper and lower bounds. The implied range is **not** a confidence interval.

Having discovered some reasonably large differences between the surveys, we now investigate childcare use at the child level to understand better the reasons for these discrepancies.

3.2.2 Childcare use at the child level

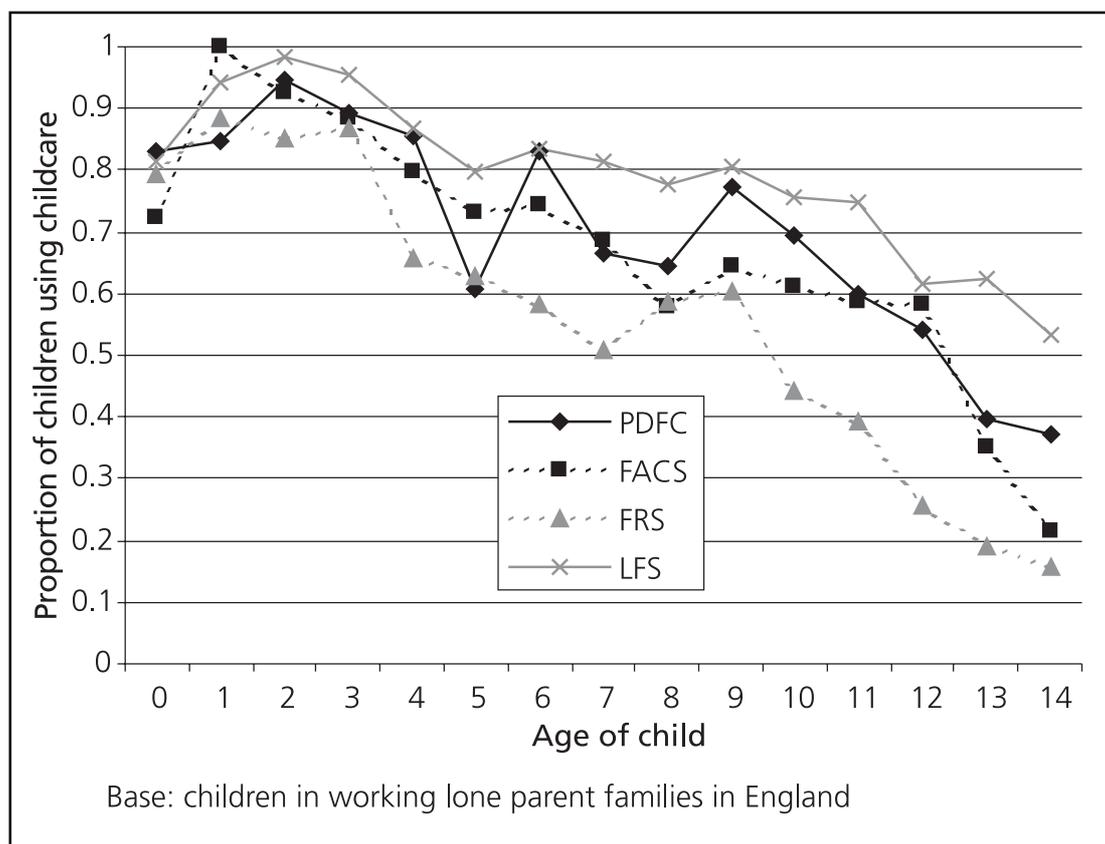
Figures 3.4 and 3.5 show how the proportion of children using any childcare varies by age of child. The proportion of children using childcare is highest for children aged between 1 and 3. A lower proportion of children aged under 12 months use childcare, particularly those in couple families. This may, in part, be explained by mothers who we classify as being working in fact being on maternity leave (something which is hard to establish definitively from the surveys). For children in couple families, there is a pronounced fall in childcare use at age five, but this is not

²⁰ The standard error of the estimates in families with four or more children are around 13 percentage points in lone parent families, and between five to seven percentage points in couples; with one child, they are between one to two percentage points.

repeated for children in lone parent families, suggesting that it is easier for couples to organise work around school hours. For school-aged children, use declines slowly to about age ten, and more rapidly above age ten.

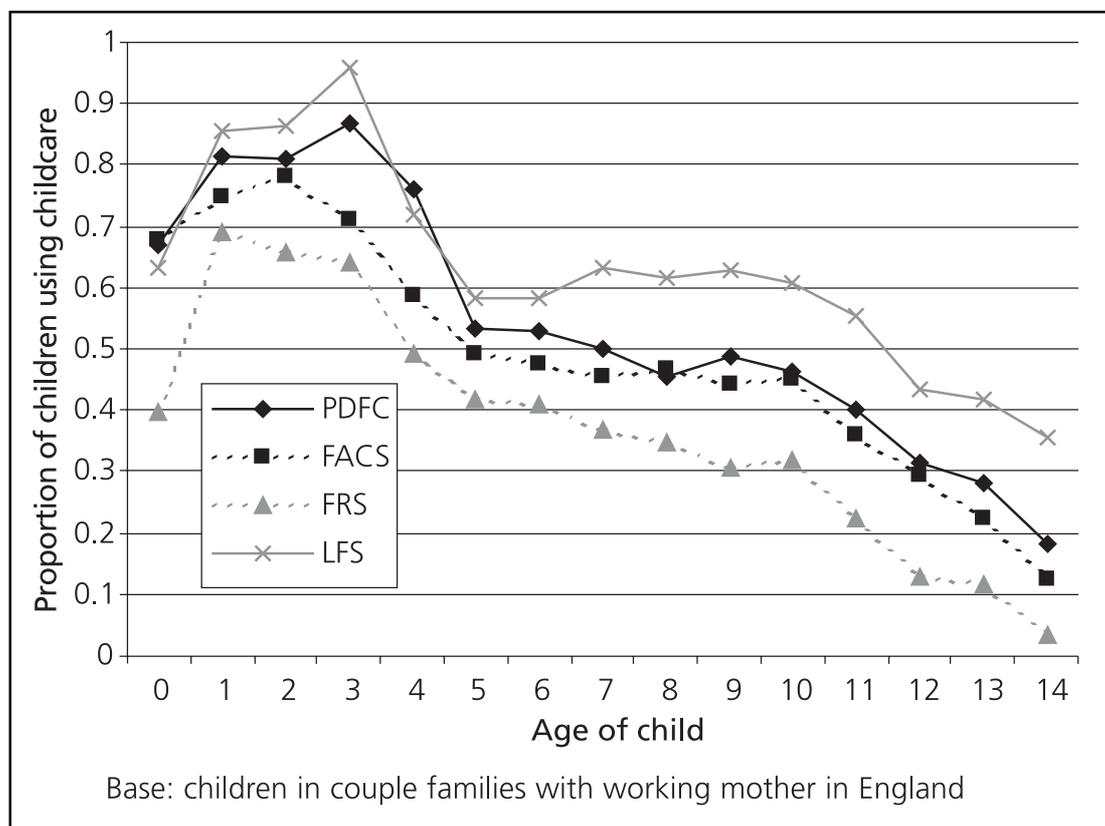
For children in couple families, the ranking of childcare use noted in Figure 3.3 and Table 3.3 (LFS then PDFC then FACS then FRS) is preserved right across the age range, and the difference between datasets is largest for school-aged children and for three year-olds. For children in lone parent families, the ranking is not so clearly preserved across the age range, and there is relatively little difference between datasets amongst pre-school children.²¹

Figure 3.4 Children in working lone parent families: proportion of children using childcare during term time, by age of child



²¹ Standard errors on some of these estimates are, however, relatively large. In lone parent families, they start at ten percentage point for children under one, gradually falling to four to six percentage points. In couples, they start at around four percentage points and fall to one to three percentage points, all reflecting the relative sample sizes.

Figure 3.5 Children in couple families with working mother: proportion of children using childcare during term time, by age of child



To understand why childcare use varies so much between surveys, it is useful to look at a more disaggregated classification of childcare types. Table 3.4 sets out the proportion of children in lone parent and couple families using each type of childcare, using the classification set out in Section 2.2.1 (patterns are similar at the family level).²²

Table 3.4 All children with working mother: proportion of children using different types of childcare during term time

Type of childcare	Children in lone parent families				Children in couple families			
	PDFC	FACS	FRS	LFS	PDFC	FACS	FRS	LFS
Centre-based care	0.104	0.065	0.064	0.113	0.128	0.071	0.071	0.152
Out-of-school or holiday club	0.091	0.066	N/A	0.186	0.056	0.033	N/A	0.207
Childminder	0.071	0.078	0.072	0.088	0.064	0.080	0.070	0.065
Nanny/au pair	0.014	0.017	0.020	0.015	0.014	0.013	0.013	0.016
Close relative	0.419	0.349	0.277	0.483	0.284	0.251	0.189	0.288
Other relative	0.158	0.169	0.079	0.156	0.092	0.103	0.032	0.095
Other type/type unknown	0.003	N/A	0.044	0.039	0.004	N/A	0.017	0.030

Base: children with working mother in England.

²² Standard errors are around 0.5 – 1.5 percentage points.

The most important type of care is close relatives, followed by centre-based care and other relative/friend. Childminders are used a small amount, and nannies/au pairs almost not at all. The biggest difference between children in lone parent and couple families is the high proportion of children in lone parent families who are cared for by close relatives and other relatives or friends; there is relatively little difference between children in lone parent and couple families in the proportion using centre-based care, out-of-school or holiday clubs, childminders, or nannies/au pairs.

LFS records the highest proportion of children using centre-based care (11 per cent for children in lone parent families, 15 per cent for children in couples). PDFC is next highest (ten per cent and 13 per cent), followed by FACS (six per cent and seven per cent) and, lastly, FRS (six per cent and seven per cent). Much bigger differences, however, are recorded for out-of-school or holiday clubs: LFS records more than twice as many children using them as PDFC or FACS (as noted in Chapter 2, the FRS didn't include an out-of-school club childcare option in 2001/02). The proportion of children using other formal care types (childminders and nannies/au pairs) is reasonably consistent across the datasets. This strongly suggests to us that the large variation in formal childcare between the surveys is due to differences in the way in which formal, centre-based care was recorded, rather than to, say, coincidental differences in the people interviewed: this is because the surveys are in close agreement on how much care is provided by childminders, a type of care that we think is relatively clearly defined in both parents' and researchers' minds.²³

Variation across surveys in the amount of informal care recorded is less significant than variation in the amount of formal care, particularly amongst FACS, PDFC and LFS. These more modest differences are due mainly to differences in care supplied by close relatives: LFS records a higher proportion of children using close relatives than PDFC, which in turn records more than FACS and FRS. The other informal care category – other relatives – is roughly constant across FACS, PDFC and LFS, but is much lower in FRS.

In short, differences in the use of formal childcare across datasets are driven by centre-based care and out-of-school or holiday clubs, and differences in informal childcare are driven by use of close relatives. We can learn more about what is driving these differences by examining these childcare types by age of child.

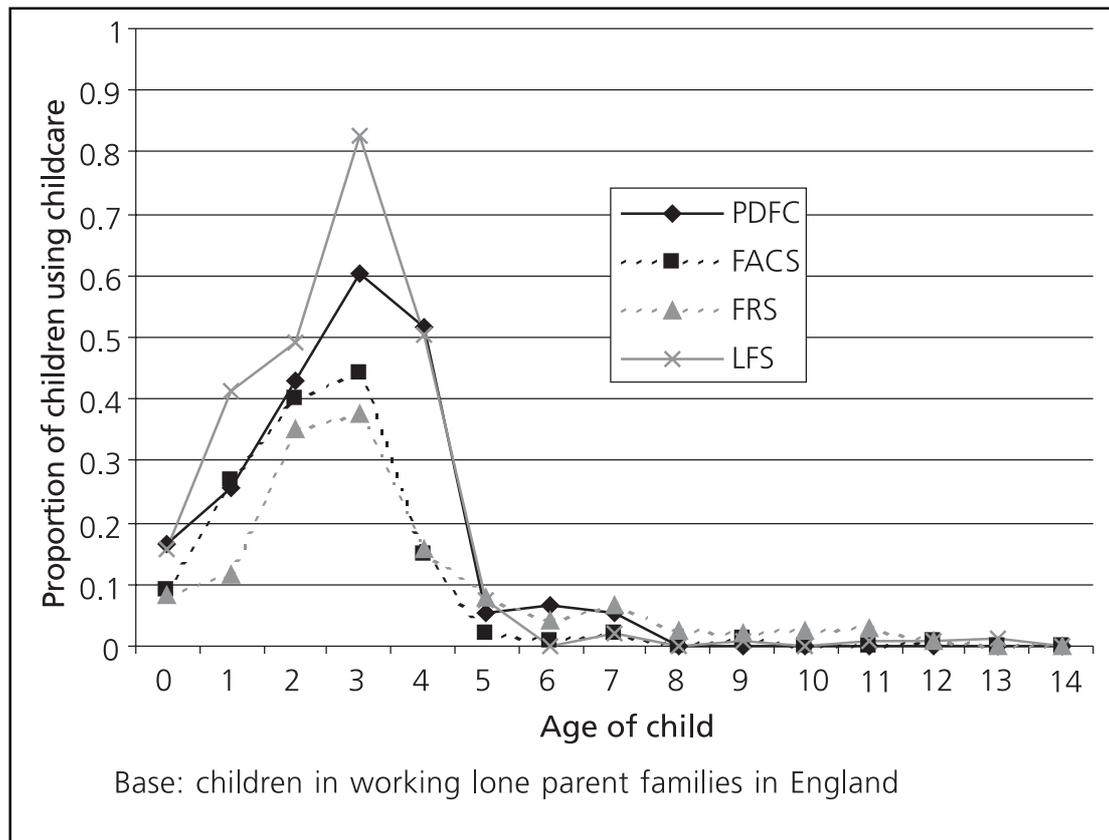
3.2.3 Use of centre-based care and early years' education

Figures 3.6 and 3.7 show, by age of child, the proportion of children in lone parent and couple families using centre-based care; this type of childcare is used almost exclusively by one to four year olds. Use is low at birth, rises rapidly to a peak at age

²³ Even amongst use of childminders, though, the differences between the datasets are statistically significant for couples.

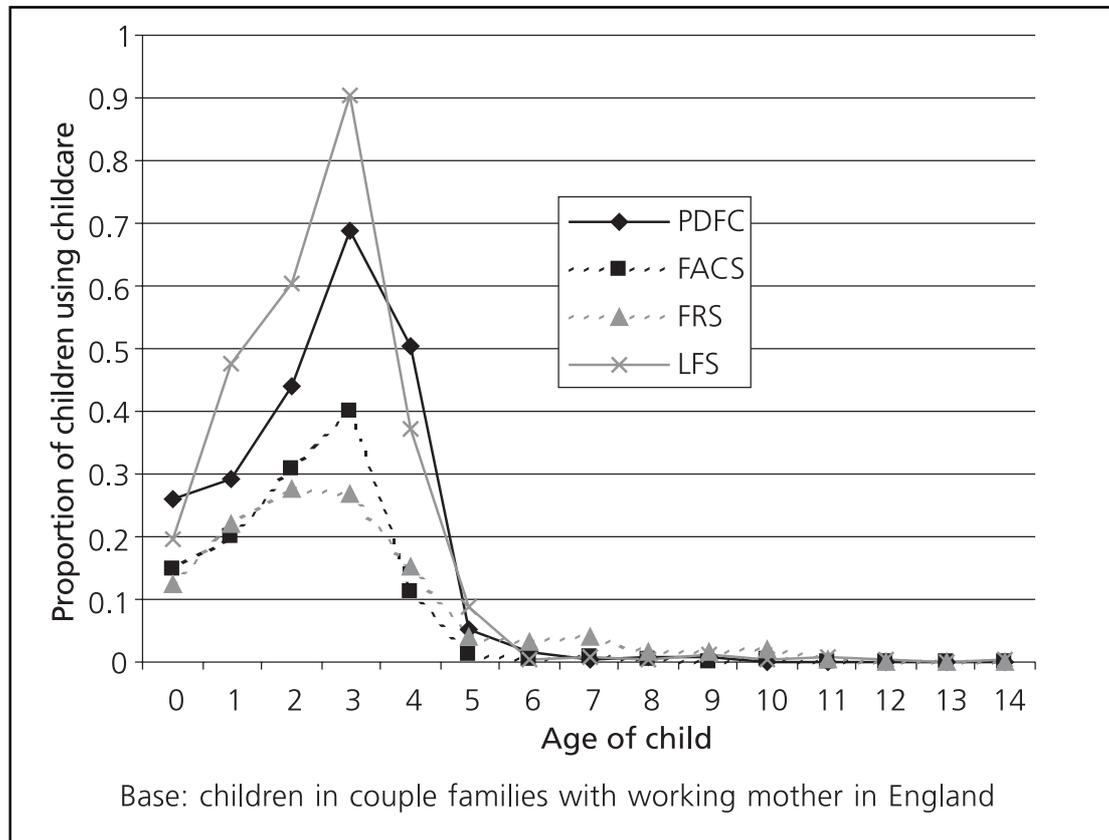
three, and falls sharply to almost zero by age five, where it remains across the rest of the age range.²⁴

Figure 3.6 Children in working lone parent families: proportion of children using centre-based childcare during term time, by age of child



²⁴ Some of these sample sizes are small: standard errors are around seven to eight percentage point at age one, and four to seven percentage point at age four, for children in lone parent families, and two to three percentage point at both ages for children in couples, for example.

Figure 3.7 Children in couple families with working mother: proportion of children using centre-based childcare during term time, by age of child

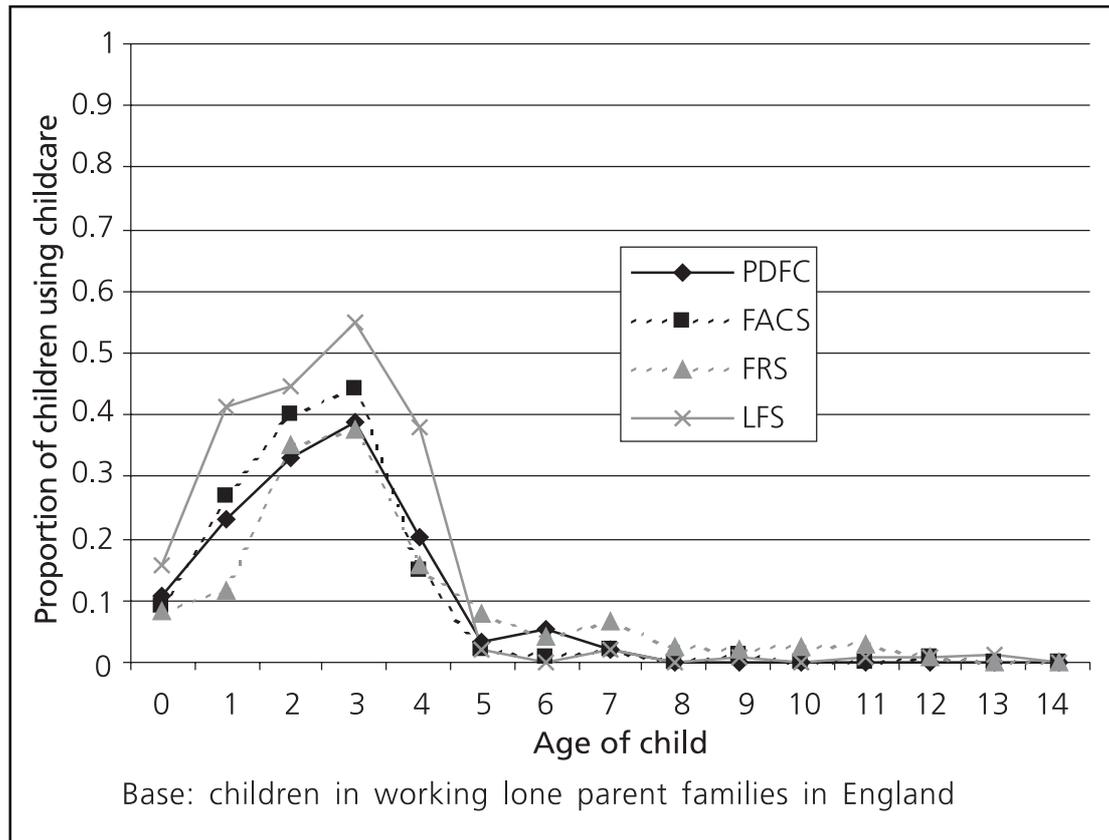


Comparing datasets, the key feature is that LFS records more centre-based care than any other dataset across most of the age range, followed by PDFC, FACS and FRS. The gap is particularly noticeable for three and four year-olds, when LFS and PDFC are much higher than FACS and FRS.

Given that early years' education (EYE) is treated differently in each of the surveys (see Chapter 2), and that much of the difference between surveys in centre-based care occurs for the ages at which EYE takes place, it is useful to ask how much of the difference across datasets in centre-based care can be attributed to EYE. The obvious way to test this would be to exclude all categories of EYE from each dataset. However, only PDFC and LFS distinguish adequately between childcare and EYE: the FACS classification groups some types of EYE together with other forms of childcare, while FRS does not cater explicitly for EYE at all. Our approach, therefore, is to examine how much of the variation across datasets is eliminated if we exclude EYE only from PDFC and LFS. Figures 3.8 and 3.9 show the proportion of children using

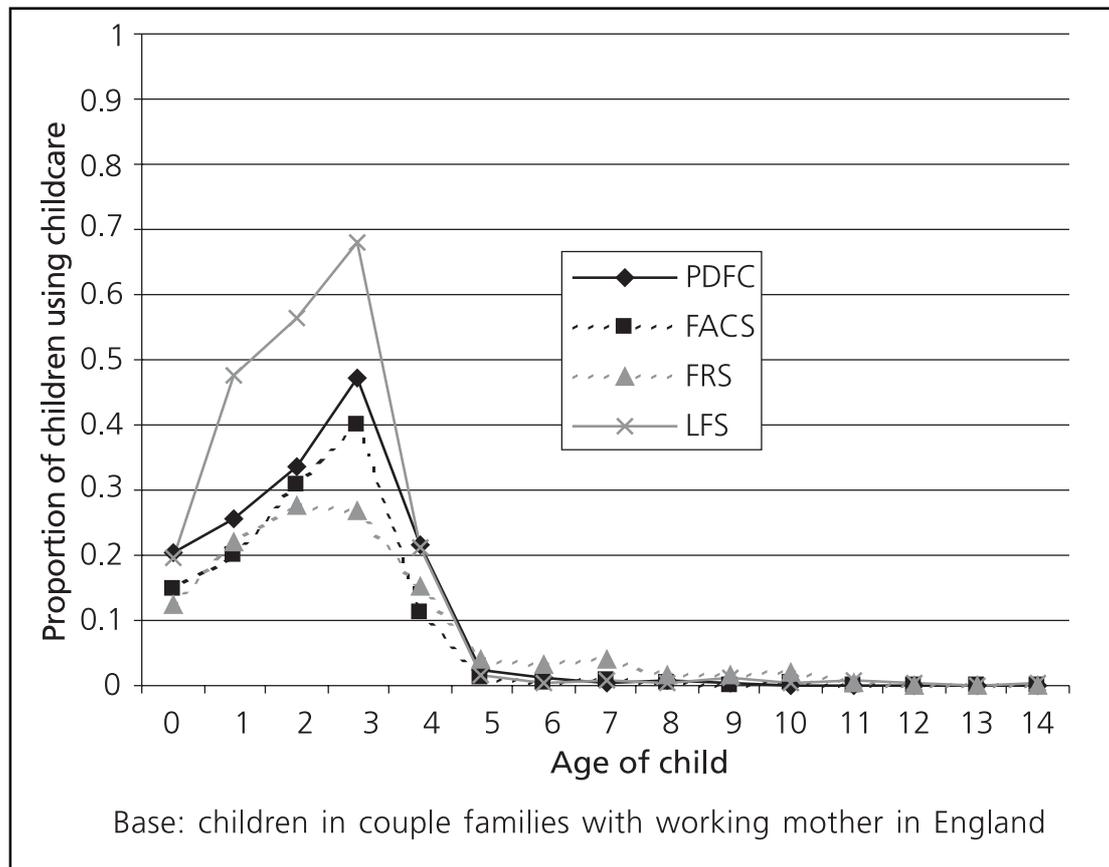
centre-based childcare, once EYE categories have been excluded from PDFC and LFS.²⁵

Figure 3.8 Children in working lone parent families: proportion of children using centre-based childcare during term time (excluding early years' education), by age of child



²⁵ The childcare categories in PDFC counted as EYE are nursery school, and nursery class attached to primary school. The categories excluded from LFS are nursery school, infants' school nursery class, primary school nursery class, infants' school nursery and reception class, and primary school nursery and reception class. See Appendix A, Table A.3 for more details.

Figure 3.9 Children in couple families with working mother: proportion of children using centre-based childcare during term time (excluding early – years' education), by age of child



Excluding EYE substantially reduces the proportion of children using centre-based childcare in PDFC and LFS. PDFC is now roughly comparable with FACS and FRS, particularly for children in lone parent families. LFS, however, still records much more centre-based care. Since it is unrealistic to assume that FACS does not capture any EYE, the conclusion is that EYE cannot explain fully the differences between datasets, but it is likely to be an important explanatory factor.

Table 3.5 shows how excluding EYE from PDFC and LFS affects the proportion of children who use centre-based childcare. Excluding EYE reduces use of centre-based care in PDFC by roughly four percentage points, and to a level very close to FACS and FRS. In LFS, the fall is about three percentage points, but LFS remains considerably higher than the other datasets.

Table 3.5 All children with working mother: proportion of children using centre-based care (excluding early years' education) during term time

Type of childcare	Lone parent family				Couple family			
	PDFC	FACS	FRS	LFS	PDFC	FACS	FRS	LFS
Centre-based care	0.104	0.065	0.064	0.113	0.128	0.071	0.071	0.152
Centre-based care (no EYE)	0.063	0.065	0.064	0.088	0.085	0.071	0.071	0.123

Base: children with working mother in England.

The effect of excluding EYE remains fairly marked at the family level (Table 3.6): for formal care the proportion falls by two or three percentage points in LFS, while for PDFC the bounds fall by around four percentage points. However, excluding EYE has a much smaller impact on the proportion of families using any form of childcare: this implies that families using EYE also use other forms of childcare, particularly informal care.

Table 3.6 Proportion of working mothers using childcare during term time (excluding early years' education)

	PDFC ¹	PDFC (no EYE) ¹	FACS	FRS	LFS	LFS (no EYE)
Lone parent family						
Formal	0.294-0.355	0.253-0.318	0.257	0.168	0.425	0.402
Informal	0.558-0.607	0.558-0.607	0.504	0.41	0.63	0.63
Any	0.701-0.729	0.681-0.712	0.669	0.524	0.799	0.798
Couple family						
Formal	0.311-0.396	0.261-0.349	0.234	0.174	0.489	0.458
Informal	0.396-0.467	0.396-0.467	0.38	0.276	0.42	0.42
Any	0.581-0.633	0.557-0.611	0.535	0.406	0.685	0.671

Base: working mothers in England.

Note: Figures in bold are those affected by the exclusion of early years' education.

¹The two figures for PDFC are upper and lower bounds. The implied range is not a confidence interval.

3.2.4 Use of out-of-school clubs

Figures 3.9 and 3.10 graph the proportion of children using out-of-school clubs (remember this was not an option in FRS 2001-02). Children under three do not use out-of-school or holiday clubs.²⁶ Use rises steadily between ages three and six, remains constant between six and ten and then falls back towards zero in all datasets and for both family types.

²⁶ In fact, the out-of-school club option in LFS is only asked of children aged three or more; there are no such restrictions in the other two surveys.

Figure 3.10 Children in working lone parent families: proportion of children using out-of-school clubs during term time, by age of child

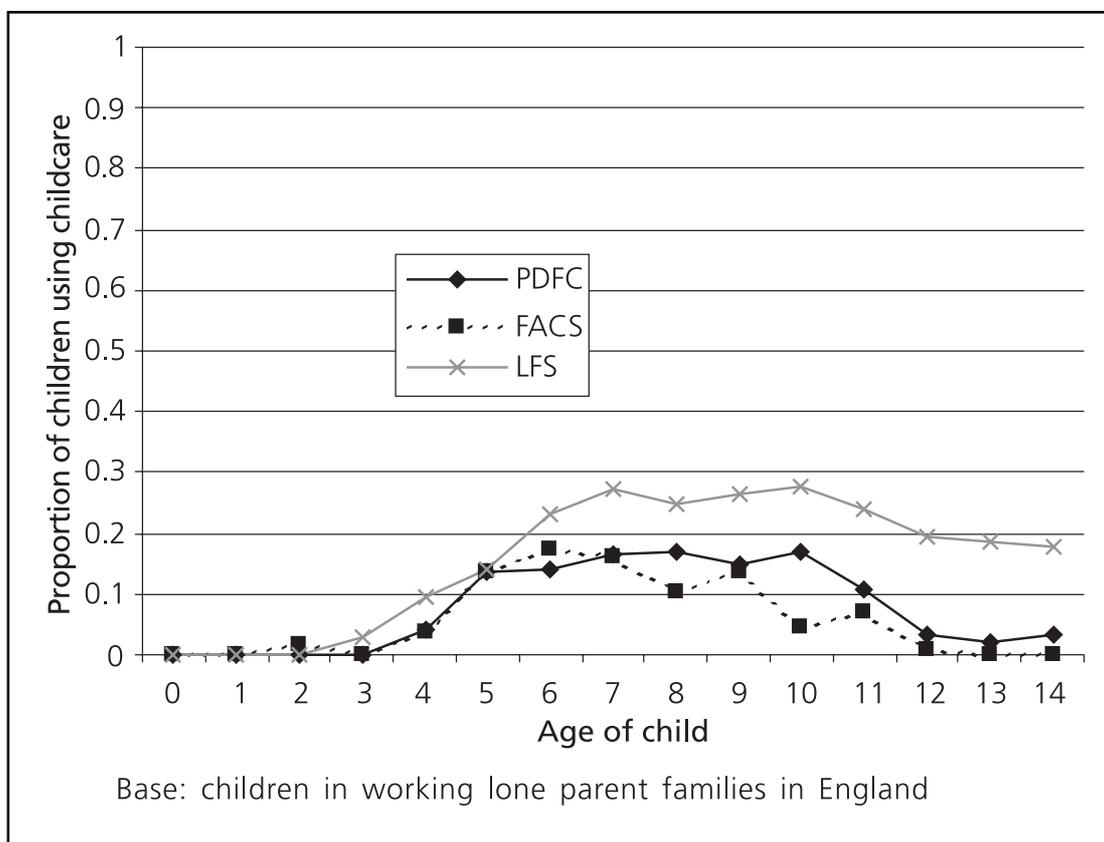
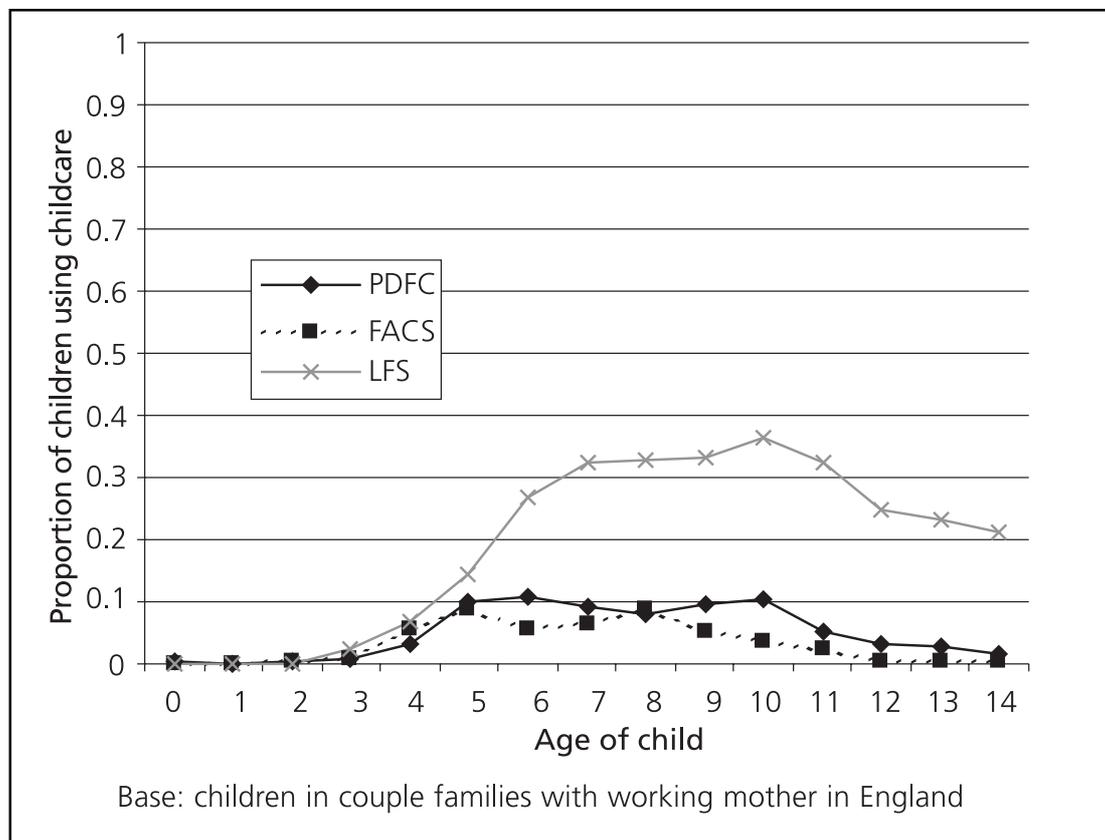


Figure 3.11 Children in couple families with working mother: proportion of children using out-of-school clubs during term time, by age of child



Comparing datasets, there is a striking difference between the LFS, and PDFC and FACS. For children aged seven and above, LFS consistently records more children using out-of-school or holiday clubs. This is particularly true for children in couple families where, between ages seven and ten, the proportion in LFS is more than three times as high as in PDFC and FACS.²⁷

As discussed in Chapter 2, the most likely explanation for this variation is the phrasing of the childcare questions in LFS, and especially the fact that the word 'childcare' is not used. We think that this will have led parents to include activities not commonly perceived as childcare, such as sports clubs and other extra-curricular activities.

3.2.5 Use of close relatives

As Table 3.4 showed, the variation in informal care use is driven by differences in care supplied by close relatives. Figures 3.11 and 3.12 show, by age, the proportion of children using close relatives.

²⁷ Standard errors for children aged seven are around three to four percentage points for lone parent families, and one to two percentage points in couples.

Figure 3.12 Children in working lone parent families: proportion of children using close relatives during term time, by age of child

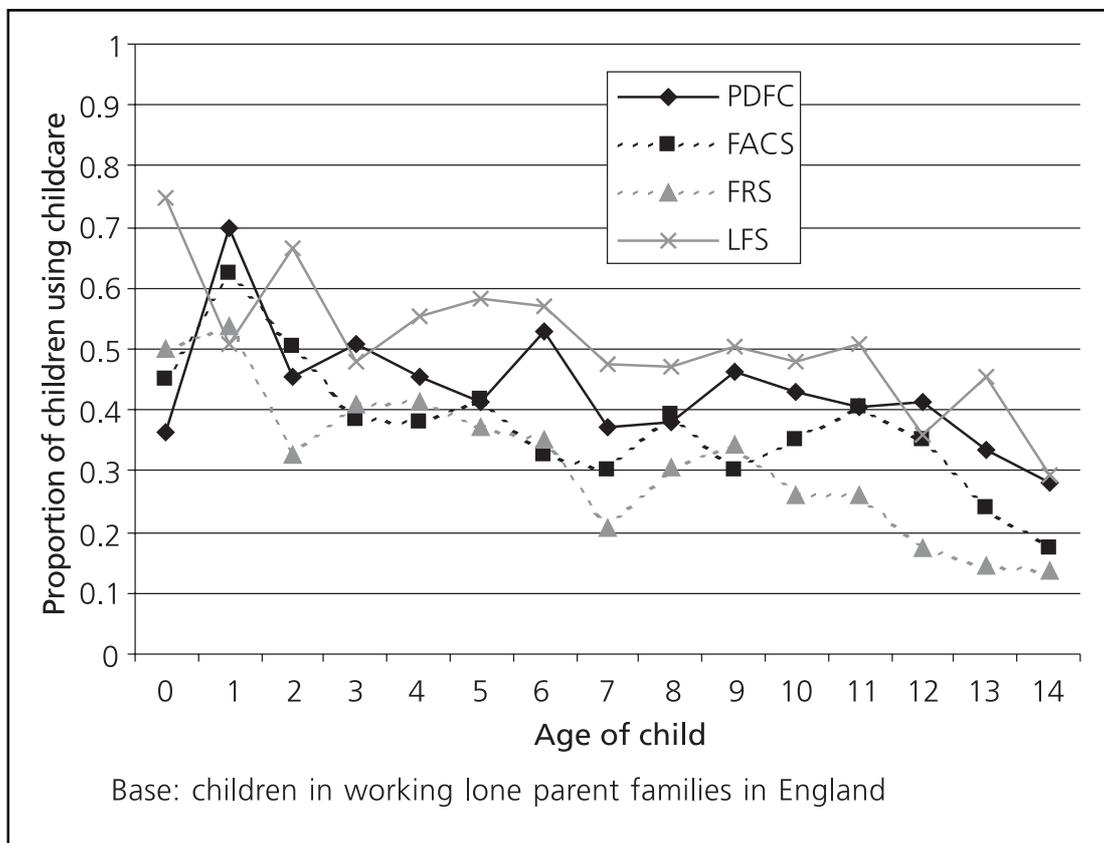
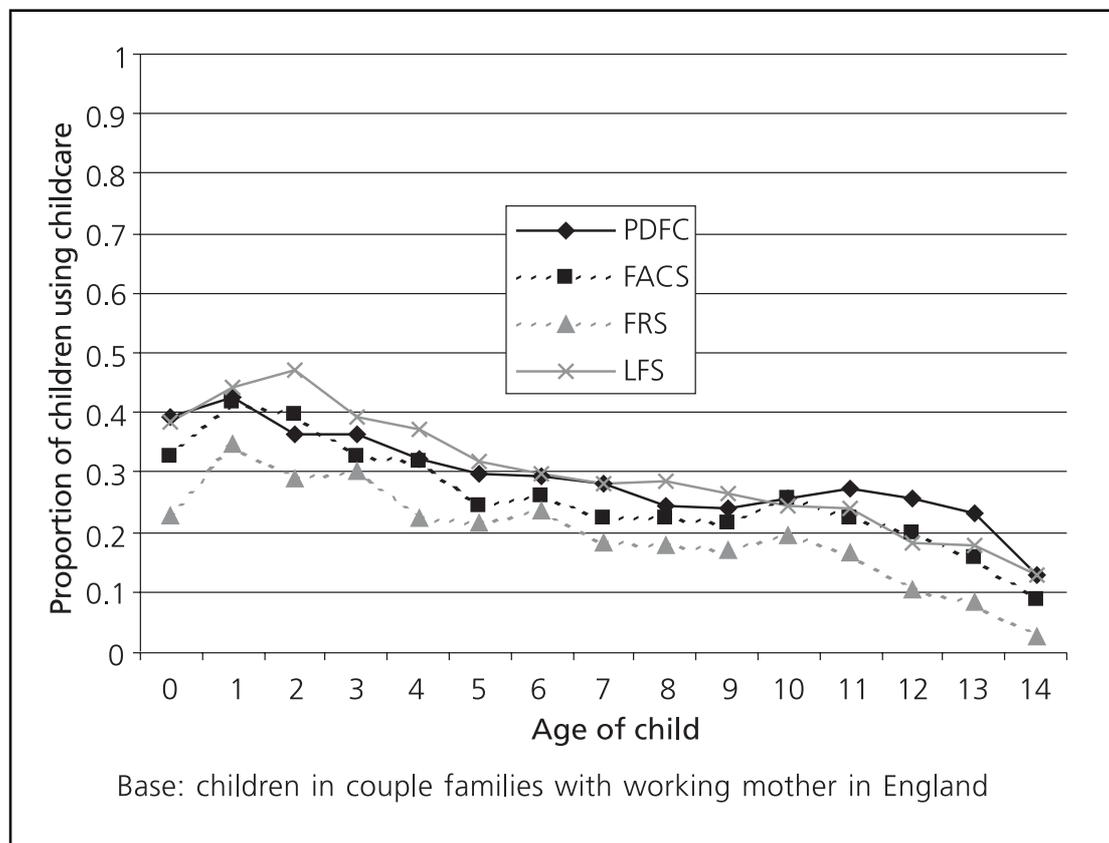


Figure 3.13 Children in couple families with working mother: proportion of children using close relatives during term time, by age of child



The pattern of use of close relatives is considerably different to those of centre-based care and out-of-school clubs: in particular, use of close relatives is high from birth. For children in couple families, it rises until age three, and then falls gently at a decreasing rate, until age 11, after which it falls rapidly. There is less consistency in the pattern of use by age for children in lone parent families; this is partly because the series are more volatile, due to smaller sample sizes.²⁸

Across datasets, PDFC, FACS and LFS record more children using close relatives than FRS across most of the age range (FRS is always lower than PDFC and LFS, and lower than FACS except for some young children in lone parent families). From age three upwards, PDFC records more children using close relatives than FACS. LFS is higher than the other datasets for both single parents and couples between age two and nine.

Unlike formal care, the differences in recorded use of close relatives cannot be due to the showcard (as Table A.2 shows, the wording is very similar or identical across the surveys) and so we attribute it to the differences in the preamble to and wording

²⁸ Standard errors are very large for children aged zero. By age five, they are around five to seven percentage points and two to four percentage points for lone parents and couples, and by age 11, they are four to six percentage points and two percentage points respectively.

of the childcare questions. In particular, directing parents to think about childcare leads to a subset of all of the occasions when close relatives were caring for or looking after children, even amongst children of working mothers.

3.3 How many hours of childcare are used, and how much does it cost?

An important next step in understanding, better, what sort of childcare is responsible for the differences between surveys is to look at the hours and expenditure information recorded in each. LFS contains no hours or expenditure information at all, which is particularly frustrating, given that it tends to record the most use of childcare, so the analysis in this section is limited to FRS, FACS and PDFC.

In the previous section, we saw that variation in formal care across datasets is due mainly to centre-based care for three to four year olds and out-of-school or holiday clubs for children aged six or above. We hypothesised that the differing treatment of EYE in each survey could explain much of the variation in centre-based care, while variation in out-of-school or holiday clubs is likely to have been caused by the preamble to and wording of the childcare questions. For informal care, differences between datasets are caused primarily by variation in close relative care, which we also attributed to the wording of the childcare questions.

If these hypotheses are correct, we would expect to find certain patterns in the hours and expenditure data. In particular we expect:

- higher total hours and spending in PDFC because PDFC is capturing instances of EYE that the other surveys are not;
- lower expenditure on centre-based childcare for children using this type of care in PDFC, since a proportion of EYE is paid for (or subsidised) by the government (as described in Section 2.1.4);
- fewer hours spent in centre-based care by children using this type of care in PDFC, if it is the case that EYE sessions tend to be fairly short.

The absence of hours or expenditure information in LFS means it is difficult to draw conclusions about out-of-school or holiday clubs, since it is LFS that differed significantly from the other datasets. Given our discussion of the surveys in Chapter 2, we might also expect to find that, for children using childcare, PDFC records more hours than FACS or FRS (because PDFC seems better at picking up any instances of childcare). This is unlikely to be outweighed by the short, cheap EYE sessions captured by PDFC, since many users of EYE also use other forms of childcare (see Table 3.6). The discussion in Chapter 2 also suggests that FRS may fail to capture some cheap or free childcare. Finally, there could be greater variation in the hours and expenditure recorded in PDFC because the childcare questions related to last week, rather than usual childcare use (see Section 2.1.1).

3.3.1 Spending on childcare, and total hours of childcare at the family level

Table 3.7 presents mean weekly hours of childcare used by families where the mother works. It shows that lone parents use more hours of childcare than couple families.²⁹ This is also true when considering only those families using childcare, but doing so reduces the difference in hours between lone parents and couples. So, more working lone parents use childcare than couples where the mother works (as we saw in Table 2), and amongst those that use it, they use it for longer.

Table 3.7 All families with working mother: mean weekly hours of childcare for the family as a whole during term time

	PDFC	PDFC (no EYE)	FACS	FRS
Lone parent family				
Mean family hours	18.38	17.16	15.70	11.25
Couple family				
Mean family hours	14.30	12.78	10.88	8.63
Lone parent family				
Mean hours for families using care	27.50-28.98 ¹	26.50-28.14 ¹	23.67	21.62
Couple family				
Mean hours for families using care	22.82-24.94 ¹	21.17-23.28 ¹	20.70	21.51

Base: working mothers in England, working mothers using childcare in England

¹Upper and lower bounds, derived by assuming all families with three or more children use childcare (upper bound), and no families with three or more children use childcare other than those where one or both of the surveyed children uses childcare (lower bound).

Comparing datasets, PDFC records considerably more hours of childcare being used than FACS, and FACS in turn records more than FRS. This pattern changes when we look at only those families using childcare: PDFC still records much more than FACS and FRS, but now FACS records fewer hours than FRS, at least for couples.

We saw earlier that PDFC records more families using childcare than FACS and FRS. Table 3.7 tells us that PDFC also records more hours for those families that use care, presumably a consequence of PDFC capturing all types of childcare (including EYE) better. Removing the use of EYE from the PDFC figures (the second column of numbers in Table 3.7) causes mean hours to fall slightly, but still leaves PDFC recording more childcare than FACS and FRS. As suggested above, mean hours fall for families using care because many EYE users also use other forms of childcare.

Table 3.8 sets out the proportion of families who pay for childcare, and mean weekly family expenditure on childcare. The top part of the table relates to all families, while

²⁹ Standard errors are around 0.5 - 1 hours.

the bottom part covers only those families who use childcare, followed by only those who pay for childcare.³⁰

Table 3.8 Proportion of working mothers who pay for childcare, and mean weekly expenditure on childcare

	PDFC	PDFC (no EYE)	FACS	FRS
Lone parent family				
Proportion of families who pay	0.311-0.380 ¹	0.281-0.353¹	0.277	0.237
Mean weekly family expenditure	£15.36	£13.77	£14.14	£14.42
Couple family				
Proportion of families who pay	0.305-0.390 ¹	0.267-0.356¹	0.249	0.217
Mean weekly family expenditure	£16.79	£14.79	£15.03	£15.44
Lone parent family				
Proportion of families using care who pay	0.465-0.568 ¹	0.433-0.545¹	0.417	0.456
Mean weekly expenditure for families using care	£22.97-£24.20 ²	£21.27-£22.58²	£21.31	£27.74
Mean weekly expenditure for families paying for care	£40.44-£49.35 ¹	£39.03-£49.09¹	£51.05	£60.60
Couple family				
Proportion of families using care who pay	0.487-0.623 ¹	0.442-0.590¹	0.474	0.540
Mean weekly expenditure for families using care	£26.81-£29.29 ²	£24.51-£26.95²	£28.60	£38.51
Mean weekly expenditure for families paying for care	£43.02-£55.08¹	£41.57-£55.45¹	£60.38	£71.25

Base: working mothers in England, working mothers using childcare in England, working mothers who pay for childcare in England.

¹Upper and lower bounds. The upper bound was derived by assuming that all families with three or more children use and pay for childcare, while the lower bound was derived by assuming that families with three or more children use childcare but do not pay for it unless one or both of the surveyed children pays for childcare. The implied range is **not** a confidence interval.

²Upper bound derived by assuming all families with three or more children use childcare. Lower bound derived by assuming all families where neither surveyed child uses childcare do not use childcare.

From Table 3.8, a slightly higher proportion of working lone parents pay for childcare than do couples where the mother works, but average expenditure is lower for lone parent families. When considering only families that use childcare, more couple families than lone parent families pay for childcare, and expenditure for couple families is considerably higher. This implies that a higher proportion of

³⁰ One characteristic of the mean is that it is sensitive to extreme values. Consequently, we excluded observations for which weekly expenditure for a given child at a given provider exceeded £1,000, or the calculated childcare price exceeded £20 per hour. See Appendix C for more details.

childcare used by lone parents is free (probably because more of it is informal – see Table 3.2).³¹

Comparing datasets, PDFC records a higher proportion of families paying for childcare and higher average expenditure (across all families) than both FACS and FRS. This is what we would expect given that PDFC seems better at picking up all instances of childcare. This pattern changes when we look at only those families using childcare: although PDFC still records a higher proportion of families paying for childcare, expenditure is now highest in FRS. This suggests that FRS is not capturing as much free childcare as the other datasets. Expenditure for families paying for childcare is also highest in FRS, again indicating that FRS probably is not capturing all cheap (but not free) care either. The column of bold numbers in Table 3.8 gives the proportion of families paying for childcare and average expenditure for PDFC when EYE has been removed. Excluding EYE causes expenditure to fall, regardless of whether we consider all families, or just those that use or pay for childcare. This is probably because families that pay for EYE also pay for other forms of childcare.

Although not shown, across all families in our sample, hours of childcare use rise slowly and expenditure falls as the number of children in the family increases because the proportion of families in our sample using childcare falls as the number of children rises. For families using childcare, hours of childcare use rise as the number of children increases, but there is little trend in expenditure (also not shown). Expenditure and hours of childcare per child, though, both fall unconditionally and conditionally as the number of children rises.

3.3.2 Expenditure on childcare, and total hours of childcare at the child level

The next four graphs (Figures 3.14-3.17) show average hours by age of child: first for all children whose mother works (known as the 'unconditional average'), and then for only those children who use childcare (the 'conditional average'). The unconditional average will fall either if the proportion of children using childcare falls, or if average hours fall for those using childcare: presenting both the unconditional and conditional average helps us to understand what is causing the changes.

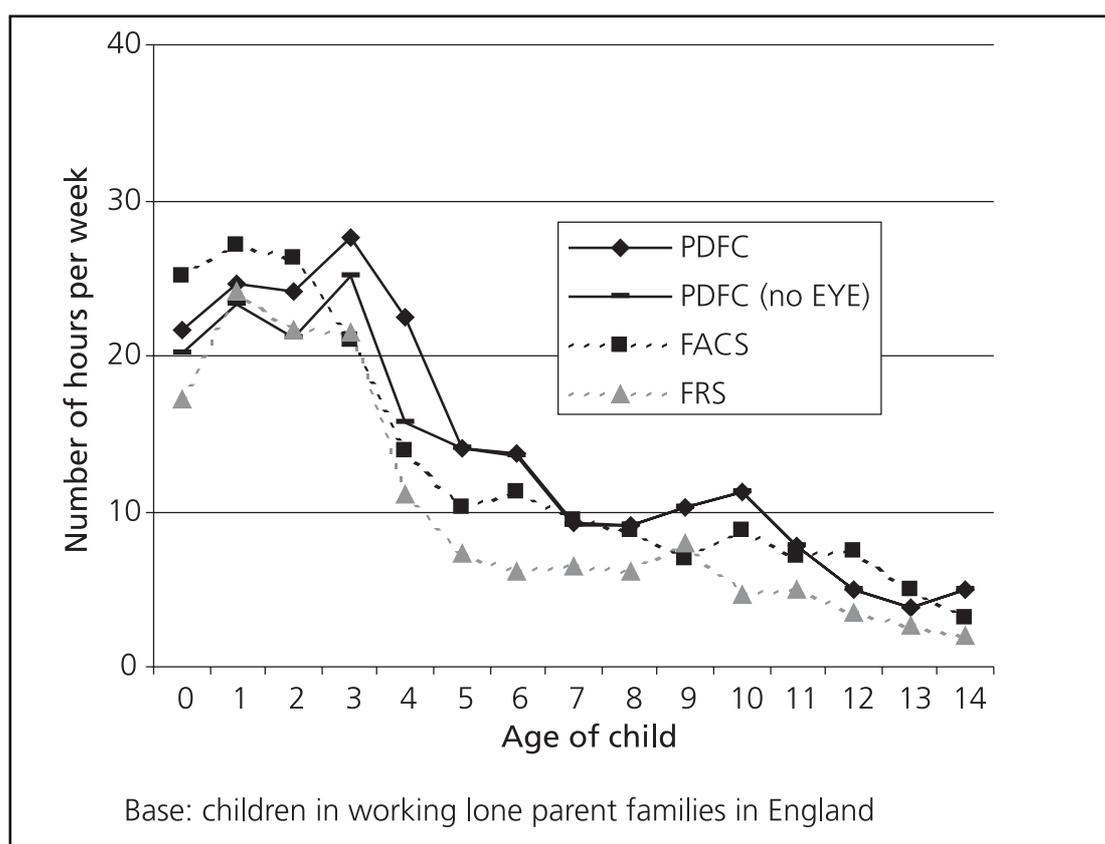
Hours of childcare rise with age until age four, and then fall sharply as children start full-time education. For school-aged children, the unconditional average declines, while the conditional average does not: this suggests that fewer school-age children

³¹ Standard errors on expenditure are around £1.20 - £1.50 for lone parent families (£1.80 - £2.20 amongst childcare users; £3.25 - £3.75 amongst those who pay for childcare), and 70p-90p for couples (£1.25 - £1.75 amongst childcare users; £2.00 - £2.50 amongst those who pay for childcare). Standard errors on estimates of the proportion who pay for childcare are around 1.5 percentage points for lone parents, and under one percentage point for couples.

use childcare as they get older (as we saw in Figures 3.4 and 3.5), but those who do still use childcare use the same number of hours.³²

Comparing datasets, PDFC records more hours than FACS and FRS for children aged three and over, both conditionally and unconditionally. FACS tends to record slightly more hours, unconditionally, than FRS. This tells us that not only does PDFC record more children using childcare than FACS and FRS, but that it also records more hours of childcare amongst those using childcare. Again, we attribute this to PDFC better capturing all forms of childcare. The line labelled 'PDFC (no EYE)' gives mean weekly hours excluding EYE. Clearly, excluding EYE causes average hours used to fall amongst children aged two to four, but still leaves PDFC capturing (slightly) more childcare use amongst two to four year olds than FACS and FRS.³³

Figure 3.14 Children in working lone parent families: mean weekly hours of childcare used by children during term time, by age of child



³² Standard errors are around two to four hours for pre-school children, and around one to three hours for school age children.

³³ The series excluding EYE is not much lower than that including it, particularly since all four year-olds were entitled to 12.5 hours a week of EYE in 2001. This may reflect that we have not removed all EYE from PDFC because our approach was to remove only care that was unambiguously EYE.

Figure 3.15 Children in working lone parent families: mean weekly hours of childcare for children using childcare during term time, by age of child

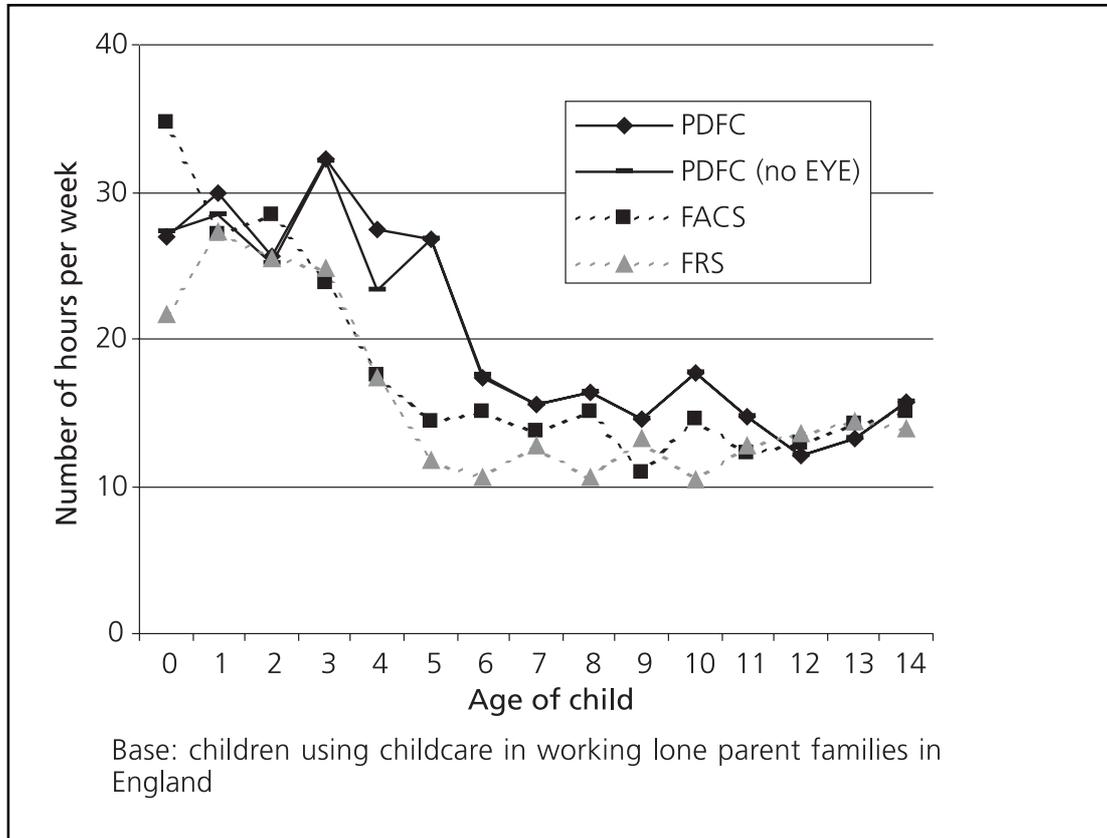


Figure 3.16 Children in couple families with working mother: mean weekly hours of childcare used by children during term time, by age of child

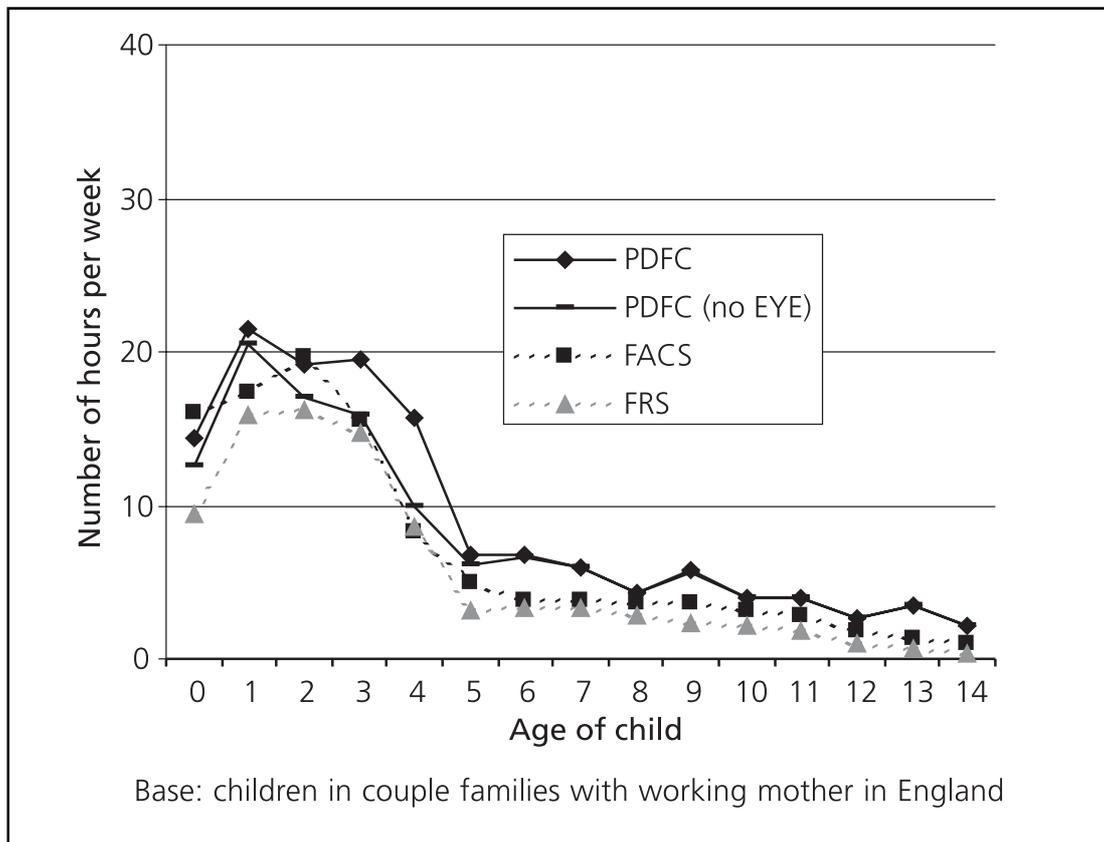
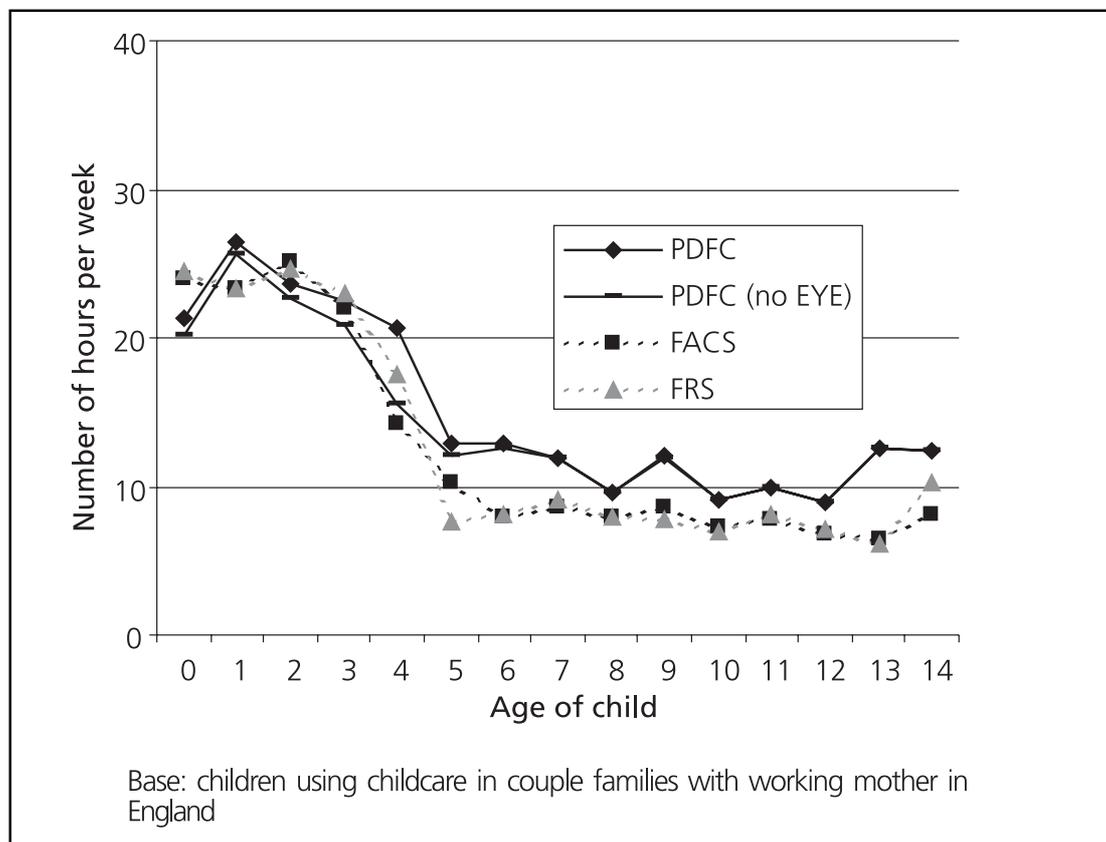


Figure 3.17 Children in couple families with working mother: mean weekly hours of childcare for children using childcare during term time, by age of child



Figures 3.18-3.21 plot the average expenditure on childcare by age of child, both unconditionally (across all children with working mothers, including the children who do not use childcare) and conditionally (across children who use childcare, but including those who use free care). Appendix D includes graphs that show the proportion of children who use care that is not free.

Average expenditure follows a similar pattern to average hours, rising to age one or two and falling thereafter, most sharply by age five. At age five, expenditure rapidly falls, and then continues to decline unconditionally and conditionally as children get older: this suggests that the price of childcare is falling, perhaps as more free care is used, as children get older.³⁴

Unconditional childcare expenditure is similar in all three datasets, particularly for school-aged children (the main difference occurs for children age two and three in lone parent families, where FRS is much higher than FACS or PDFC; it is not clear

³⁴ Some of the standard errors are large: for children under a year old, particularly for lone parents. For children aged three and over in lone parent families, the standard errors are around £7, but are over £10 for children aged less than 12 months. For children in couples, the standard errors are around £2-£4.

what would have caused this, but the standard errors in these series are large). In contrast, conditional expenditure differs more markedly across datasets, with the FRS tending to record higher average expenditure amongst childcare users than PDFC and FACS. We saw this earlier, and it is consistent with the idea that the FRS may not be capturing free or cheap childcare as well as the other datasets. As expected, excluding EYE causes mean expenditure to fall for those aged two to four.

Figure 3.18 Children in working lone parent families: mean weekly childcare expenditure for children during term time, by age of child

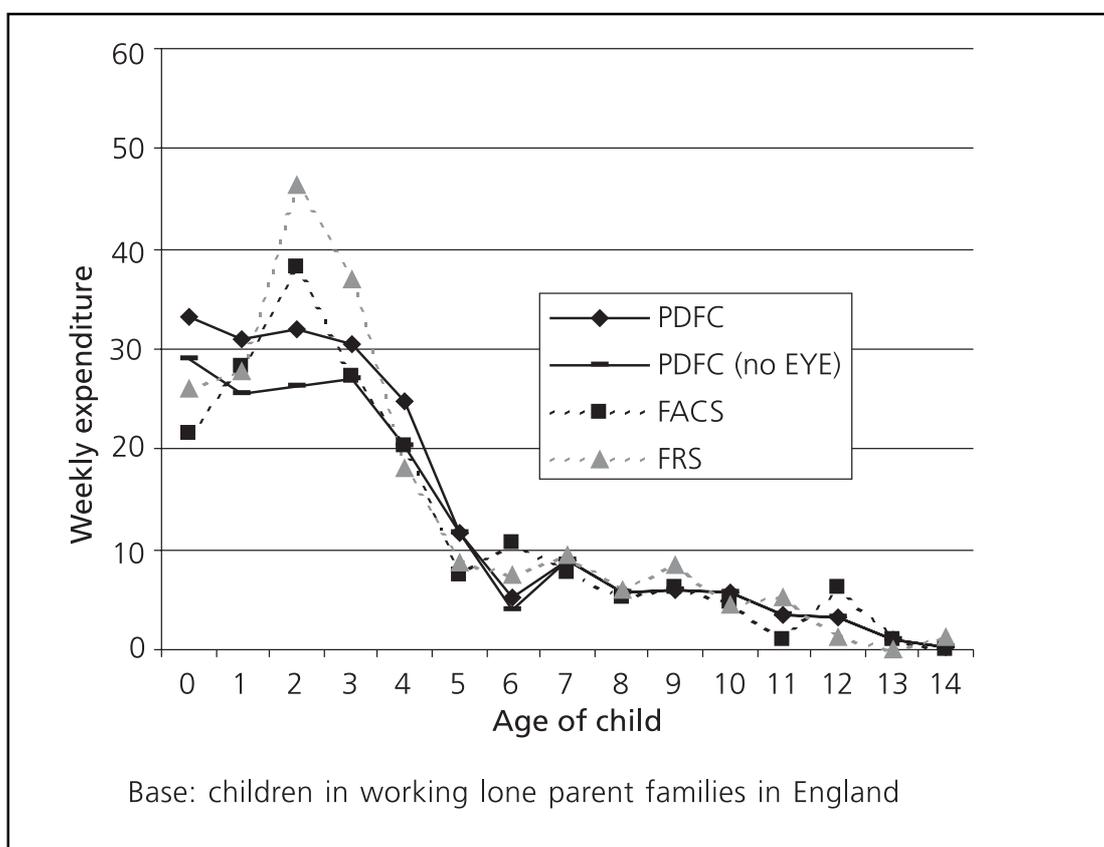


Figure 3.19 Children in working lone parent families: mean weekly childcare expenditure for children using childcare during term time, by age of child

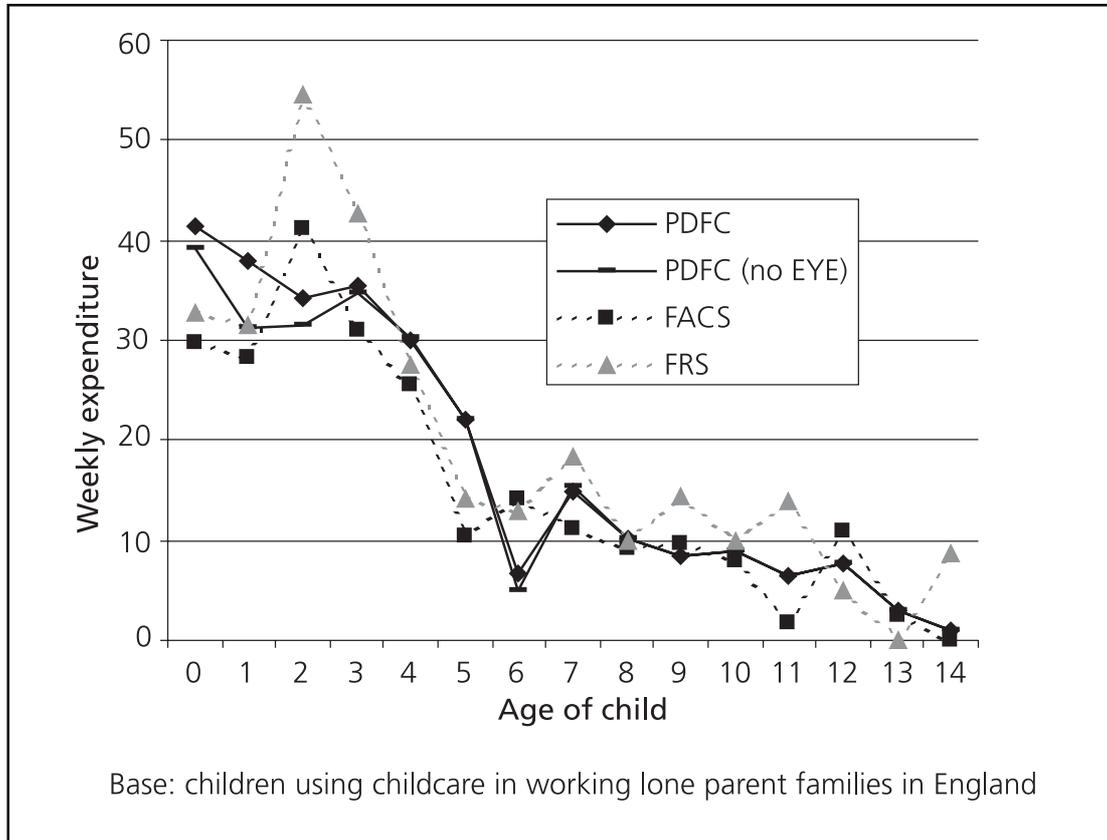


Figure 3.20 Children in couple families with working mother: mean weekly childcare expenditure for children during term time, by age of child

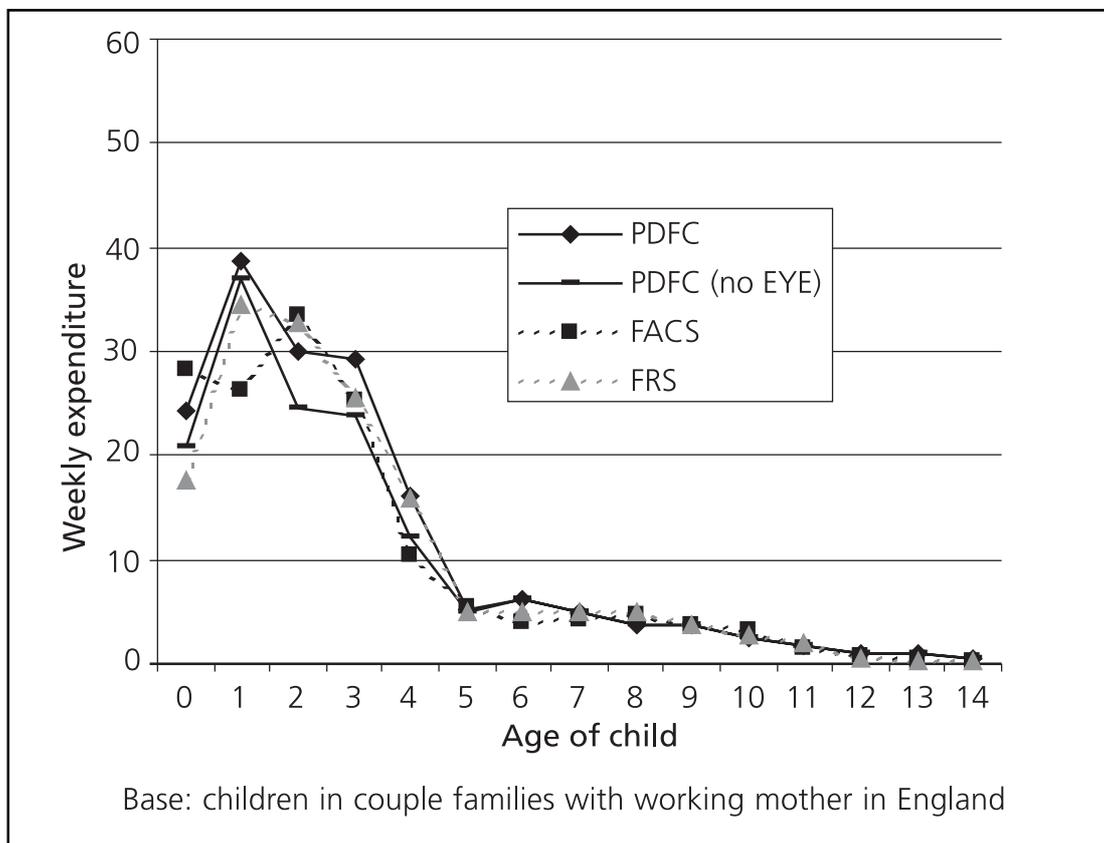
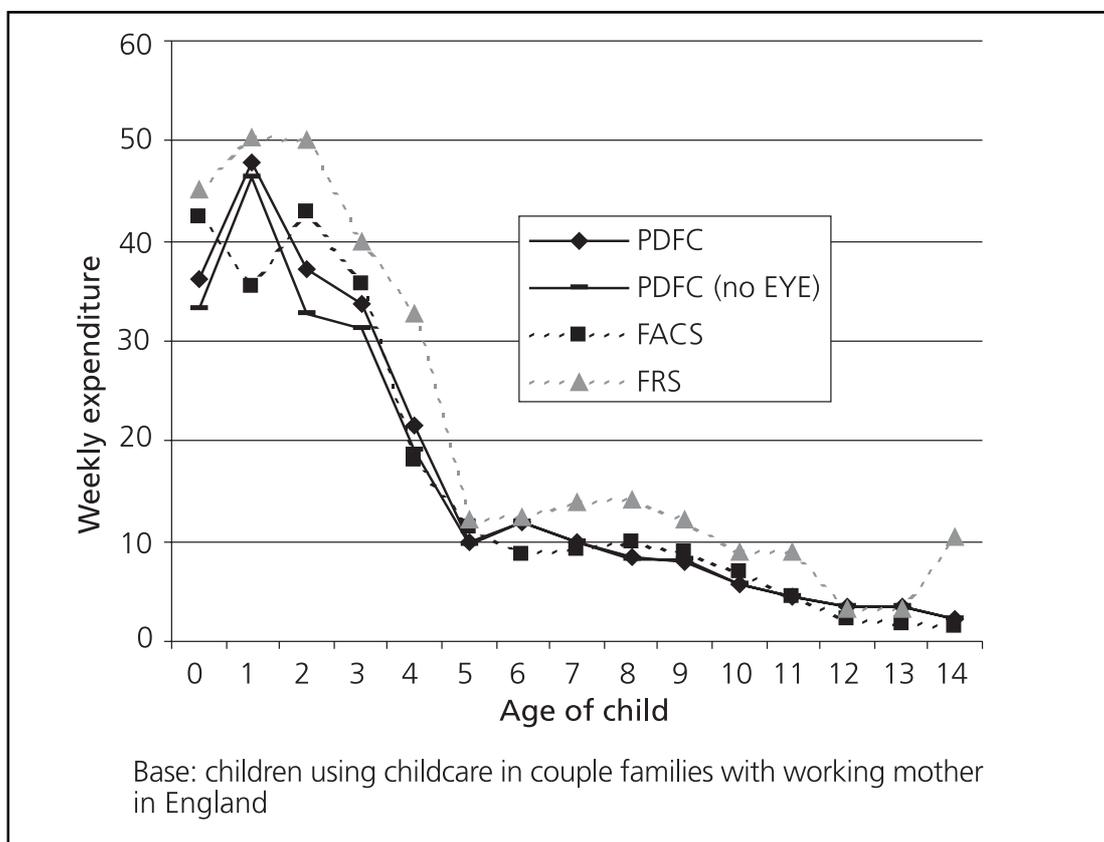
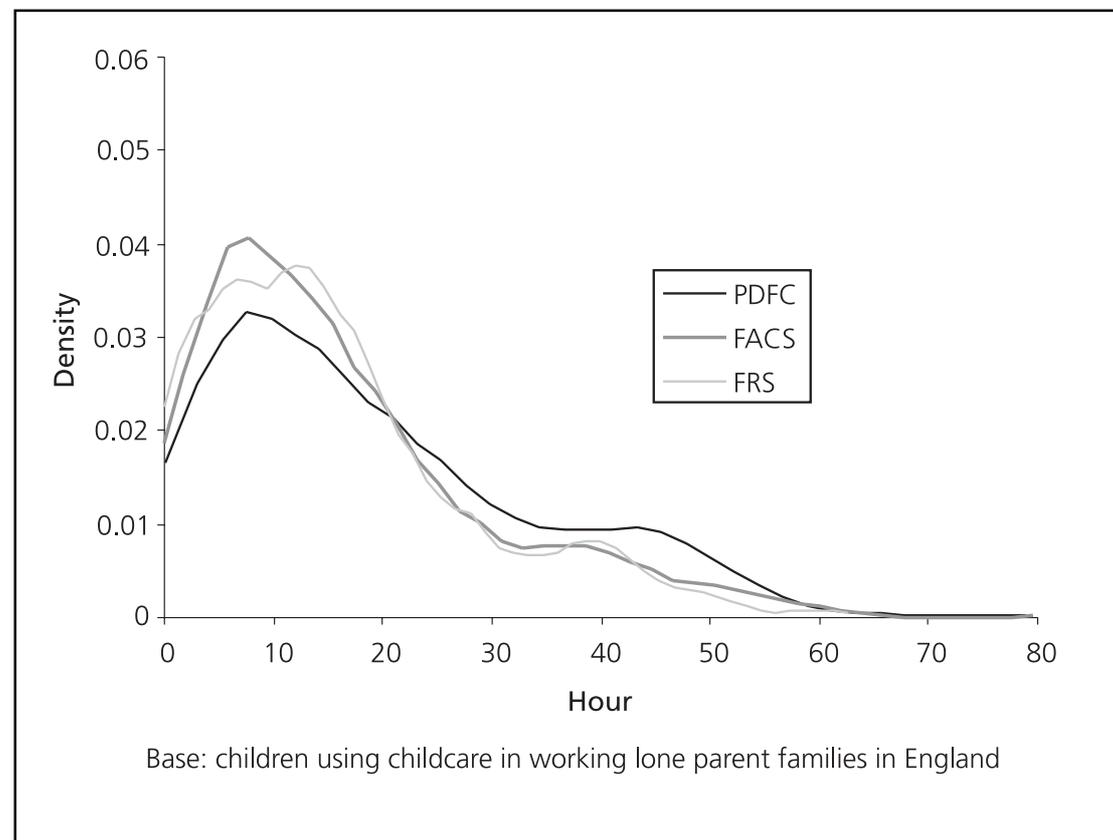


Figure 3.21 Children in couple families with working mother: mean weekly childcare expenditure for children using childcare during term time, by age of child



Figures 3.22 and 3.23 show the estimated distributions of weekly hours of childcare used amongst children who use any childcare.³⁵ The shape is broadly consistent across the datasets: in each case, the mode is roughly ten hours for children in lone parent families, and about five hours for children in couple families. The clear implication of this is that a lot of families use only a little childcare. However, there is a long right-hand tail and also suggestive evidence of a second peak at roughly 40 hours, corresponding roughly to the amount of childcare that would be required to cover full-time work. The distribution of hours in PDFC is more dispersed than FACS or FRS: this may be due to the fact that PDFC asked about childcare last week, whereas FACS and FRS collected information about usual childcare use.³⁶

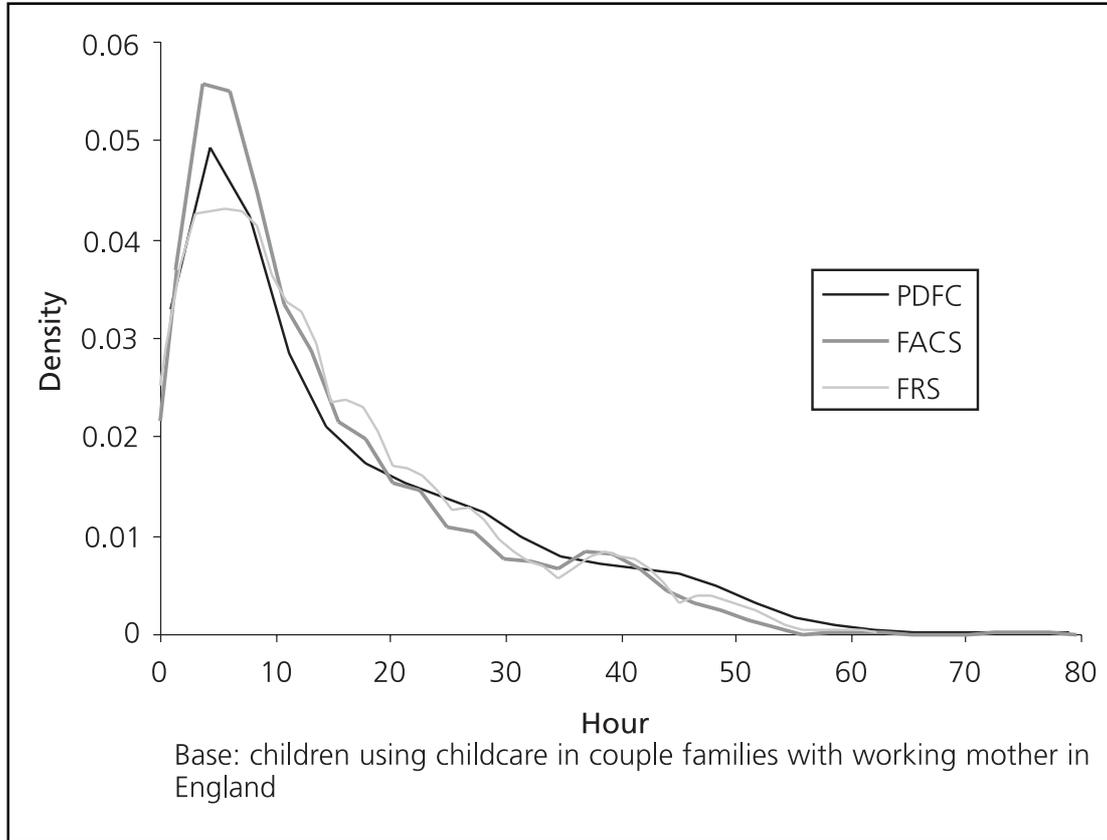
Figure 3.22 Children in working lone parent families: distribution of weekly hours of childcare



³⁵ All distributions presented in this report are kernel density estimates. These estimates used 50 bins, Stata's optimal bandwidth, and the Epanechnikov kernel. The number of bins is the number of points at which the density function is calculated, the bandwidth is the range of x values used to estimate the density function at a particular point, and the kernel is the function used to weight these observations. We have not bootstrapped these distributions to produce standard errors.

³⁶ Other studies (usually about hours of work) have suggested that this may lead to greater variance in responses (see Section 2.1.1).

Figure 3.23 Children in couple families with working mother:
distribution of weekly hours of childcare



Figures 3.24 and 3.25 plot the estimated distribution for weekly expenditure per child who uses paid childcare. Again, the figures show that there are a lot of parents paying a little for their childcare, with the mode being between £10 and £20 a week. The shapes are similar across datasets, except that the FRS has more children who use childcare that costs between £50 and £100 per week.

Figure 3.24 Children in working lone parent families: distribution of weekly expenditure

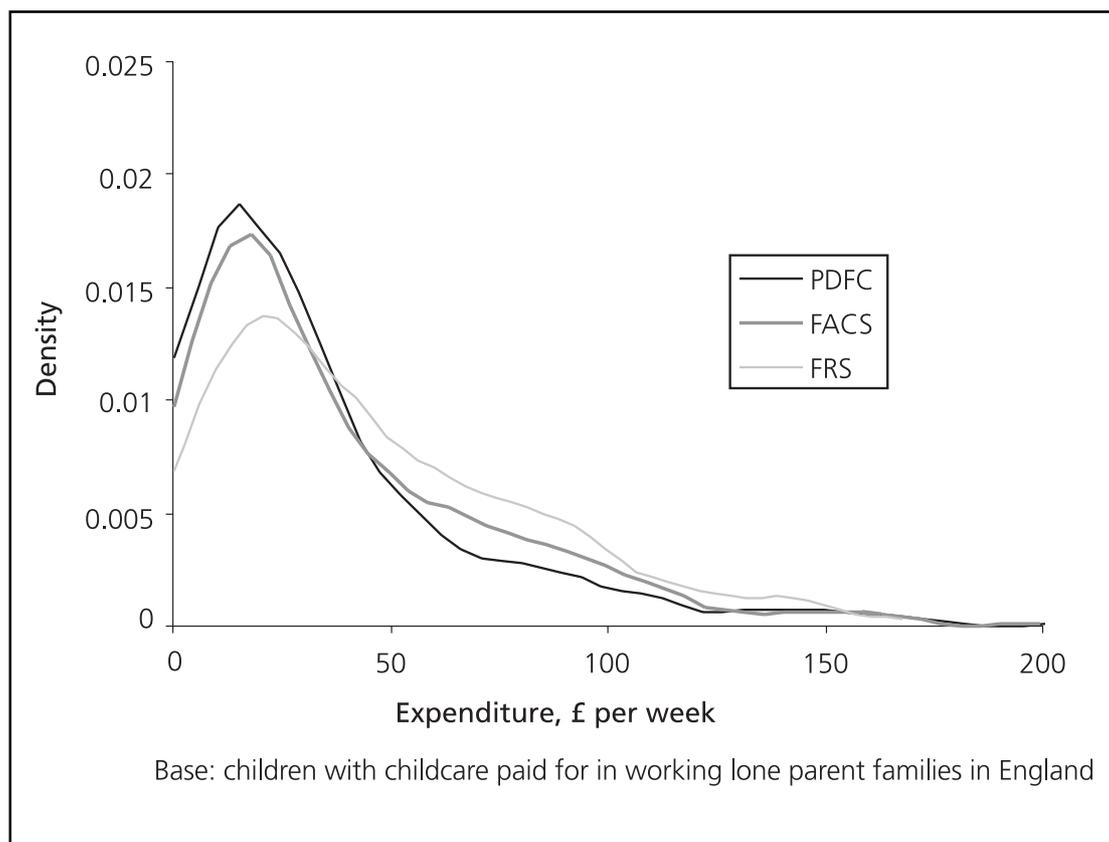
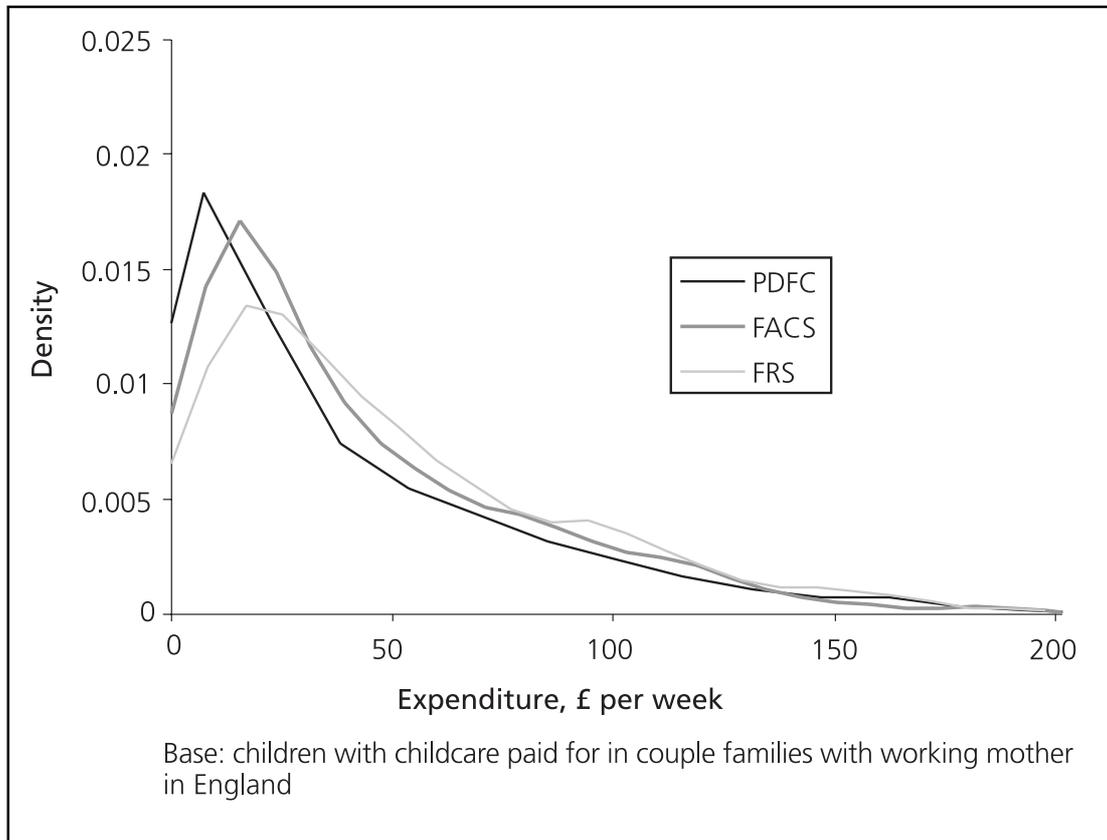


Figure 3.25 Children in couple families with working mother: distribution of weekly expenditure



3.3.3 Expenditure on and hours spent in different types of childcare

Analysing hours and expenditure split by childcare type is important in understanding what is driving the differences in childcare use between surveys. Table 3.9 presents hours, the proportion of children paying, and expenditure by childcare type, conditional on the relevant type of childcare being used. We are restricted to FACS and PDFC, since FRS does not ask hours or expenditure questions separately for each type of childcare.

Table 3.9 Average weekly hours of, expenditure on, and proportion paying for childcare, by childcare type, for all children using the relevant type of childcare and whose mother works

	Lone parent families			Couple families		
	PDFC	PDFC (no EYE)	FACS	PDFC	PDFC (no EYE)	FACS
Hours						
Centre-based care	21.08	22.34	19.82	18.19	17.23	20.40
Out-of-school or holiday club	7.87		10.11	6.36		7.56
Childminder	14.97		16.88	14.54		14.87
Nanny/au pair	17.12		14.06	26.64		18.79
Close relative	17.56		15.45	12.28		10.63
Other relative	13.14		9.66	8.77		7.81
Other type/type unknown	14.92		N/A	16.61		N/A
Proportion who pay						
Centre-based care	0.815	0.887	0.861	0.809	0.844	0.879
Out-of-school or holiday club	0.912		0.929	0.798		0.940
Childminder	0.923		0.941	0.950		0.977
Nanny/au pair	1.000		0.886	0.861		0.887
Close relative	0.087		0.052	0.101		0.073
Other relative	0.209		0.153	0.194		0.183
Other type/type unknown	0.563		N/A	0.530		N/A
Expenditure						
Centre-based care	£40.24	£49.60	£49.56	£35.37	£39.86	£54.87
Out-of-school or holiday club	£14.63		£20.95	£12.18		£15.77
Childminder	£33.05		£40.50	£38.52		£37.70
Nanny/au pair	£34.93		£66.43	£83.75		£64.90
Close relative	£1.27		£0.80	£1.74		£1.61
Other relative	£4.10		£2.11	£4.15		£4.30
Other type/type unknown	£0.87		N/A	£4.09		N/A

Continued

Table 3.9 Continued

	Lone parent families			Couple families		
	PDFC	PDFC (no EYE)	FACS	PDFC	PDFC (no EYE)	FACS
Expenditure conditional on paying						
Centre-based care	£49.35	£55.89	£57.56	£43.73	£47.22	£62.40
Out-of-school or holiday club	£16.05		£22.56	£15.27		£16.77
Childminder	£35.81		£43.03	£40.53		£38.58
Nanny/au pair	£34.93		£74.99	£97.30		£73.20
Close relative	£14.66		£15.57	£17.13		£22.13
Other relative	£19.60		£13.84	£21.40		£23.48
Other type/type unknown	£1.55		N/A	£7.70		N/A

Base: children using the relevant type of childcare with working mother in England, children paying for the relevant type of childcare with working mother in England.

This table contains a great deal of information. We would highlight the following:

- Average hours are highest for centre-based care, somewhat lower for childminders and close relatives, lower still for other relatives, and last, out-of-school or holiday club. Removing EYE causes mean hours spent in centre-based care to increase for children in lone parent families, and fall for children in couple families. This, therefore, does not support our hypothesis that the EYE sessions picked up by PDFC tend to be short. One possible explanation for this may be that, to free up enough time to allow parents to work, children have to use more hours of childcare than the free nursery place entitles them to.
- The large majority of parents using any type of formal childcare pay for it. This is unsurprising: indeed, it is surprising that some parents say that they are not paying for these types of care.³⁷ Excluding EYE increases the proportion of children whose centre-based care is paid for, indicating that at least some EYE is free – this is what we would expect if our hypothesis is correct that only PDFC captures (free) EYE adequately. PDFC tends to record a slightly lower proportion of children whose childcare is paid for (alternatively, PDFC records more free care than the other datasets).
- Between five and ten per cent of close relative care and 15 to 20 per cent of other relative care is paid for. This emphasises that, although informal care tends to be free, it is not universally so.

³⁷ The surveys generally ask **parents** whether they pay: if the care is paid for by someone who is not a parent, then it will appear to be free.

- Weekly expenditure varies massively across childcare types. This largely reflects the differing proportion of children whose childcare is paid for, and so this effect is removed in the bottom panel, showing average expenditure conditional on paying for childcare. Unsurprisingly, weekly expenditure is highest for nannies/au pairs, followed by centre-based care and childminders. Less is spent on out-of-school or holiday clubs. Removing EYE increases mean weekly expenditure on centre-based care, again supporting the hypothesis that PDFC is capturing cheap EYE.³⁸

It is useful to look at the distribution of hours and expenditure by childcare type. Figures 3.26-3.28 give the distribution of hours spent at different types of formal care (except for nannies/au pairs where sample sizes are too small). The distributions for children in couple families tend to be more condensed than those for children in lone parent families, and peak at a slightly lower level. The mode for centre-based care and childminders is around ten hours a week, but there is a secondary peak at around 40 hours. The mode for out-of-school clubs is around five hours a week.

There is a good degree of consistency between the datasets for childminders, but less so for centre-based care and out-of-school or holiday clubs (the distribution for FACS is centred at a slightly higher number of hours).

³⁸ It is worth noting that all three surveys record a mean expenditure of between £40-£60 per week per child on centre-based care (with standard errors of £5 for lone parents, £2 for couples), much less than the figures cited as being the mean cost of a full-time nursery place. This is because not all pre-school children using centre-based care use full-time nursery places.

Figure 3.26 Children in families with working mother: distribution of weekly hours at centre-based care

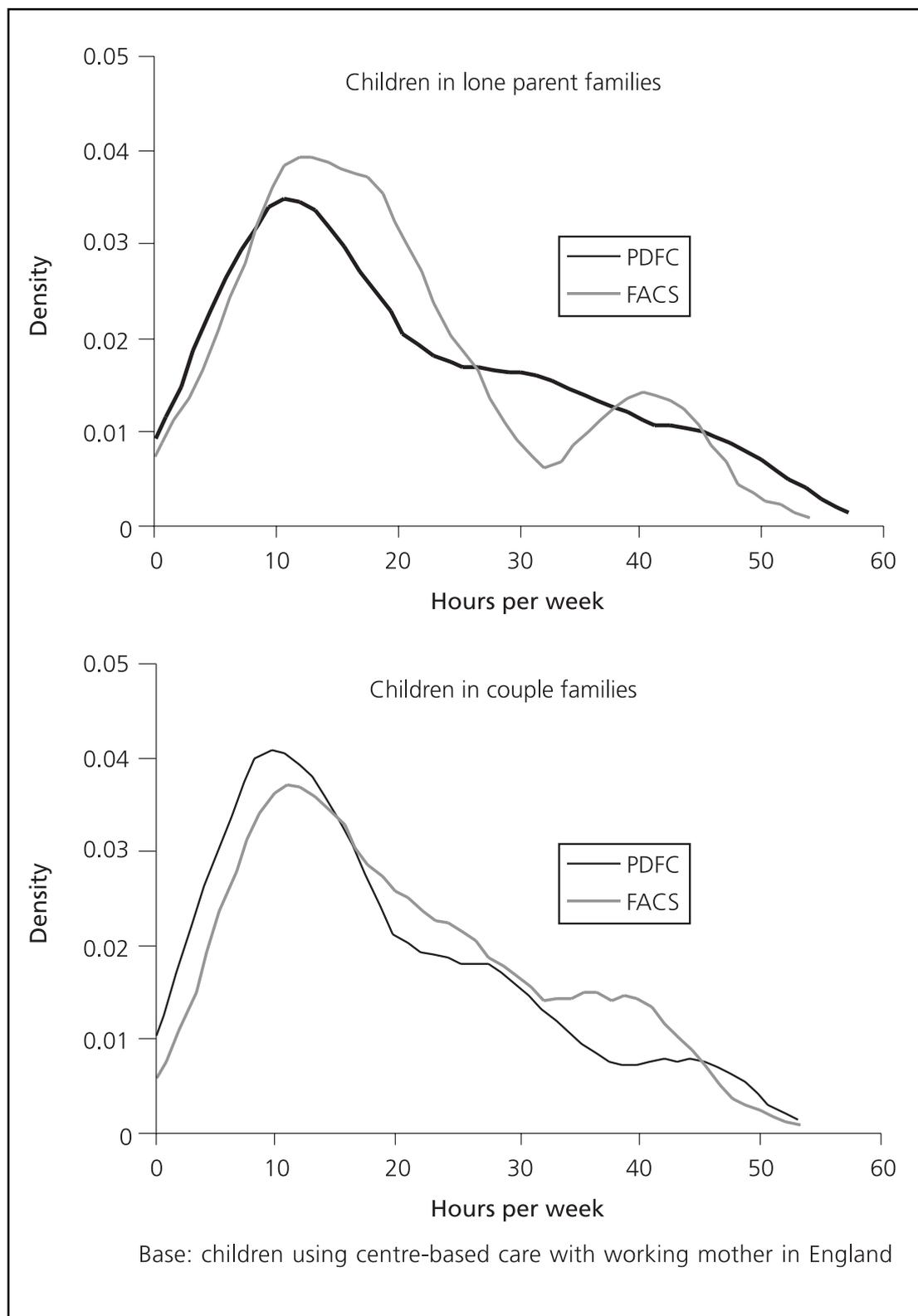


Figure 3.27 Children in families with working mother: distribution of weekly hours at out-of-school or holiday clubs

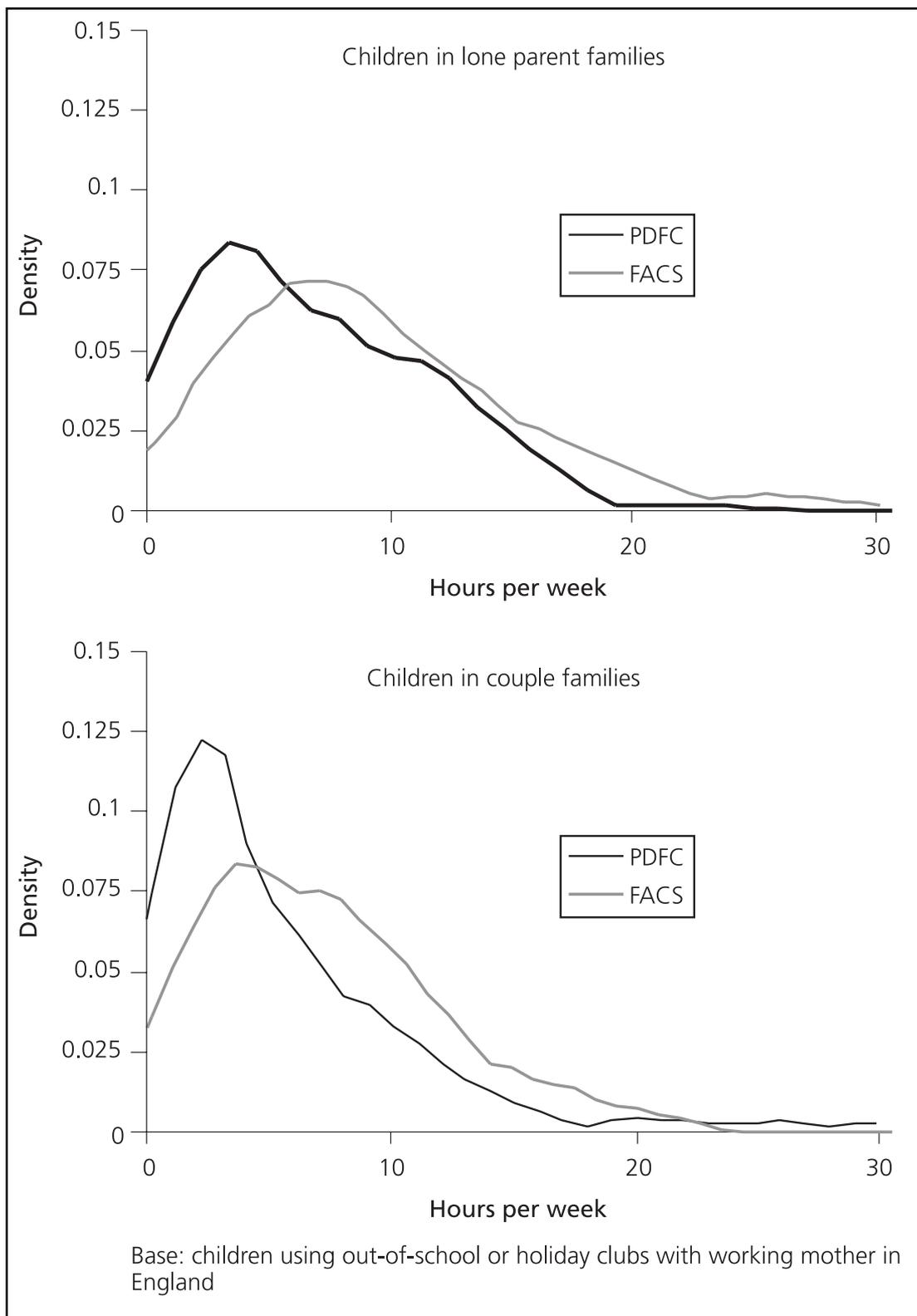
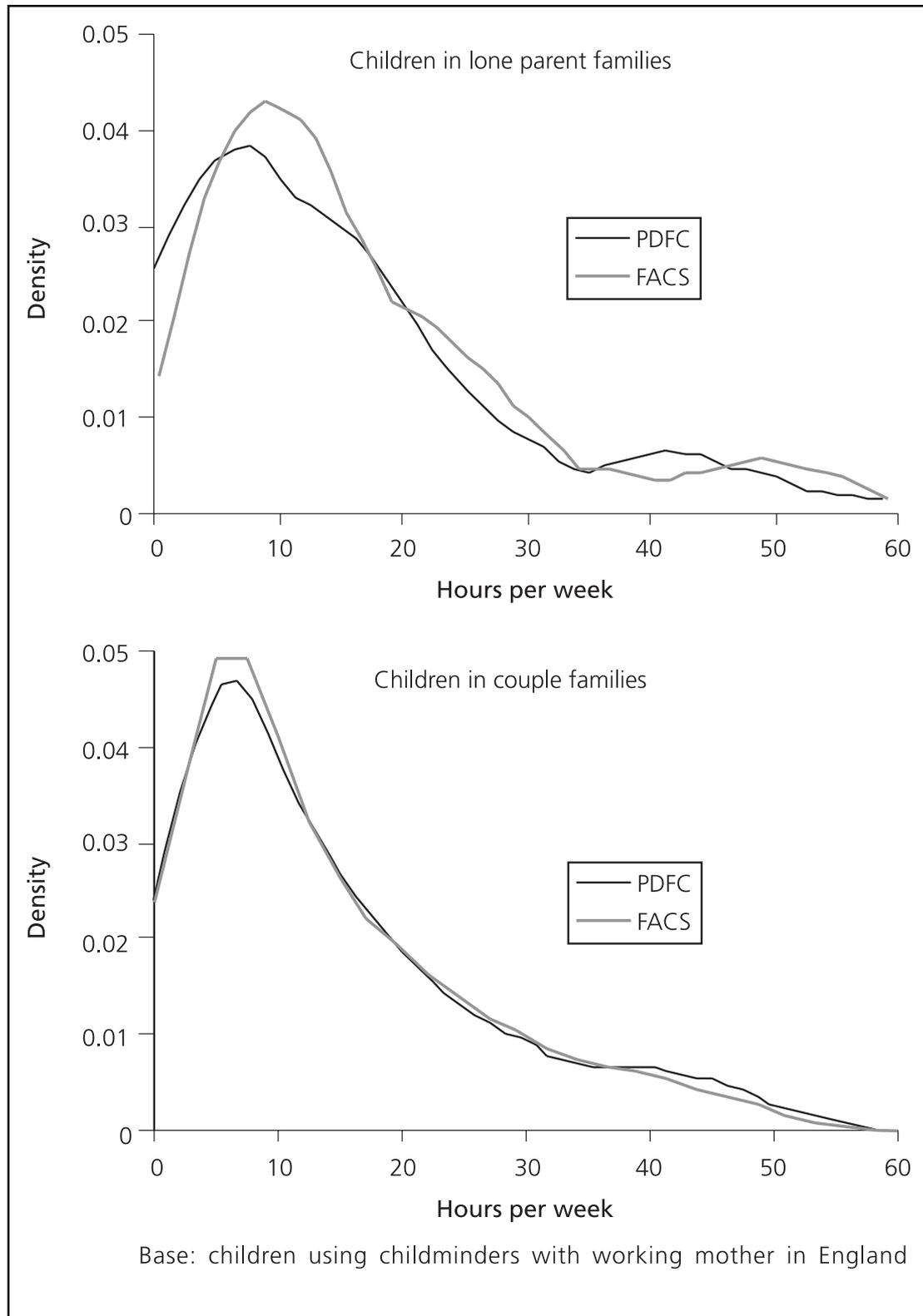


Figure 3.28 Children in families with working mother: distribution of weekly hours at childminders



Figures 3.29-3.31 give the estimated expenditure distributions, for children who use paid care. The distributions for children in couple families are more concentrated than those for children in lone parent families; with modes at lower values (although Table 3.8 showed that lone parents spend less than couples). There is reasonable agreement between the two datasets for expenditure on childminders and out-of-school clubs, but much less agreement for centre-based care: expenditure in PDFC has a longer right-hand tail, but peaks at a lower level. In particular, PDFC captures a large proportion of children using centre-based care who pay less than £20 a week, which is not reflected in FACS.

Figure 3.29 Children in families with working mother: distribution of weekly expenditure at centre-based care

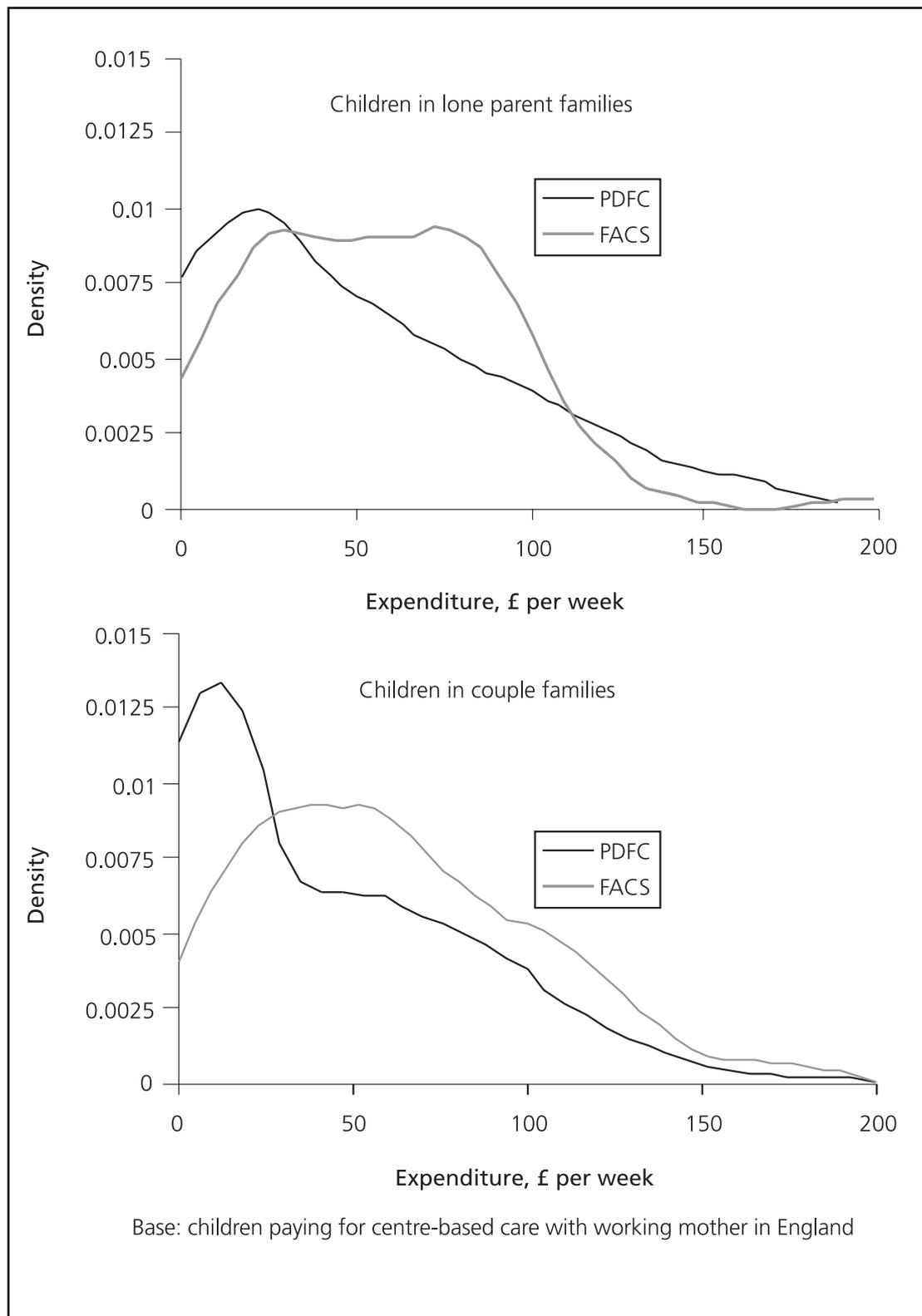


Figure 3.30 Children in families with working mother: distribution of weekly expenditure at out-of-school or holiday clubs

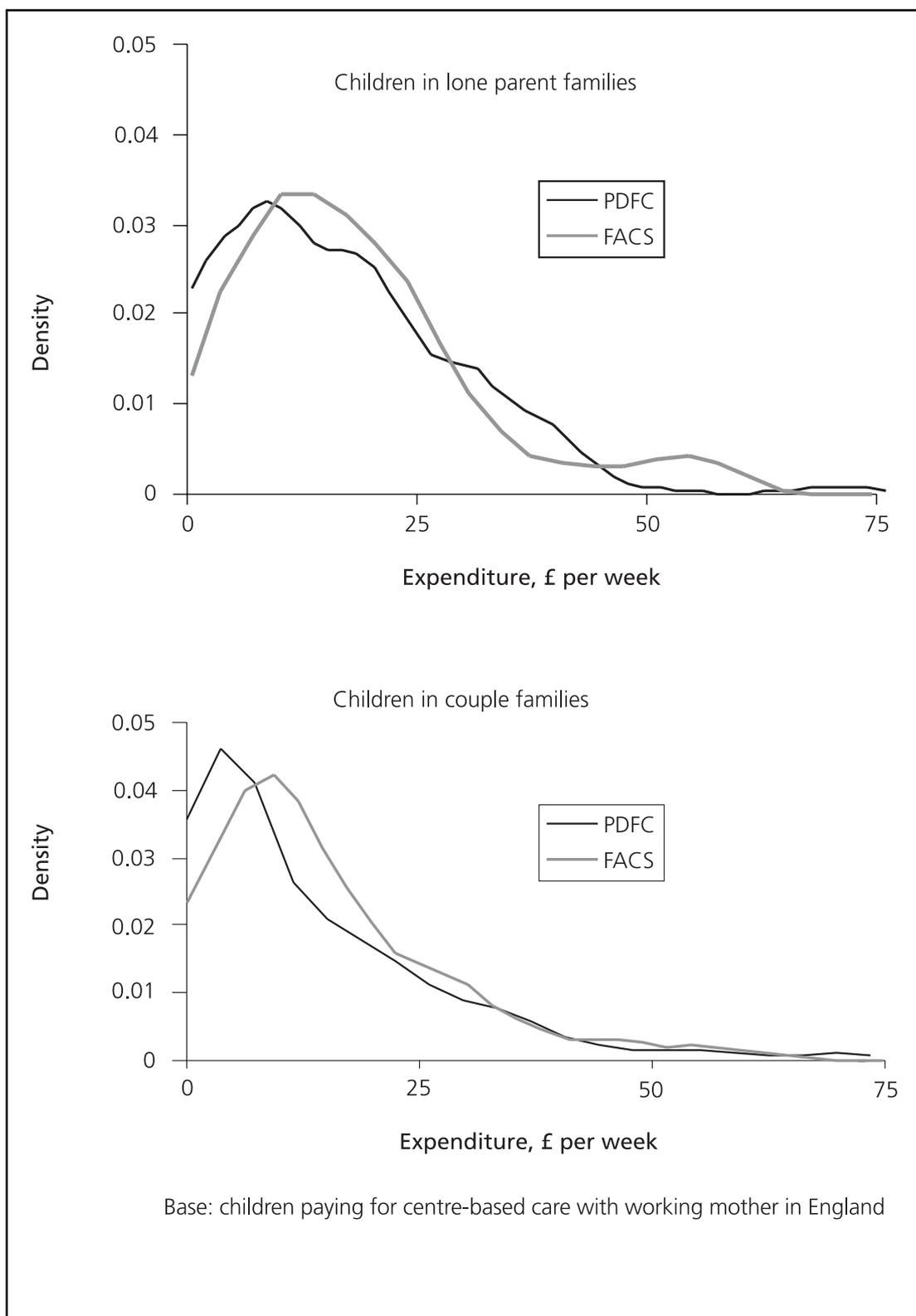
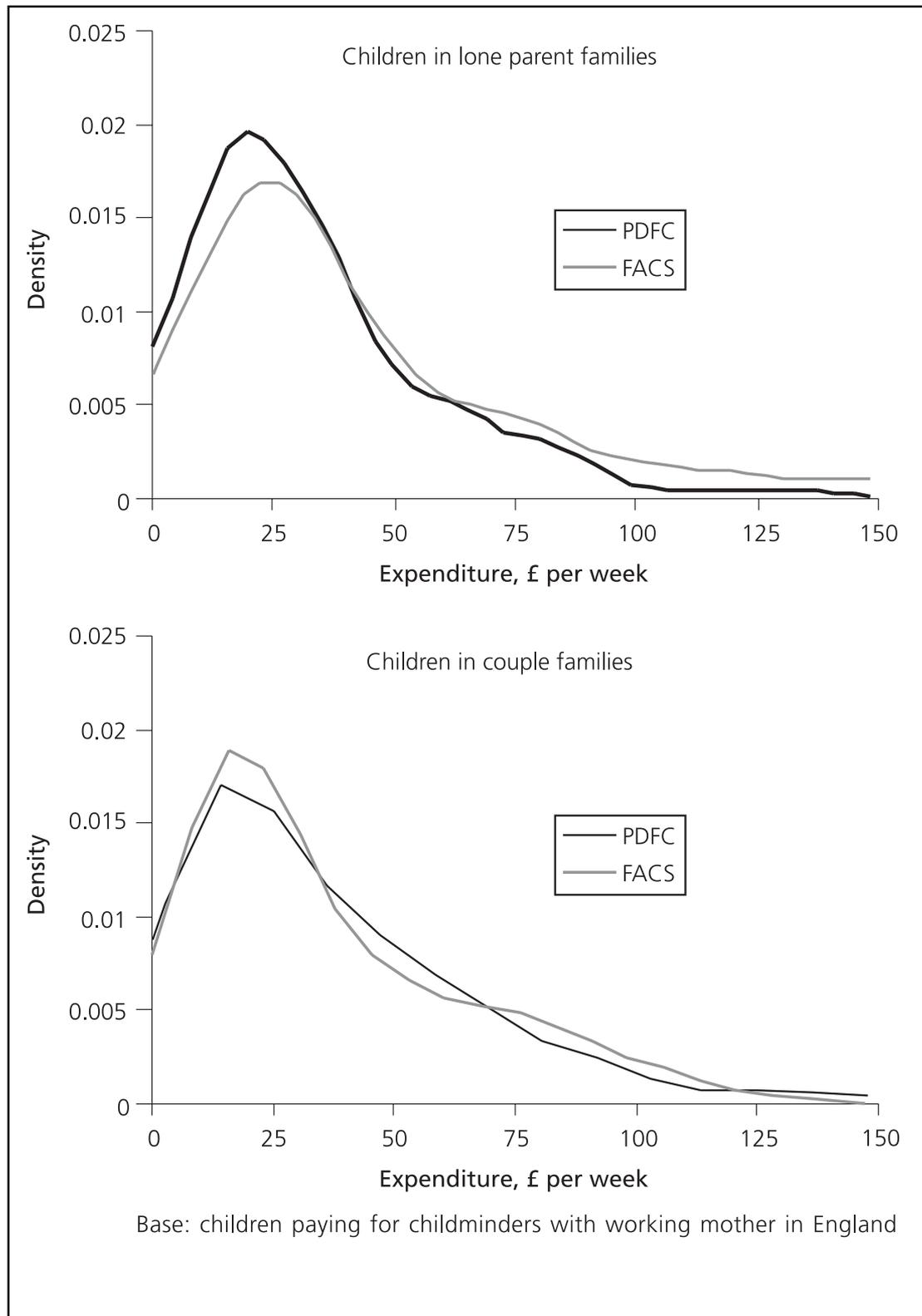


Figure 3.31 Children in families with working mother: distribution of weekly expenditure at childminders



Figures 3.32 and 3.33 show the estimated distribution of hours of informal care: close relatives and other relatives or friends. The mode is very low, consistent with many children spending around five hours a week in informal care, but there is a long tail, particularly for close relatives. The two datasets give very similar impressions of the distribution of hours of informal care used.

Figure 3.32 Children in families with working mother: distribution of weekly hours term time at close relatives

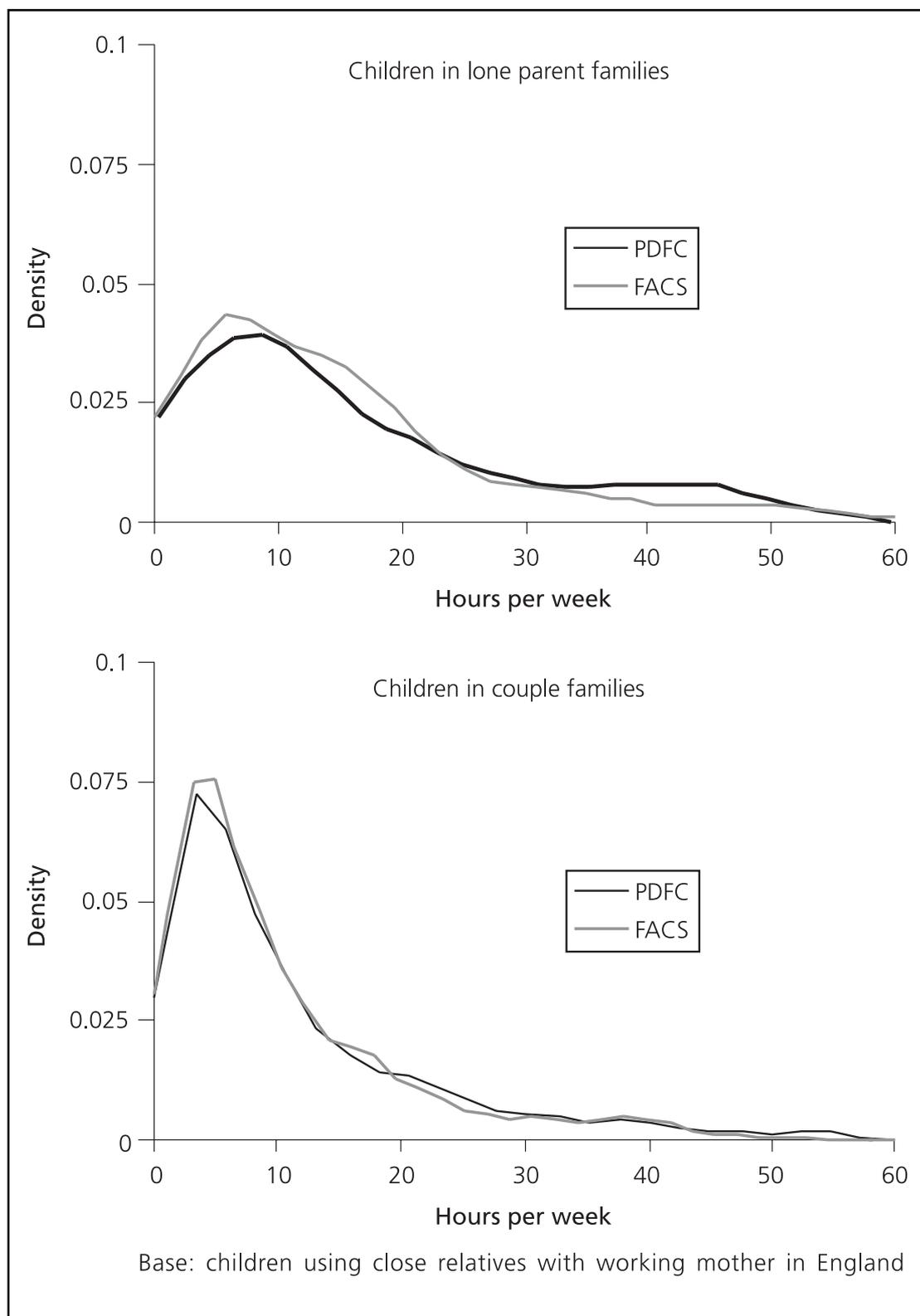
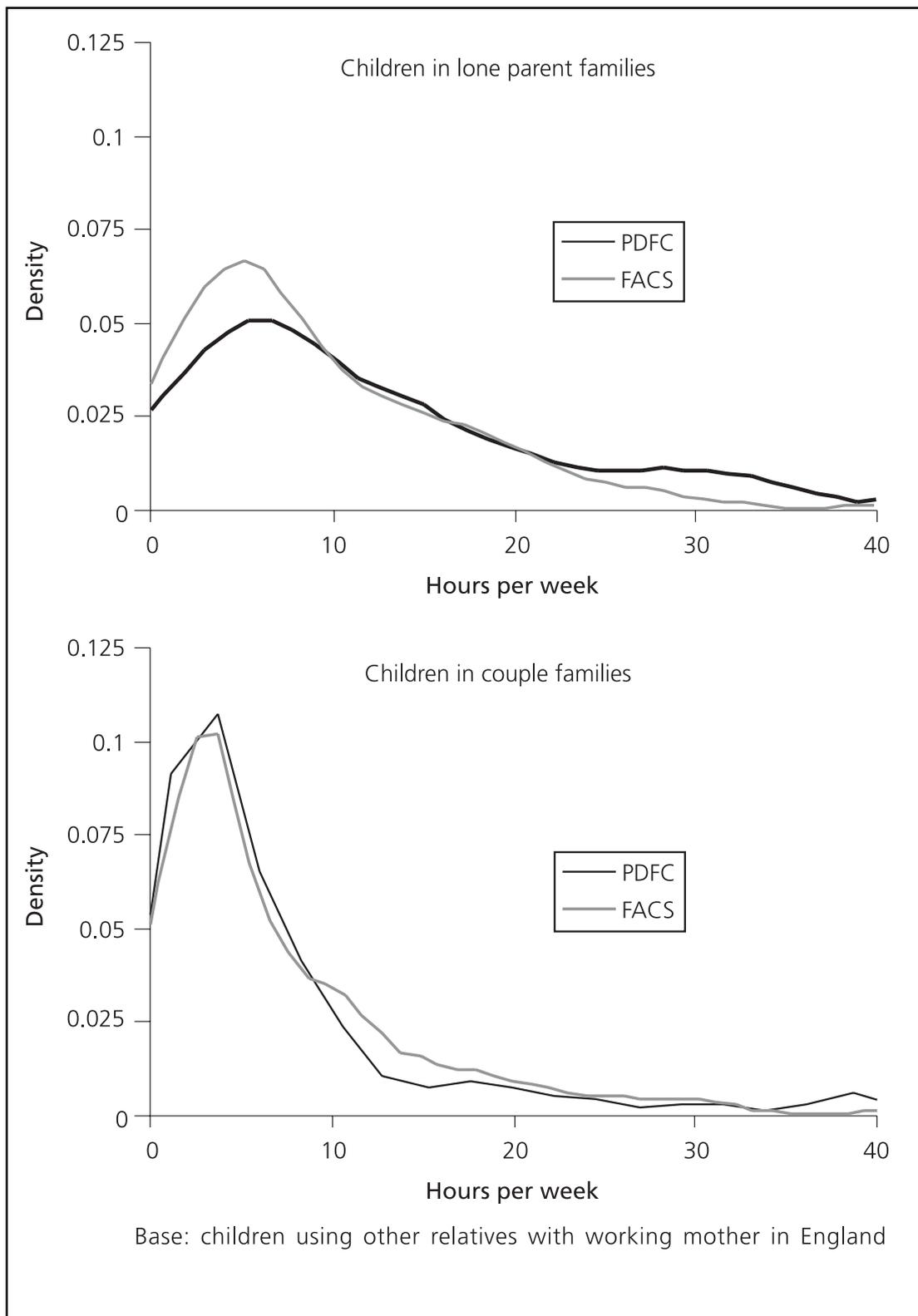


Figure 3.33 Children in families with working mother: distribution of weekly hours term time at other relatives or friends



Interestingly, there is no particularly strong evidence in any of these hours or expenditure distributions of the greater dispersion in PDFC we might expect given PDFC asks about arrangements last week and FACS about usual arrangements.

We do not present graphs for hours and expenditure by childcare type and age simultaneously. This is due to small sample sizes.

3.3.4 The price of childcare

Tables 3.10 and 3.11 set out the average hourly price of childcare amongst children who pay for childcare.³⁹ This does not correspond exactly to the fee charged by a childminder, because, for example, there may be multi-child discounts, or it may not be possible to buy childcare by the hour. Nevertheless, they do provide a good indication of the variation in cost between different providers.

Table 3.10 shows that the average price of childcare used by children in lone parent families is lower than that of children used in couple families. This, however, could be due to different types of childcare being used by different types of families, and so Table 3.11 presents the average price of childcare separately for each type of childcare (FRS does not appear in this table because it does not ask about expenditure by childcare type). For many types of childcare, the difference between lone parents and couples remains, suggesting that the explanation must lie elsewhere. For example, there is no reason to suspect that all childcare provided by, say, centre-based care, is of the same quality, so the fact that couples pay more, per hour, for centre-based care than lone parent families may reflect that their parents are buying, on average, care of different quality.⁴⁰

Table 3.11 also shows that nannies/au pairs are the most expensive form of childcare, followed by childminders and centre-based care.⁴¹ The least expensive type of formal childcare is out-of-school or holiday clubs. For informal care that is paid for, close relatives tend to be cheaper than other relatives, but recall that most informal care is free (see Table 3.9). The reason why the overall averages in Table 3.11 are higher than the numbers in Table 3.10 is that, for children using paid childcare, any hours spent at free childcare affect the Table 3.10 calculations, but not those in Table 3.11.

³⁹ This is calculated by dividing total expenditure by total hours separately for each child, giving an average price for all care used by that child, and then averaging across all children, weighting according to the number of hours used.

⁴⁰ 'Quality' here means any attribute of the childcare that the parent is prepared to pay a premium for, whether it be location, convenience of opening hours, or child-centred measures of quality.

⁴¹ 'Centre-based care' is not just nurseries, which can be relatively expensive, but also includes playgroups, which tend to be cheap, and some forms of EYE, which can be free of charge to the parent.

For almost all types of childcare, the price in FACS is higher than in PDFC. This further supports the idea that PDFC is capturing cheap childcare better. The gap for centre-based care is particularly big, and probably fairly reliable given the large sample size on which it is based. Excluding EYE from PDFC reduces the size of the gap, again suggesting a role for EYE in explaining differences across datasets.

Table 3.10 Average price per hour of childcare for children who use any paid childcare

	PDFC	FACS	FRS
Children in lone parent families	1.64	2.08	2.36
Children in couple families	1.94	2.37	2.73

Base: children using paid childcare with working mother in England.

Note: September 2003 prices. This average price is calculated by dividing total expenditure by total hours. If children use both paid and free care, then the average price will be the average of these two amounts.

Table 3.11 Mean price of childcare by childcare type, for children paying for the relevant type of childcare

	Lone parent family		Couple family	
	PDFC	FACS	PDFC	FACS
Centre-based care	2.14	2.71	2.27	2.91
Centre-based care (no EYE)	2.38		2.57	
Out-of-school or holiday club	1.92	2.29	2.22	2.24
Childminder	2.27	2.46	2.74	2.58
Nanny/au pair	2.04	5.14	3.26	3.70
Close relative	0.77	1.42	1.03	1.36
Other relative	1.52	1.47	1.88	2.24
Other type/type unknown	1.24	N/A	0.47	N/A
Overall average	1.96	2.54	2.28	2.63

Base: children paying for the relevant form of childcare with working mother in England.

Note: September 2003 prices.

Figures 3.34 and 3.35 below show average hourly price of childcare by age of child. This helps us to understand what underlies the fall in childcare expenditure as age increases that we observed earlier (Figures 3.18 and 3.20). However, sample sizes are small, and there is little obvious trend in either figure (one could be convinced that Figure 3.35 shows that care for pre-school children is more expensive than school-age children).⁴² The lack of trend suggests that the fall in expenditure on

⁴² Standard errors are around 10 – 30p for pre-school children, but rise to 50p for children aged less than 12 months, and are generally higher for school age children.

childcare with age, is due to changes in hours and the proportion of children whose childcare is paid for.

Figure 3.34 Children in working lone parent families: mean price of childcare for children using childcare during term time whose childcare is paid for, by age of child

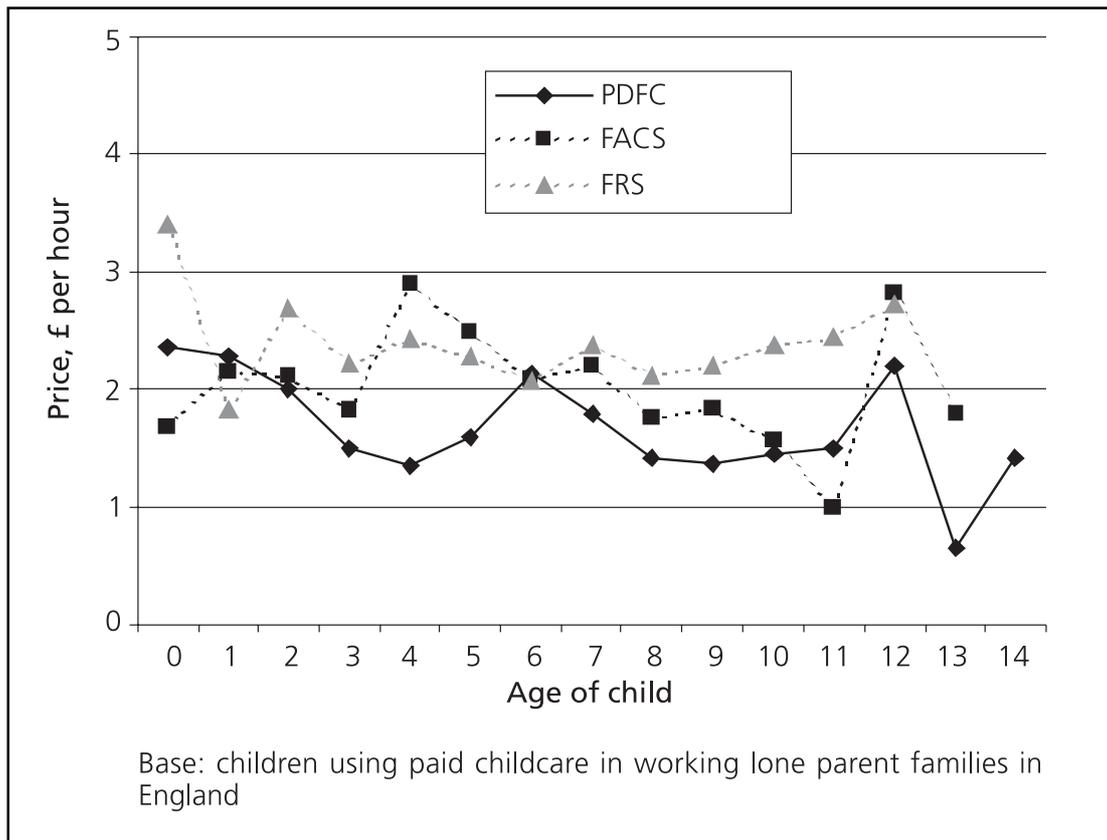
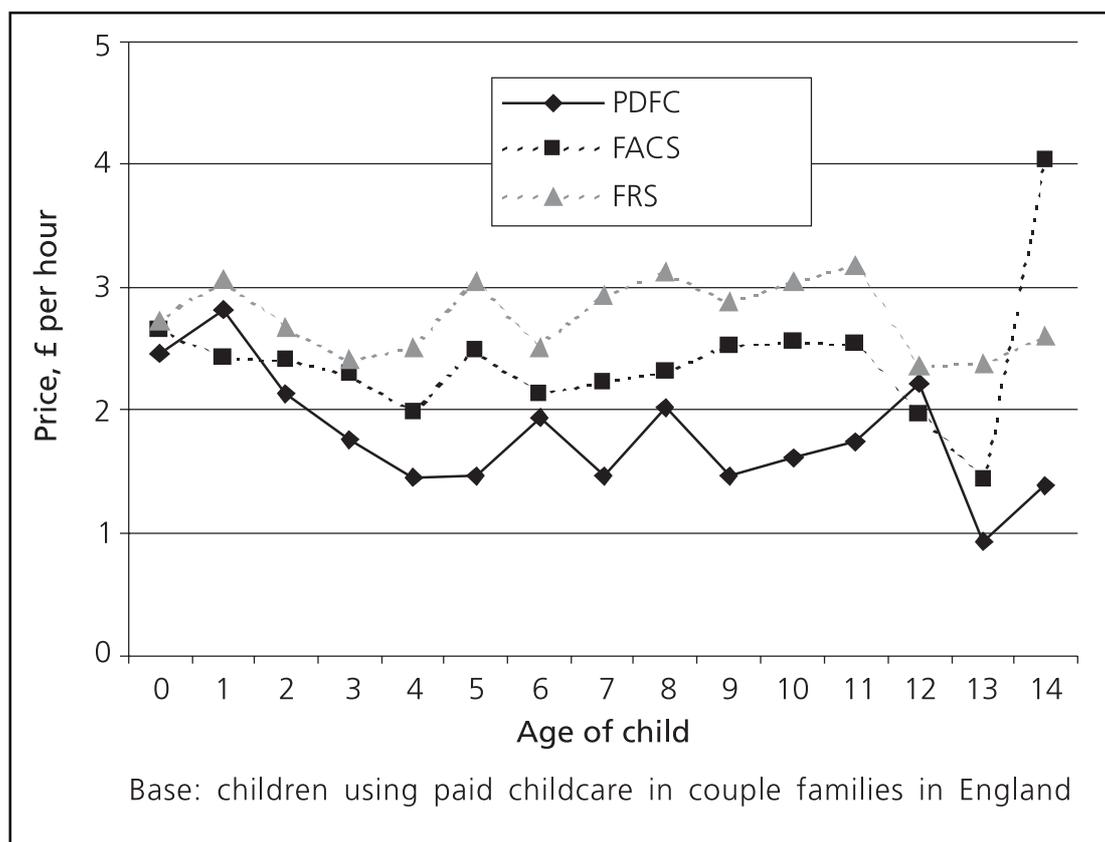


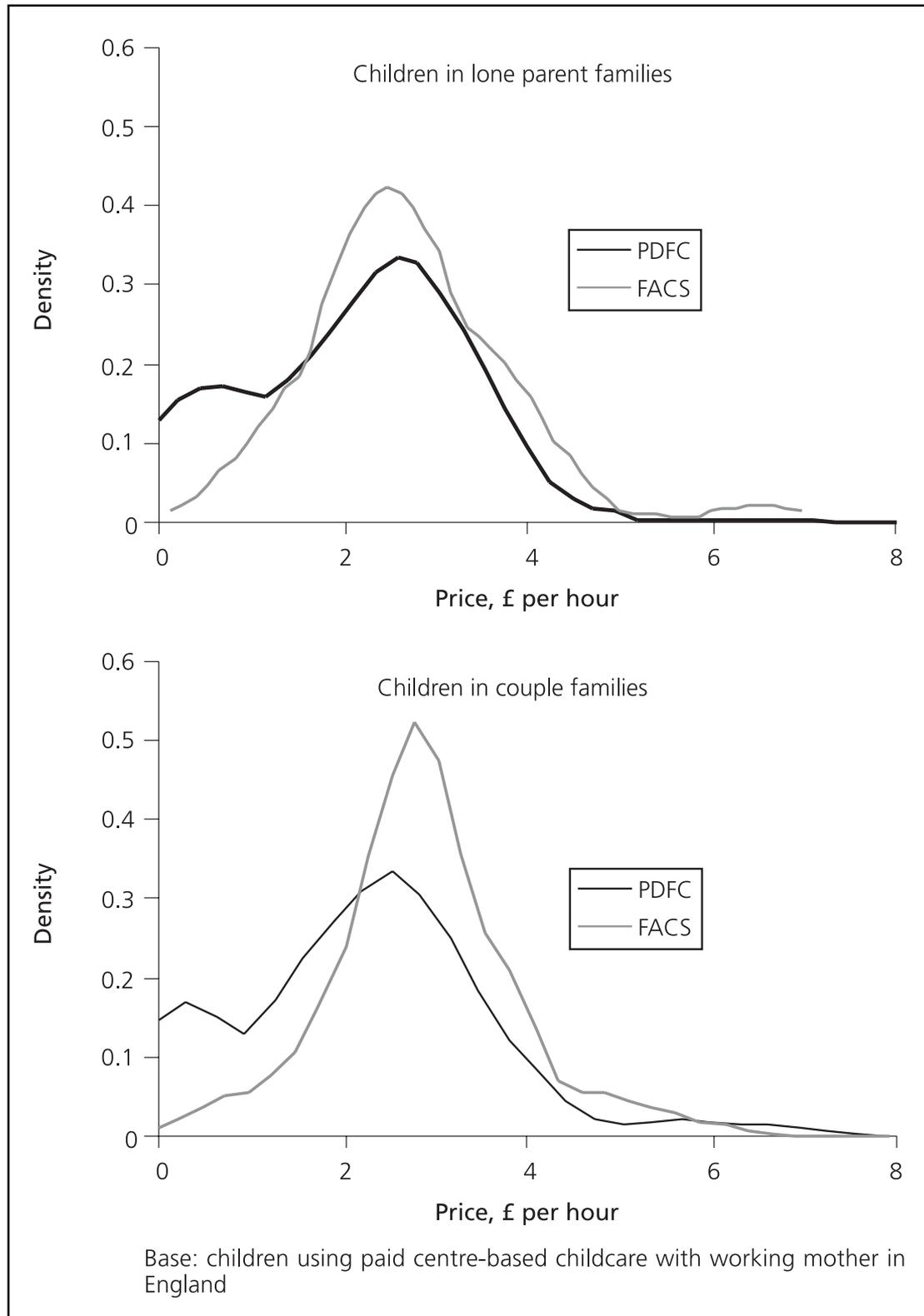
Figure 3.35 Children in couple families with working mother: mean price of childcare for children using childcare during term time whose childcare is paid for, by age of child



Looking only at mean price of childcare is less informative than considering the whole distribution of prices. Figures 3.36-3.38 show the estimated distribution of the price of childcare for centre-based care, out-of-school or holiday clubs, and childminders.

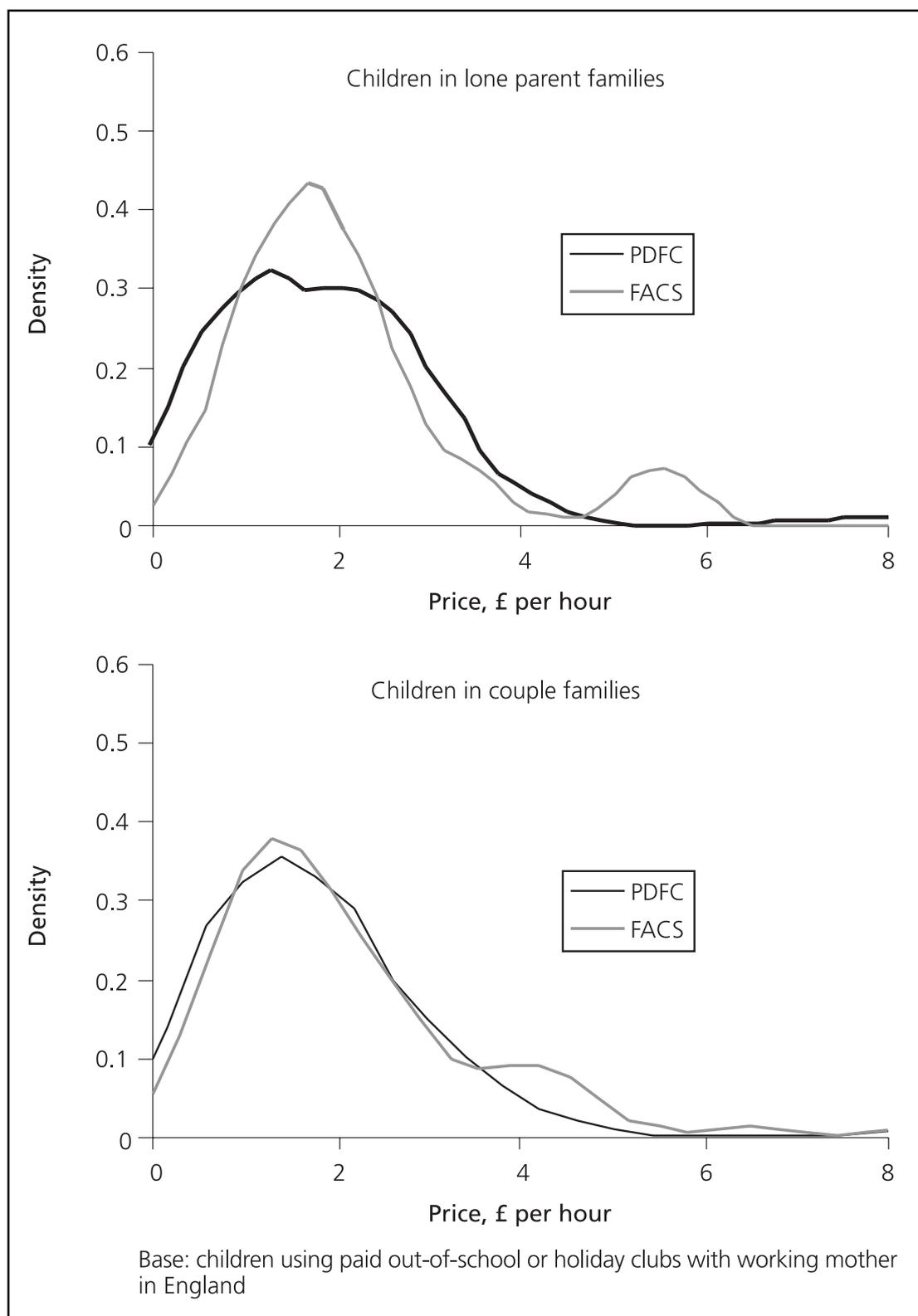
The price distribution for centre-based care does not differ much between children in lone parent families and children in couple families. Both have a mode of between about £2 and £3, and most of the distribution is concentrated between £1 and £4. The distribution for FACS is somewhat more concentrated than that for PDFC, and, for children in couple families, slightly further to the right. The distribution for PDFC is bimodal, with a second peak at roughly 50p. In all cases, the estimated price distributions for PDFC tend to intercept the vertical axis well above zero. This is not because the data include many zero observations – price distributions are estimated only for those paying for childcare – rather, it is because there are many observations close to zero. This may be a consequence of the way that the PDFC childcare cost questions were asked: provider by provider rather than for each child separately, and with a clear emphasis on recording all payments to childcare providers regardless of how small. It could also be due to PDFC better capturing EYE.

Figure 3.36 Children in families with working mother: distribution of hourly price of centre-based childcare



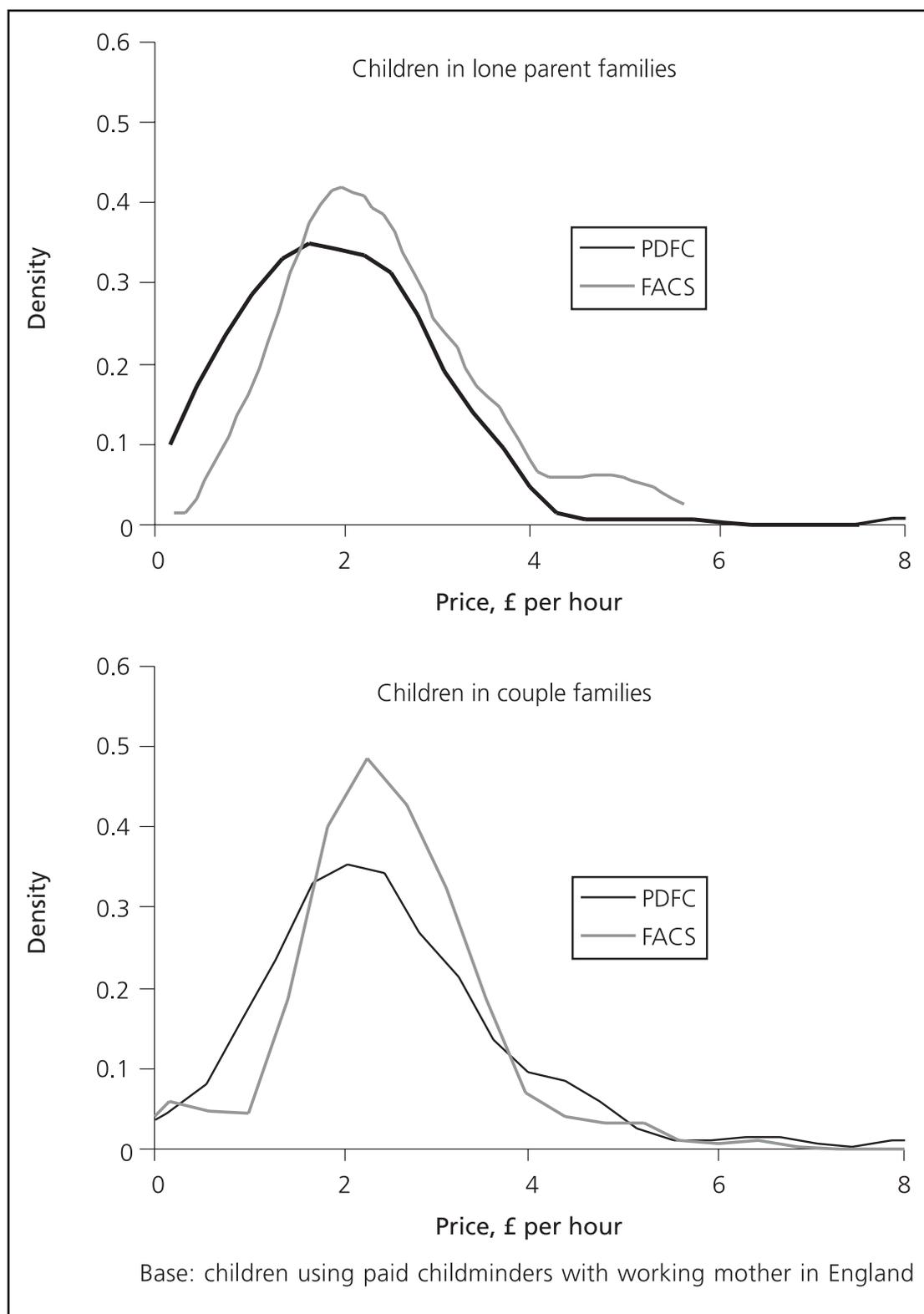
The price distribution for out-of-school or holiday clubs is a little more dispersed than that for centre-based care. For children in couple families, the estimated distributions for PDFC and FACS are remarkably similar. This time, FACS is bimodal, with the secondary peak at almost £6 for children in lone parent families, and about £4 for children in couple families. This may reflect the fact that the out-of-school care category groups together a wide range of different types of childcare.

Figure 3.37 Children in families with working mother: distribution of hourly price of out-of-school or holiday clubs



For childminders, the price distribution is slightly further to the right for FACS than for PDFC. Both are fairly concentrated.

Figure 3.38 Children in families with working mother: distribution of hourly price of childminders



3.4 Childcare use for families with non-working mothers

Best-practice economic models of childcare identify two distinct reasons for using childcare: first, to free up time for parents, and second, to provide educational and developmental opportunities for children.⁴³ While the first reason is likely to be most applicable to working mothers, the second is just as relevant to non-working mothers as it is to working mothers. Consequently, we should not be surprised if some non-working mothers use childcare.

So far in this report, we have only considered childcare use in families where the mother works. This is because FACS (until wave 4) and FRS do not collect childcare information for all families (see Section 2.1.2). But both PDFC and LFS address childcare questions to all parents, enabling us to analyse childcare use among families with non-working mothers. For comparative purposes, most of the figures and tables below also include information about families with working mothers, although, of course, working mothers differ from non-working mothers in many aspects other than simply the hours spent in paid employment (for example, working mothers tend to have fewer children, older children, be better educated and be older than non-working mothers).

Table 3.12 sets out the number of non-working mothers and the number of children in families with a non-working mother in each of the four surveys.⁴⁴ Roughly speaking, LFS has the largest sample, followed by FRS, FACS and lastly, PDFC. The proportion of the sample made up by lone parent families is much higher than when the mother is working, since a lower proportion of lone mothers work than mothers in couple families. An important thing to remember is that lone parent families where the mother doesn't work, are workless families (by definition) and likely to be claiming Income Support, whereas couple families with a non-working mother are, more often than not, single-earner families because the father tends to be working.

Table 3.12 Number of non-working mothers and number of children with non-working mothers

	PDFC	FACS	FRS	LFS
Lone parent family				
Non-working mothers	715	807	899	1,098
Children of non-working mothers	1,098	1,462	1,623	1,982
Couple family				
Non-working mothers	1,347	1,295	1,457	2,081
Children of non-working mothers	2,299	2,707	2,938	4,129

Note: all figures are unweighted.

⁴³ See Brewer and Paull (2004).

⁴⁴ Remember that whenever we refer to lone mothers, this also includes lone fathers.

Table 3.13 sets out the proportion of non-working mothers who use formal, informal and any form of childcare. The figures for working mothers are presented alongside to enable comparison. Both PDFC and LFS suggest around half of non-working mothers use some form of childcare, compared with 70-80 per cent of working lone parent families and 60-70 per cent of couple families with a working mother using childcare. The bounds for PDFC are much wider for non-working mothers than working mothers; this is because the former sample includes more families with three or more children.

Table 3.13 Proportion of mothers using childcare during term time

	Non-working mothers		Working mothers	
	PDFC ^a	LFS	PDFC ^a	LFS
Lone parent family				
Formal	0.184-0.369	0.369	0.294-0.355	0.425
Informal	0.289-0.455	0.384	0.558-0.607	0.63
Any	0.422-0.553	0.591	0.701-0.729	0.799
Couple family				
Formal	0.266-0.472	0.408	0.311-0.396	0.489
Informal	0.226-0.432	0.282	0.396-0.467	0.42
Any	0.426-0.588	0.558	0.581-0.633	0.685

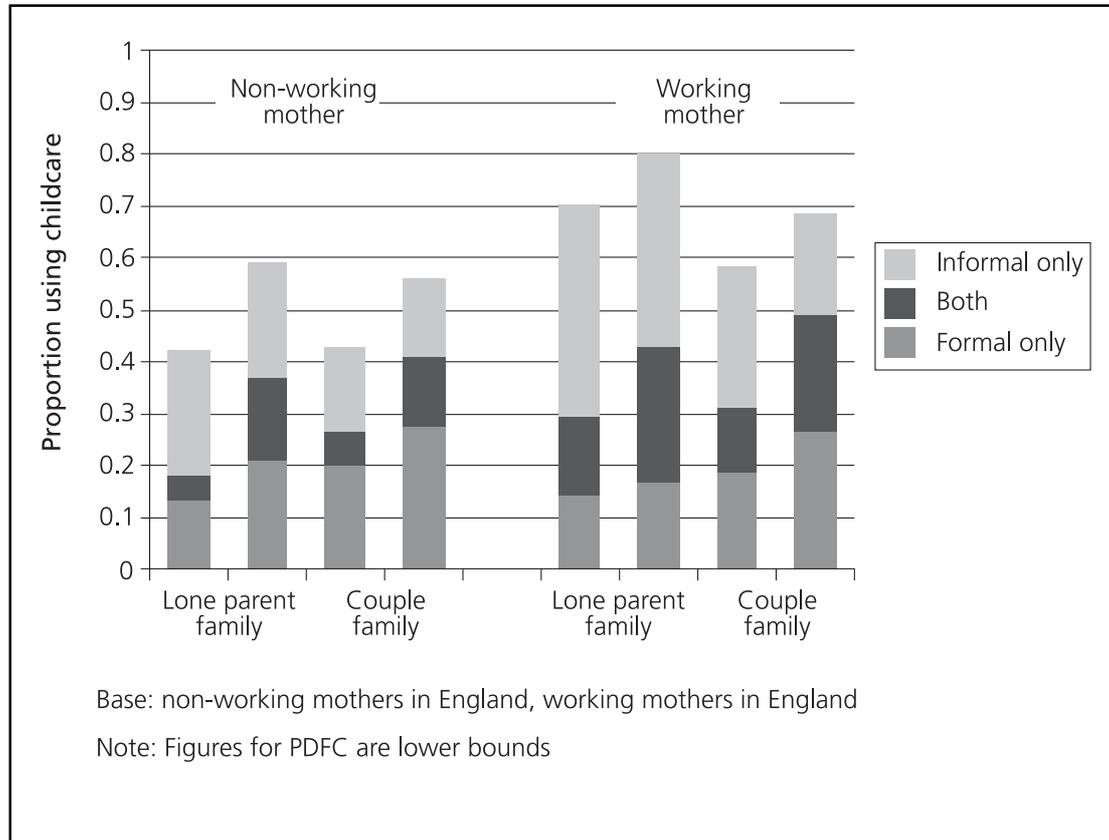
Base: non-working mothers in England, working mothers in England.

¹The two figures for PDFC are upper and lower bounds. It is not possible to provide unbiased point estimates due to difficulties aggregating across children in families with three or more children. The implied range is **not** a confidence interval.

The difference in overall childcare use between non-working and working mothers is more due to differences in informal childcare use than formal childcare: non-working mothers make much less use of informal care than working mothers, but only slightly less use of formal care.⁴⁵ This point is illustrated by Figure 3.39, which shows the same information in the form of a bar chart, where the total height of each of the bars, therefore, represents the proportion using any childcare.

⁴⁵ This comparison makes no attempt to correct for the large differences in characteristics of families with working mothers and families with non-working mothers.

Figure 3.39 Proportion of mothers using childcare during term time



Figures 3.40 and 3.41 break childcare use down by age of child. The pattern for children with non-working mothers is very similar to that for children of working mothers: childcare use rises to a peak at age three, drops sharply by age five and declines gradually, thereafter. The difference between childcare used by children aged three of non-working and working mothers is very small.

Figure 3.40 Children in lone parent families: proportion of children using childcare during term time, by age of child

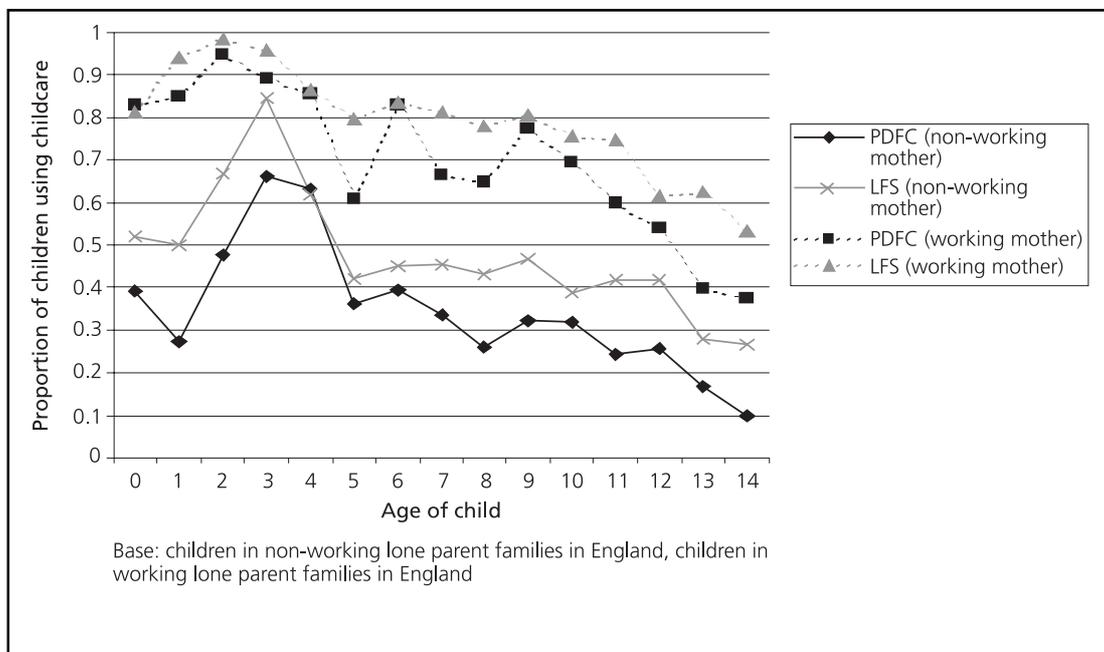
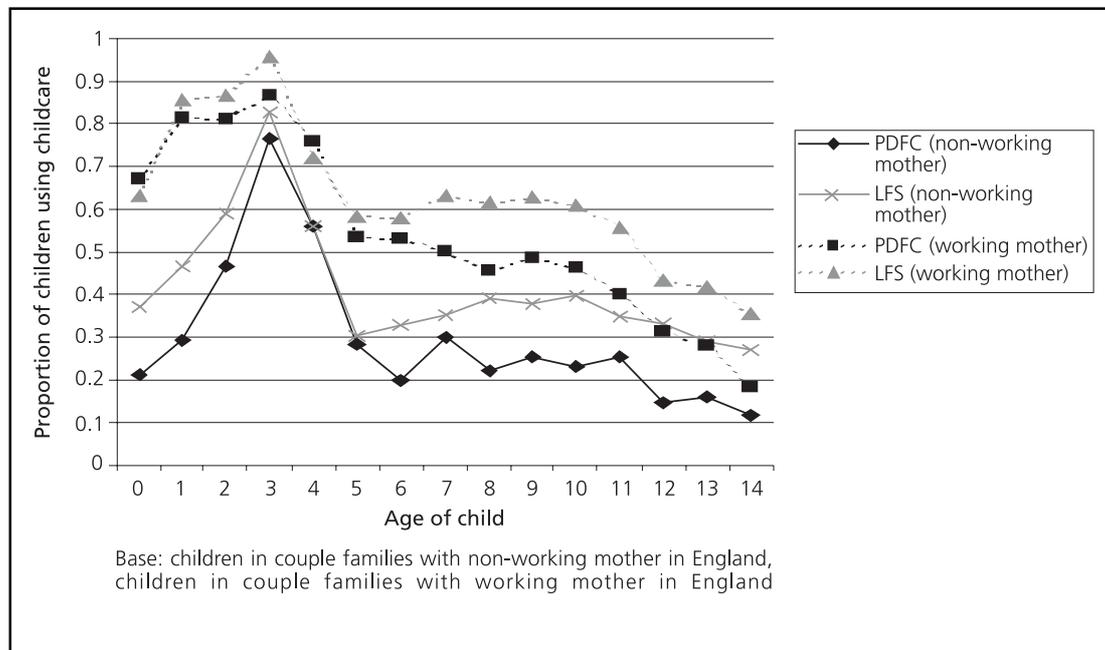


Figure 3.41 Children in couple families: proportion of children using childcare during term time, by age of child



There are some interesting patterns when we look at childcare use by childcare type, given in Table 3.14. For example, the proportion of children with a non-working mother using centre-based care is higher than the proportion for children of working mothers, but this reflects that children of non-working mothers are more likely to be below school-age (and, therefore, a user of centre-based care). For all other categories, fewer children of non-working mothers use that childcare type than children of working mothers. For each of close relatives, other relatives, and out-of-school or holiday club, use by children with a non-working mother is roughly half that of children with a working mother. Children of non-working mothers do not use childminders or nannies/au pairs.

Table 3.14 Children in non-working lone parent families: proportion of children using different types of childcare during term time

Type of childcare	Non-working family				Working family			
	Lone parent		Couple		Lone parent		Couple	
	PDFC	LFS	PDFC	LFS	PDFC	LFS	PDFC	LFS
Centre-based care	0.112	0.147	0.140	0.152	0.104	0.113	0.128	0.152
Out-of-school or holiday club	0.023	0.110	0.027	0.123	0.091	0.186	0.056	0.207
Childminder	0.003	0.011	0.005	0.012	0.071	0.088	0.064	0.065
Nanny/au pair	0.000	0.003	0.006	0.009	0.014	0.015	0.014	0.016
Close relative	0.206	0.248	0.137	0.160	0.419	0.483	0.284	0.288
Other relative	0.059	0.096	0.056	0.046	0.158	0.156	0.092	0.095
Other type/type unknown	0.002	0.034	0.012	0.034	0.003	0.039	0.004	0.030

Base: children with non-working mother in England, children with working mother in England.

3.5 Summary of findings

- The majority of the analysis in this chapter is on a sample of children aged 14 or under with a working mother (or a working lone father) living in England. Section 3.4 also looks at children aged 14 or under with non-working mothers (or a non-working lone father) living in England.

3.5.1 Differences between surveys

- There is a clear ranking in the proportion of our sample recorded using childcare: LFS records the most, followed by PDFC, then FACS and FRS. This is primarily due to large differences in the proportion using centre-based care, out-of-school clubs, and close relatives. The proportion using childminders or nannies, though, is reasonably and reassuringly similar across the datasets.
- The differences in use of centre-based care seem to be driven in differences in the surveys' ability to capture early years' education. We think this is driven by the preamble to, and wording of, the key question about childcare use, and the comprehensiveness of the options given on the showcard. The differences in use of close relatives and out-of-school clubs, though, cannot be due to the showcard and so must be due to the differences in the preamble to and wording of the key question about childcare use.
- The LFS does not ask about hours of childcare nor expenditure on childcare services. The ranking of the other three surveys in recording the amount of childcare used, measured as hours/week/child, is the same as mentioned above: PDFC then FACS then FRS. This remains the case when we condition on children who use childcare: this means that PDFC captures more childcare use amongst both the kind of children who are recorded as using childcare and those not recorded as using childcare in other surveys.
- There is little difference in the average expenditure on childcare, measured across all children, recorded by the three surveys. Because of the large differences in the proportion of children recorded as using childcare across the three surveys, however, average expenditure for those using childcare varies markedly across surveys, with the ranking FRS then FACS then PDFC. This suggests that the surveys vary in their ability to record cheap or free childcare.
- Only PDFC and FACS can tell us about the price of childcare, which we have calculated as expenditure per child on a certain type of care, divided by hours of care used by that child. The two surveys agree on the relative expense of different types of care, and that couples using paid childcare use more expensive care than lone parents using paid care.
- Only PDFC, LFS and FACS (from wave 4) tell us about childcare used by all non-working mothers, although the last of these is not analysed in this report. A remarkably high proportion of these families use some form of childcare; the largest difference with working mothers is in their use of informal care, although

working and non-working mothers have very different characteristics. The size of the bounds when estimating childcare use amongst non-working mothers using PDFC, are much greater than for working mothers because a high proportion of families with three or more children do not work.

4 Changes in patterns of childcare use over time

This chapter uses three surveys Families and Children Study (FACS); Family Resources Survey (FRS); and Labour Force Survey (LFS) to compare maternal employment and childcare use over time. The focus is on similarities and differences across datasets in **trends** rather than **levels**, since the latter has already been addressed in Chapter 3. It turns out that, in contrast to the cross-sectional analysis, it is much more difficult to provide convincing explanations for trends in childcare use over time. PDFC does not feature in this chapter because there is only one year's worth of useable data, and this doesn't help us compare trends.

Chapter 2 discussed how we constructed consistent definitions of the key variables, and the restriction that we had to place on our sample (principally, to children aged 14 or under with working mothers). The introduction to Chapter 3 set out further restrictions necessary to make all four datasets consistent for the cross-sectional analysis. Not all of these extra restrictions are required here because the time series analysis does not use PDFC. The restrictions we did need to make were:

- we restricted the sample to families in Great Britain because FACS and FRS do not survey in Northern Ireland;
- information about couples in FACS waves 1 and 2 was not used because the sample of couples in FACS is not representative until 2001 (in any case, there are few working mothers in the couples sampled in the first two waves of FACS);
- we did not have population (or grossing weights) for FACS waves 1 and 2, so we did not use them at all. We did, though, have sampling (or cross-sectional) weights for FACS wave 2 and beyond; these weights were designed to make the surveys look like random samples of all children, as they reflect that FACS can be used both as a cross-section and a longitudinal survey (see Appendix A, Table A.1);

Although the time periods covered by the surveys broadly overlap, they do not coincide: we have four waves of FACS, which we have assigned to the years 1999-2002, eight years of FRS (1995/96-2002/03) and three years of LFS (2001-03, autumn quarter only). In the graphs that follow, years refer to financial years in the FRS, or to a particular quarter of LFS data, or a particular wave of FACS.⁴⁶ This is further complicated by the fact that the FRS is a continuous survey, but LFS and FACS are from particular parts of the year. The LFS waves are all 12 months apart, but this is not the case for FACS, where there was a long gap between waves 2 and 3 (2000 and 2001); we have not made any attempt to adjust for this.

FACS and LFS both include a panel element – people are re-interviewed in subsequent waves – but we do not use this feature here; all three datasets are treated as repeated cross-sectional surveys (using the cross-sectional weights in FACS to help achieve this). Childcare expenditure information has been updated to September 2003.

To enable sensible comparison, FACS (and FRS where relevant) observations on term time and holiday use are plotted separately. In the LFS, we exclude people surveyed at the start of September and in the week after the most popular half-term week in October, in order to produce a sample that is largely observed during the autumn school term (LFS asks about childcare used in the previous week: see chapter 2.1.1).

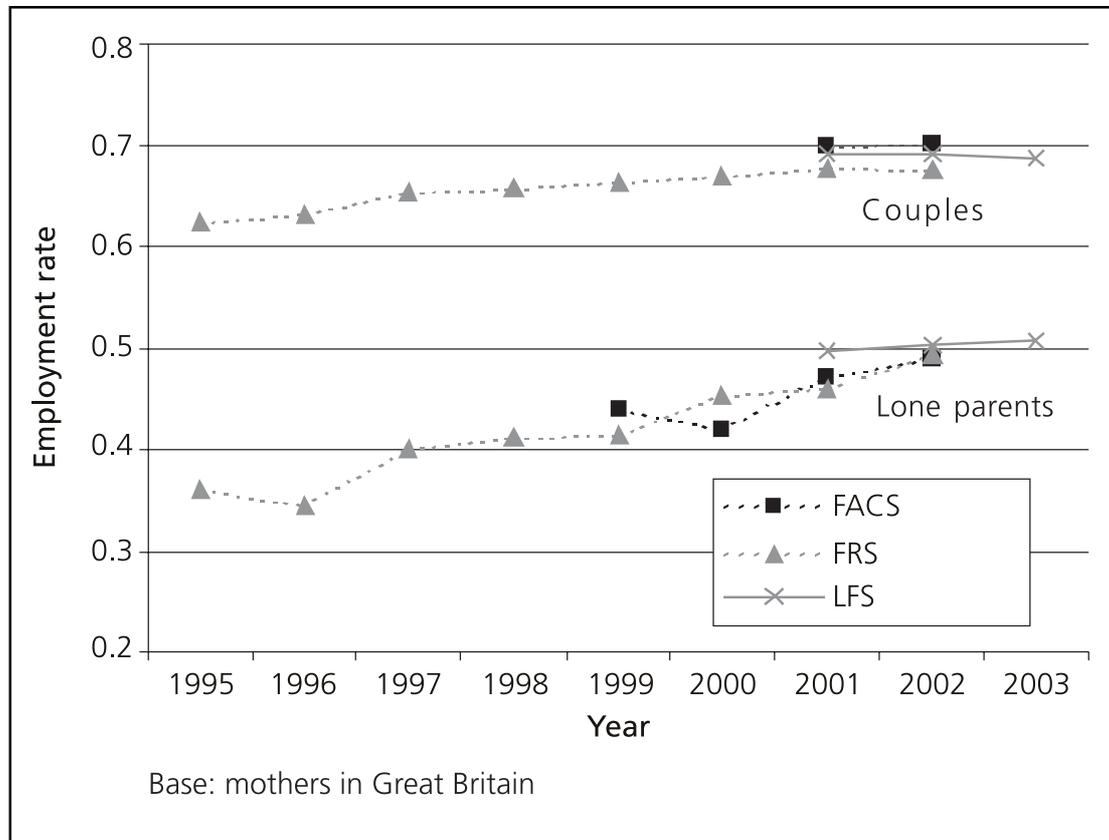
Finally, it should be remembered that the questions on childcare in FACS changed between waves 1 and 2.

The rest of the chapter is organised as follows: Section 4.1 presents trends in the employment rate of mothers, which is important because it affects the composition of the sample in the analysis that follows; Section 4.2 analyses the use of different types of childcare; and Section 4.3 explores differences in the hours of childcare used, expenditure on childcare, and its price.

4.1 Trends in maternal employment

An understanding of maternal employment rates is important because information about childcare is presented only for those families where the mother is working. For lone parent and couple families, Figure 4.1 plots the proportion of mothers (or lone fathers) in employment (of any hours) over time. From this figure, it is clear how limited the overlap between datasets is. However, despite this, it is clear that employment rates are very similar in all three datasets, and exhibit similar trends. It would, of course, be possible to extend the LFS series back in time: we have employment data, but not childcare data, from the years before 2001.

⁴⁶ 1999 refers to wave 1 of FACS, and 2002 to wave 4, and so on.

Figure 4.1 Employment rate of mothers

The employment rate of mothers has risen over time, and perhaps by slightly more for lone parents than mothers in couples. This is true, regardless of the number of children in the family (not shown); indeed, the gap between the employment rate of mothers with few children and that of mothers with many children has closed slightly over this period. The increase in maternal employment does not vary much by age of child (not shown).

A comparison of the datasets suggests that the main outlier is in the employment rate of lone parents in FACS wave 2: this is the only year for which maternal employment rates are lower in FACS than FRS, and it leads to a marked rise in employment between 2000 and 2001 that is not reflected in the LFS. LFS shows slower growth in employment and a fall for mothers in couples between 2002 and 2003. Without other data for 2003, it is difficult to tell whether this is a significant new trend.

4.2 Trends in childcare use

4.2.1 Childcare use at the family level

Figures 4.2 and 4.3 show how the proportion of lone parent and couple families using any childcare has changed over time.

Patterns vary considerably across datasets: FACS shows that the proportion of lone parents using childcare rose significantly between 1999 and 2001, whereas FRS shows a decline. However, both FACS and LFS agree that there was a slight rise in childcare use between 2001 and 2002. It is harder to compare couple families because there is so little overlap in the data: there seems to be a slow decline in childcare use in the FRS, but a slight rise over time in the LFS, although both trends are less evident than amongst lone parents.

Figure 4.2 Proportion of working lone parent families using childcare

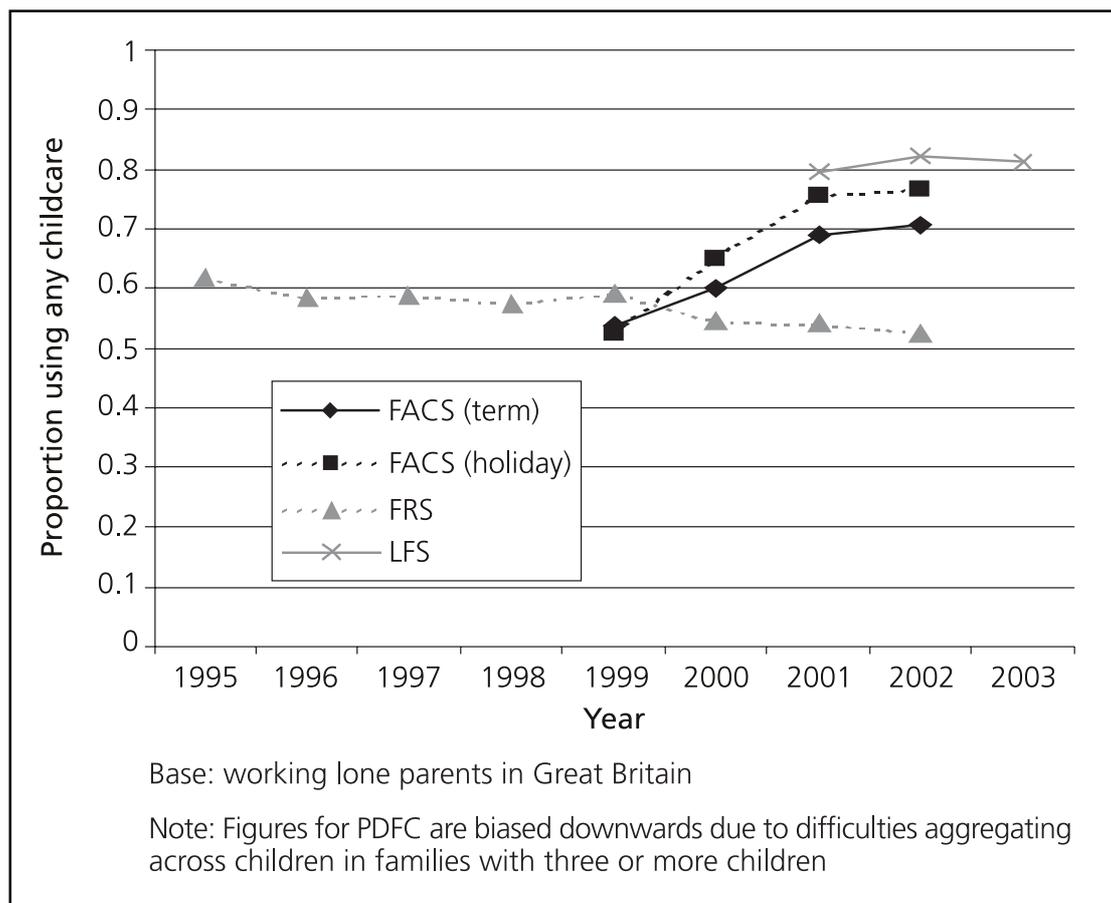
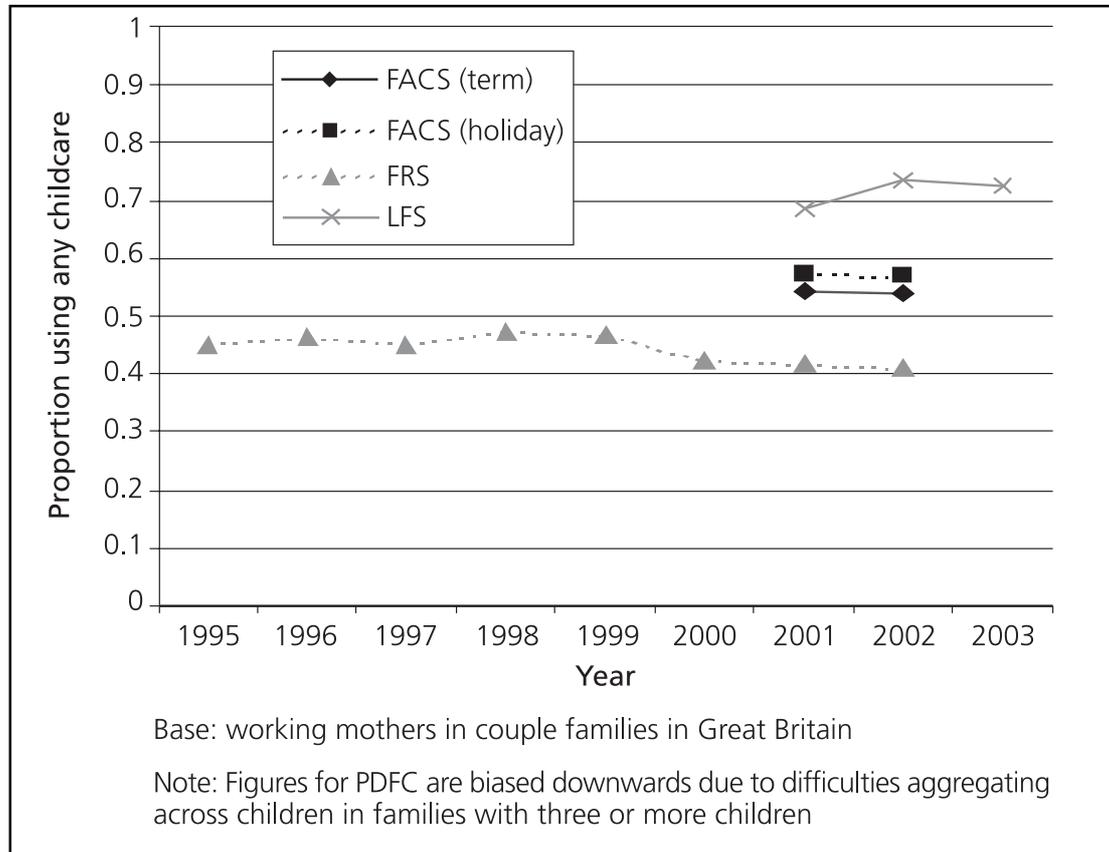


Figure 4.3 Proportion of couple families with working mother using childcare



These differences can more easily be understood by considering formal and informal care separately, given in Table 4.1. This shows that the fall in childcare use in the FRS is due to fewer families using informal care; the proportion of families using formal care has tended to rise throughout the period. The rise in formal care use could be partly due to the increased number of formal care options on the showcard used in the FRS, but this would not explain the fall in the use of informal care. FACS, on the other hand, shows a rise in the proportion of lone parent families using both informal and formal care. The odd pattern in childcare use in LFS is mainly due to fluctuations in informal care use; use of formal care has remained more constant over the three years.

Table 4.1 Trends in the proportion of families with a working mother using childcare

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Lone parent families									
Formal:									
FACS (term)					0.173	0.199	0.254	0.255	
FACS (holiday)					0.123	0.190	0.256	0.251	
FRS	0.135	0.131	0.155	0.137	0.161	0.165	0.161	0.194	
LFS							0.417	0.421	0.460
Informal:									
FACS (term)					0.423	0.459	0.528	0.538	
FACS (holiday)					0.455	0.533	0.616	0.615	
FRS	0.533	0.506	0.493	0.486	0.490	0.444	0.432	0.371	
LFS							0.633	0.704	0.692
Any:									
FACS (term)					0.539	0.602	0.689	0.708	
FACS (holiday)					0.525	0.650	0.756	0.765	
FRS	0.618	0.586	0.589	0.575	0.592	0.545	0.540	0.524	
LFS							0.797	0.821	0.811
Couple families									
Formal:									
FACS (term)							0.234	0.229	
FACS (holiday)							0.216	0.213	
FRS	0.151	0.168	0.165	0.166	0.165	0.160	0.172	0.197	
LFS							0.484	0.485	0.490
Informal:									
FACS (term)							0.387	0.398	
FACS (holiday)							0.441	0.457	
FRS	0.345	0.342	0.330	0.356	0.356	0.315	0.291	0.264	
LFS							0.429	0.522	0.504
Any:									
FACS (term)							0.543	0.540	
FACS (holiday)							0.573	0.571	
FRS	0.450	0.465	0.451	0.474	0.468	0.425	0.417	0.412	
LFS							0.687	0.736	0.725

Chapter 3 noted that, for 2001, FRS and LFS record more couples using formal care than lone parents, while FACS records the reverse. Table 4.1 shows that, with the exception of FRS in 2000, this is always true.

FACS distinguishes between term time and holiday use of childcare, and FRS distinguishes between spending on childcare and the number of hours used between term time and holiday. There is almost no difference in the proportion of lone parents using formal childcare between term time and holiday (except for

1999), but both family types are more likely to use informal care during holiday than term time. Similar patterns emerge when childcare use is broken down by age (not shown): FACS shows the obvious pattern that childcare use is higher during holidays than term time for school-age children, but is the same for pre-school children. During holidays, there is little difference between the proportion of pre-school children and the proportion of school-age children using childcare, but during term time, it is higher amongst pre-school children.

4.2.2 Childcare use at the child level

Figures 4.4-4.13 show how the proportion of children using each childcare type has changed over time. To be consistent with Chapter 3, they are presented at the child level (rather than for families), but this means that we lose data from wave 1 of FACS (childcare information was only collected at the family level – see Section 2.1.6). Most of the trends that are highlighted, though, are also true when analysed at the family level (not shown).

Figure 4.4 Children in working lone parent families: proportion using centre-based childcare

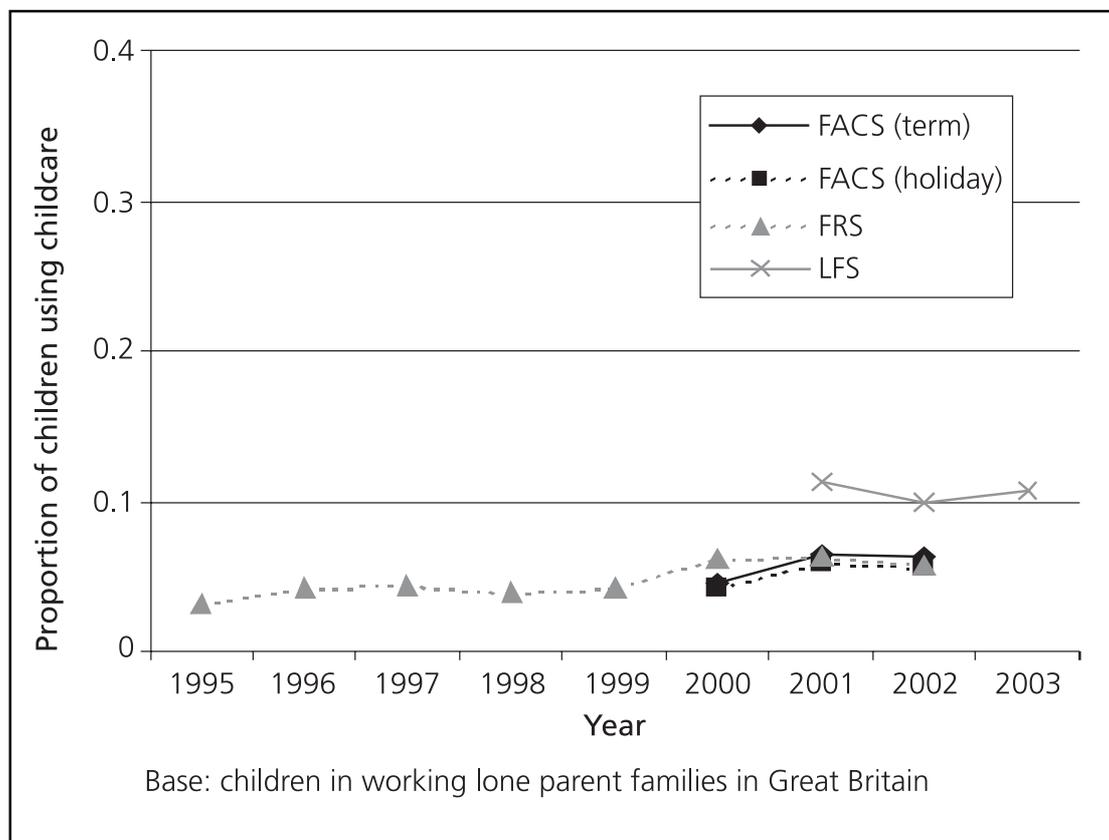


Figure 4.5 Children in couple families with working mother: proportion using centre-based childcare

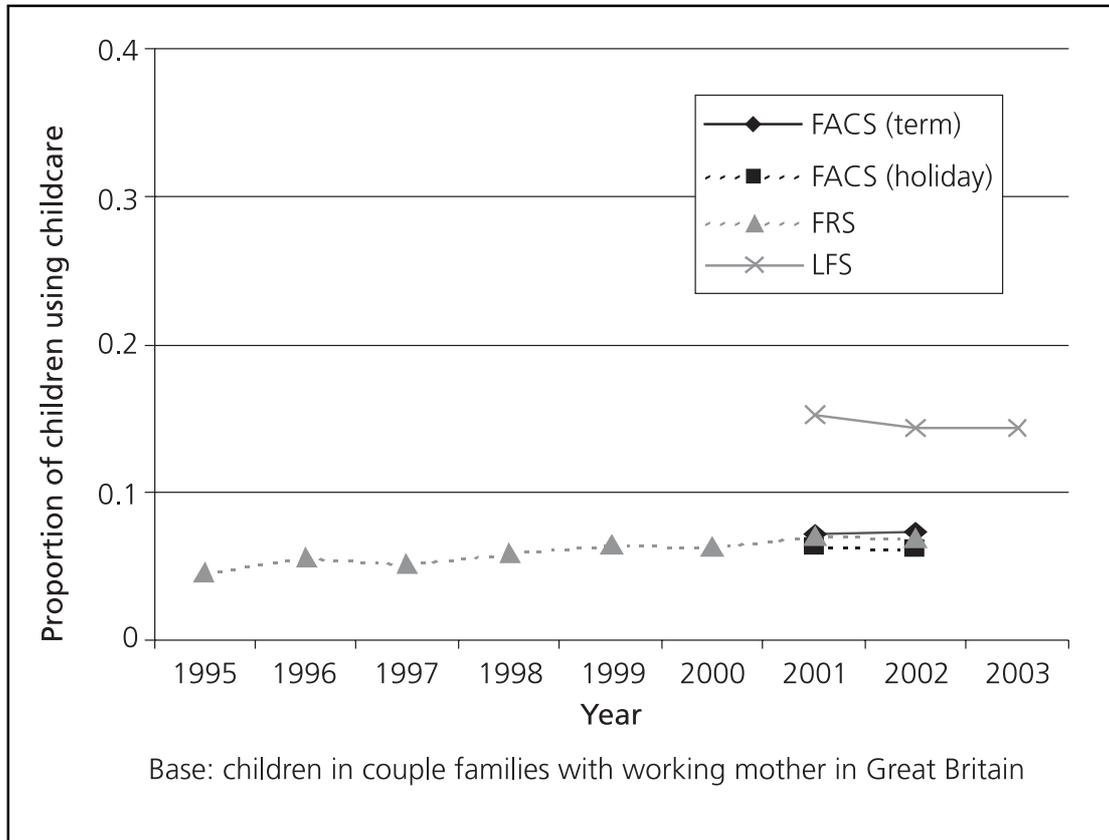


Figure 4.6 Children in working lone parent families: proportion using out-of-school or holiday clubs

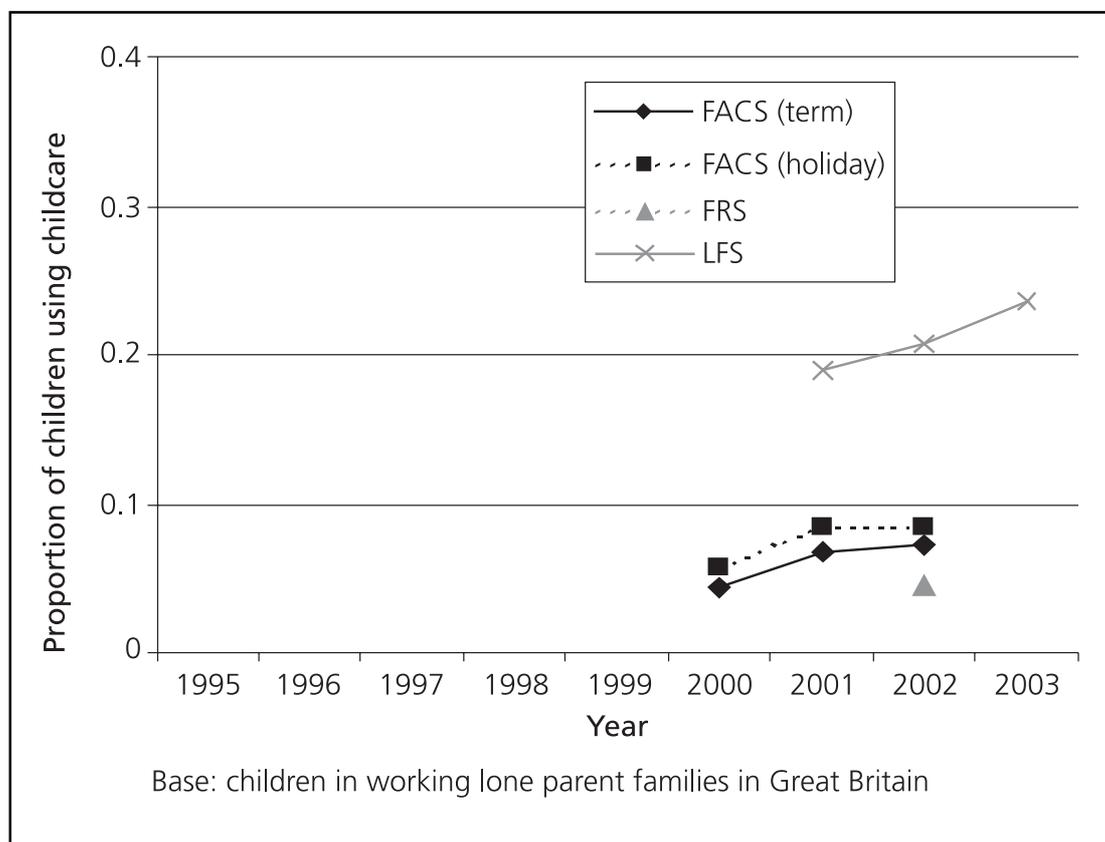


Figure 4.7 Children in couple families with working mother: proportion using out-of-school or holiday clubs

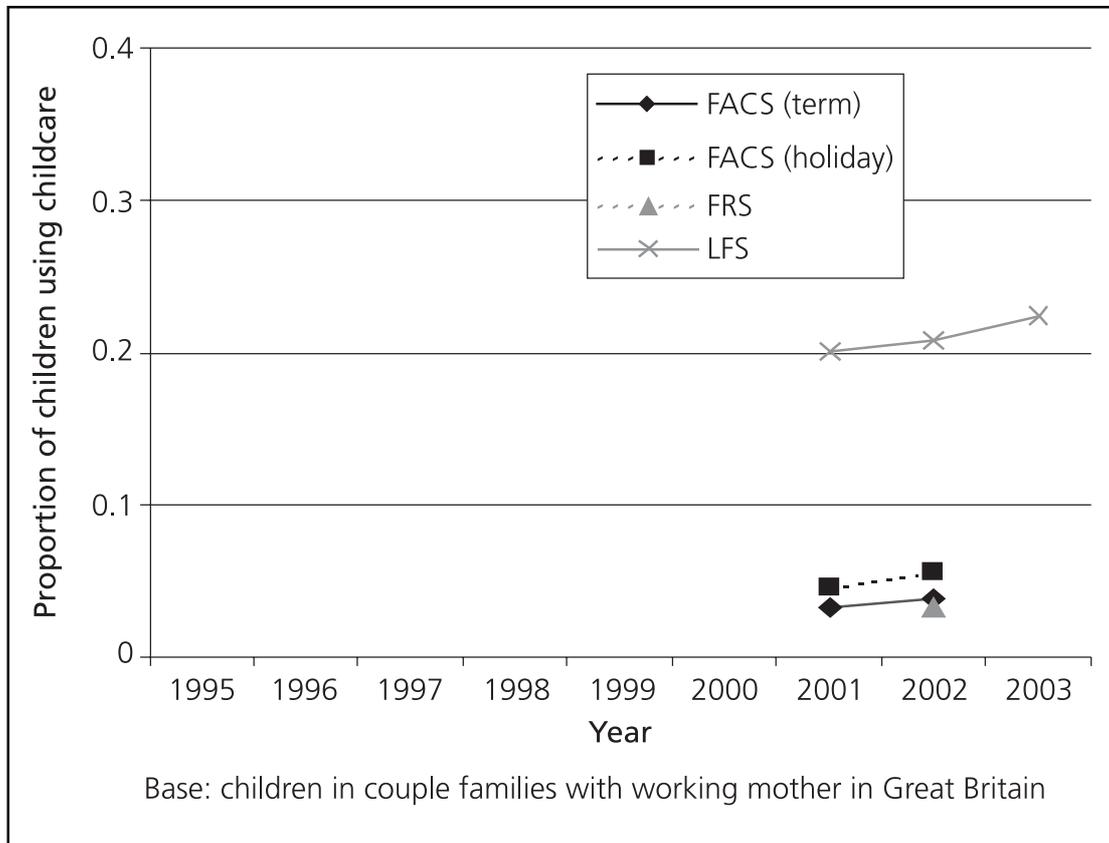


Figure 4.8 Children in working lone parent families: proportion using childminders

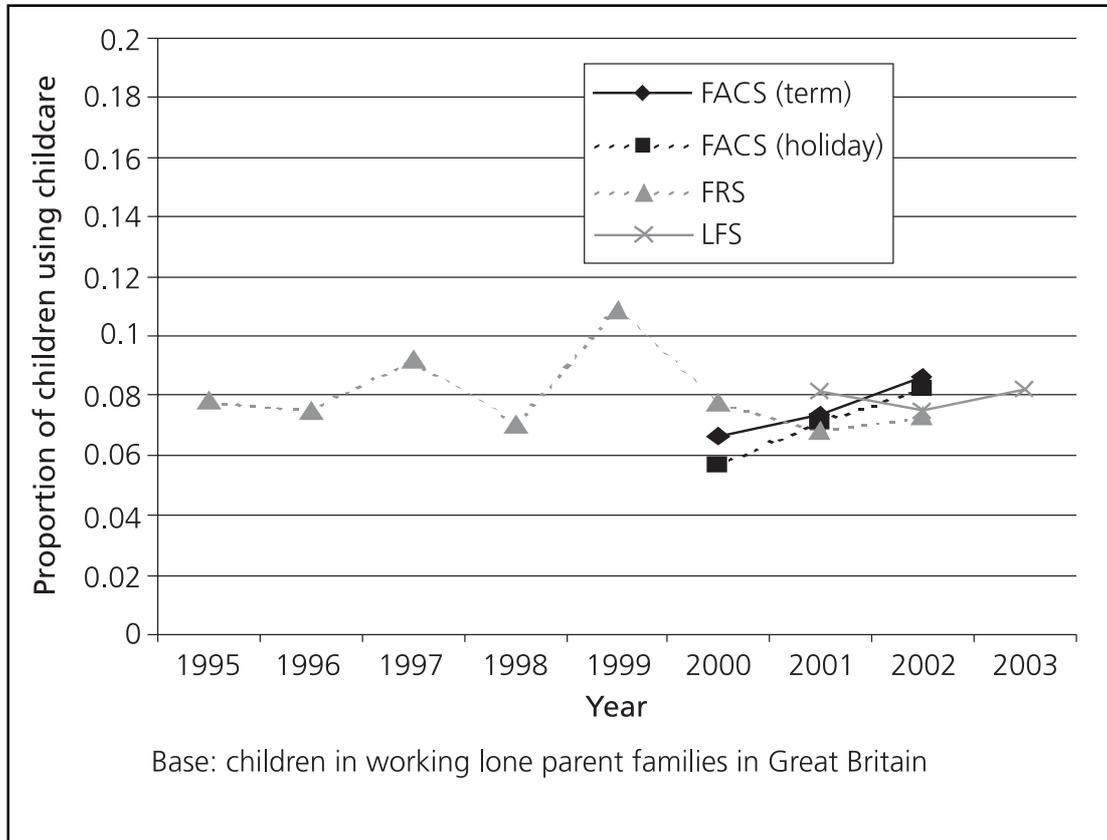


Figure 4.9 Children in couple families with working mother: proportion using childminders

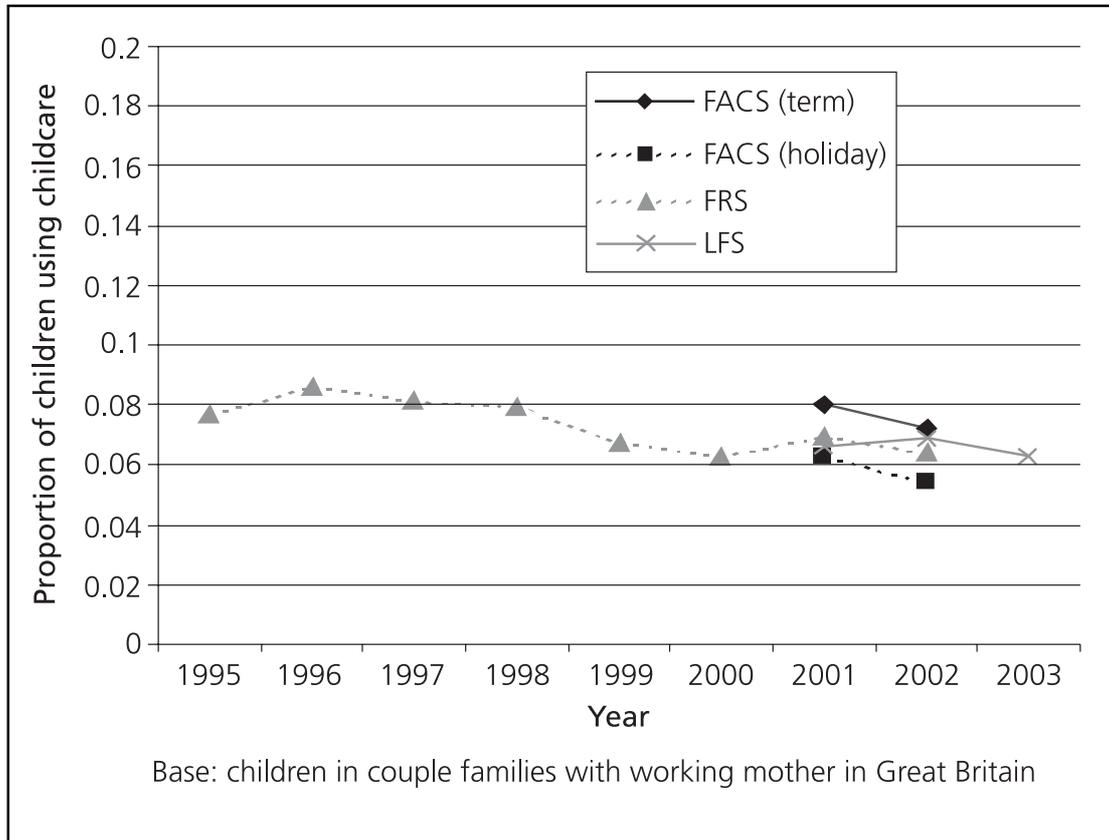


Figure 4.10 Children in working lone parent families: proportion using close relatives

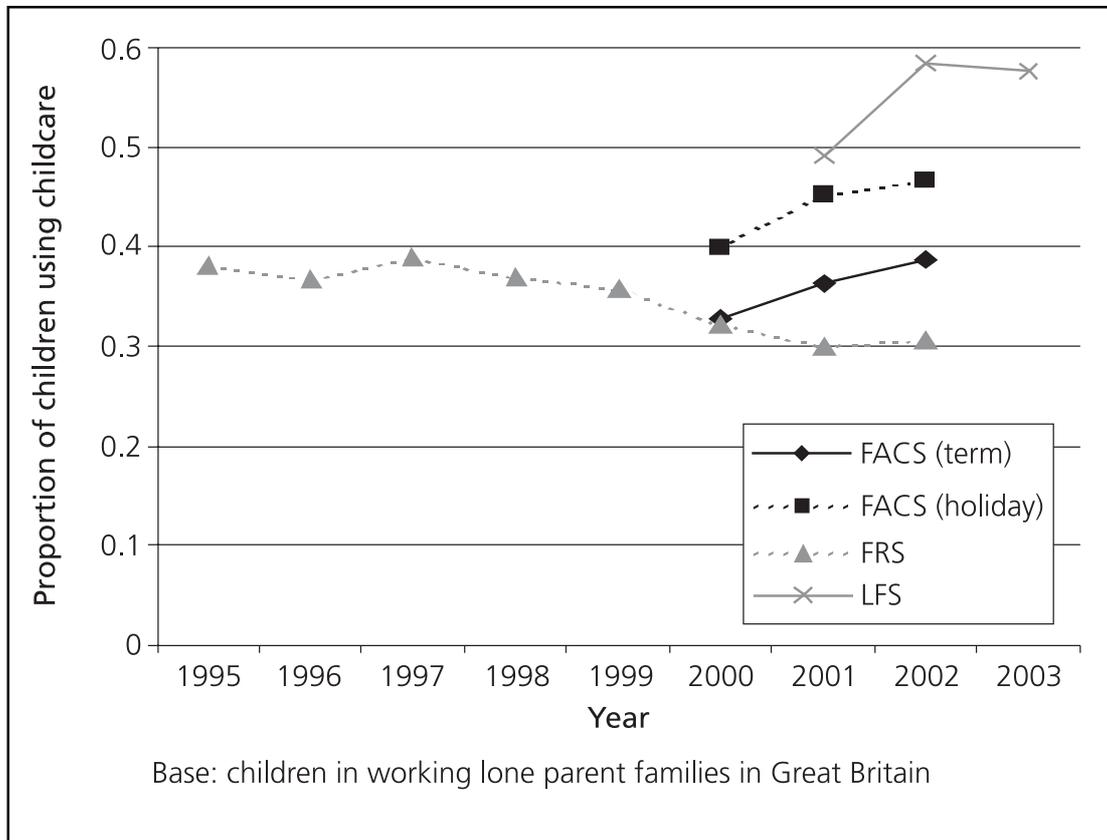


Figure 4.11 Children in couple families with working mother: proportion using close relatives

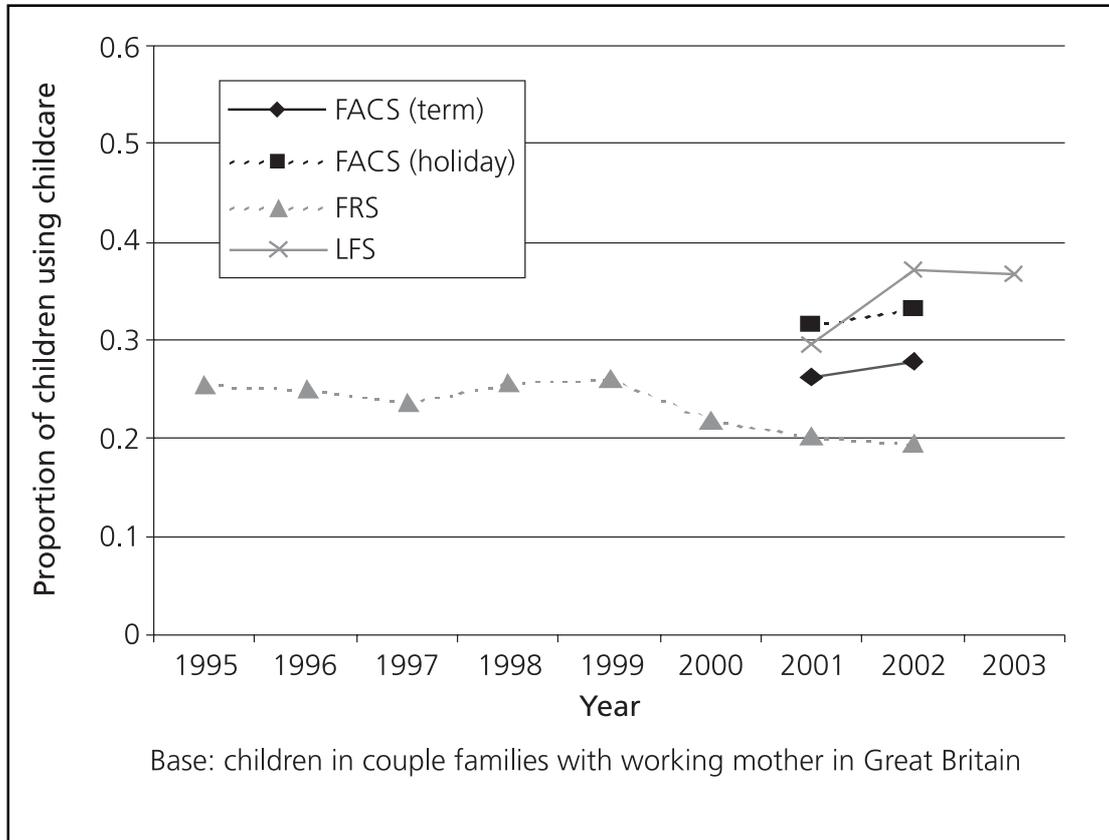


Figure 4.12 Children in working lone parent families: proportion using other relatives

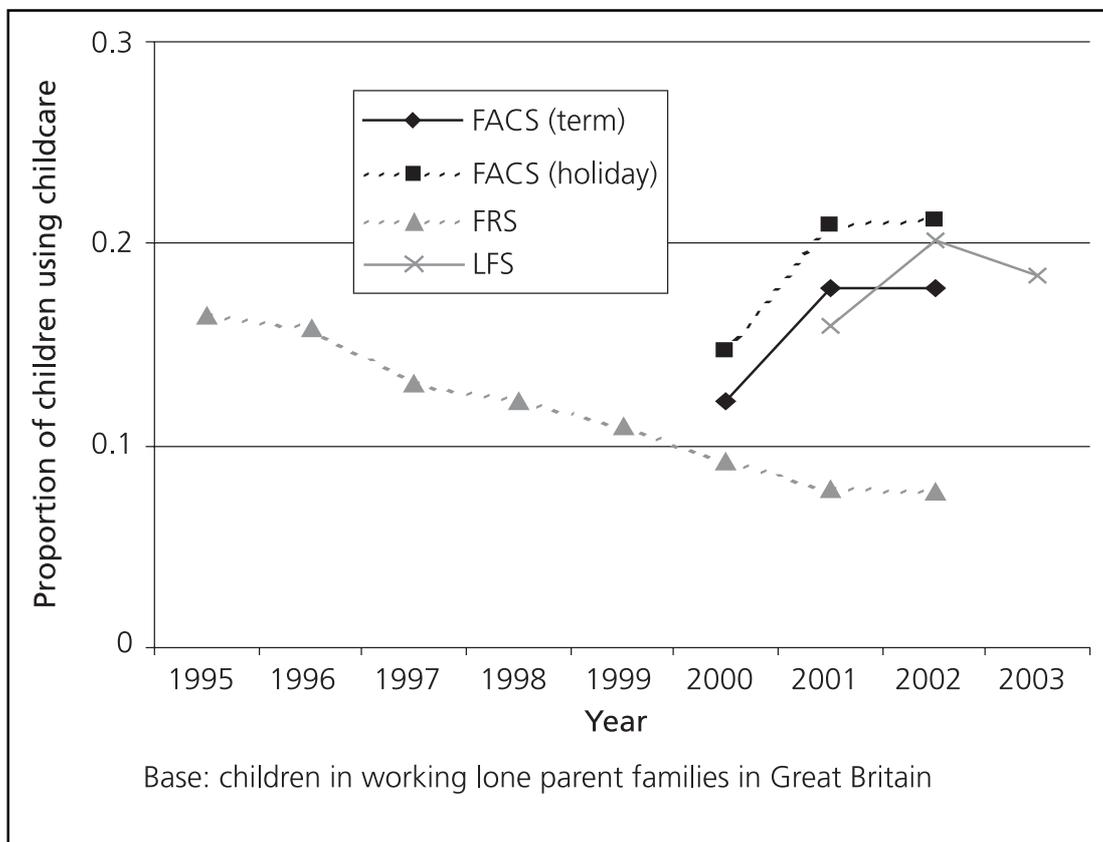
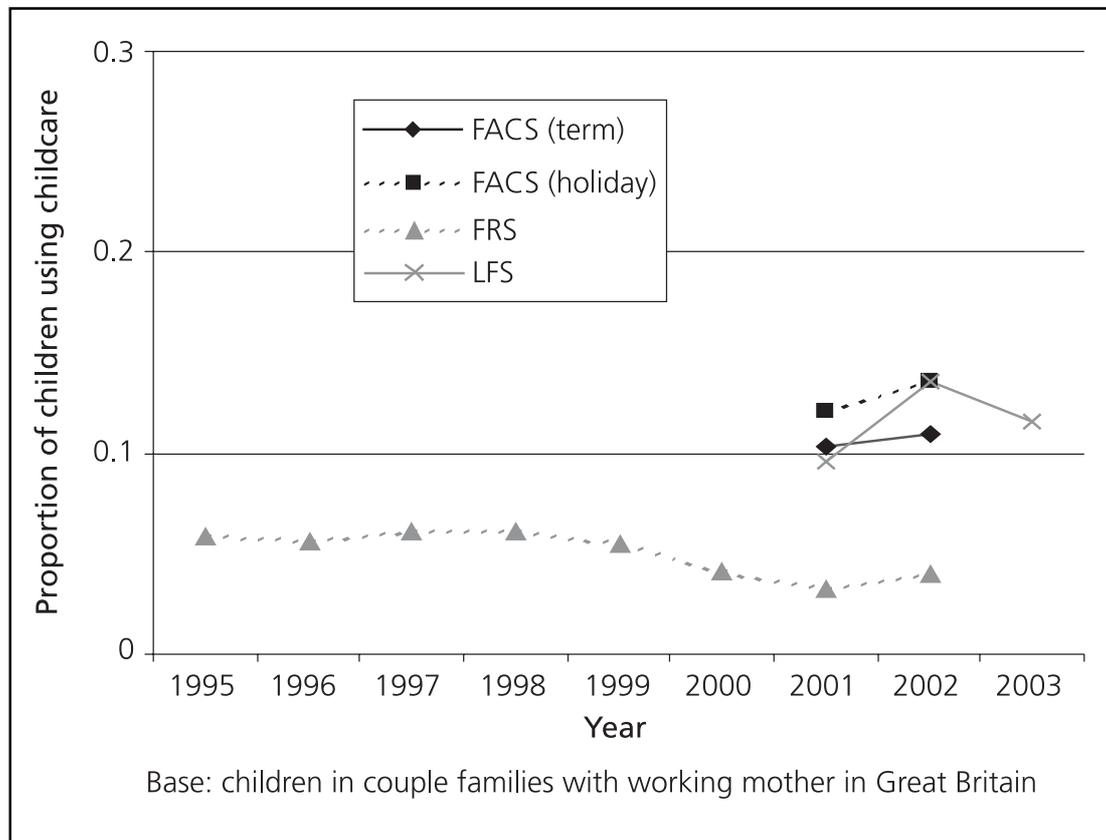


Figure 4.13 Children in couple families with working mother: proportion using other relatives



As we saw in Chapter 3, the levels of use vary considerably across the datasets for all types except childminders. Comparing the trends, two key points stand out: all surveys agree that the proportion of children using centre-based care and the proportion using out-of-school or holiday clubs is increasing over time, and that there has been little discernable trend in the use of childminders. But they disagree on the trends in the two informal care categories: FRS shows that use of close relatives and other relatives has been falling, but FACS and LFS show an upward trend. FACS records a larger difference between term time and school holidays for informal care than for formal care, suggesting that relatives and friends tend to meet the majority of increased childcare demand during the holidays.

4.3 Trends in hours used and expenditure on childcare

4.3.1 Hours spent in and expenditure on different types of childcare

Figures 4.14-4.17 plot the mean number of hours of childcare used per week by families using childcare.⁴⁷ There is little trend in the number of hours used amongst

⁴⁷ Recall that hours and expenditure information do not exist at all in LFS, so this dataset does not appear at all in this section.

lone parents, and a slight downward trend for couples, even conditioning on those using childcare.

Both FRS and FACS are reasonably consistent on the number of hours and the (lack of) trend, but FRS suggests a greater difference between term time and school holidays than does FACS.

Figure 4.14 Mean weekly hours of childcare amongst working lone parent families

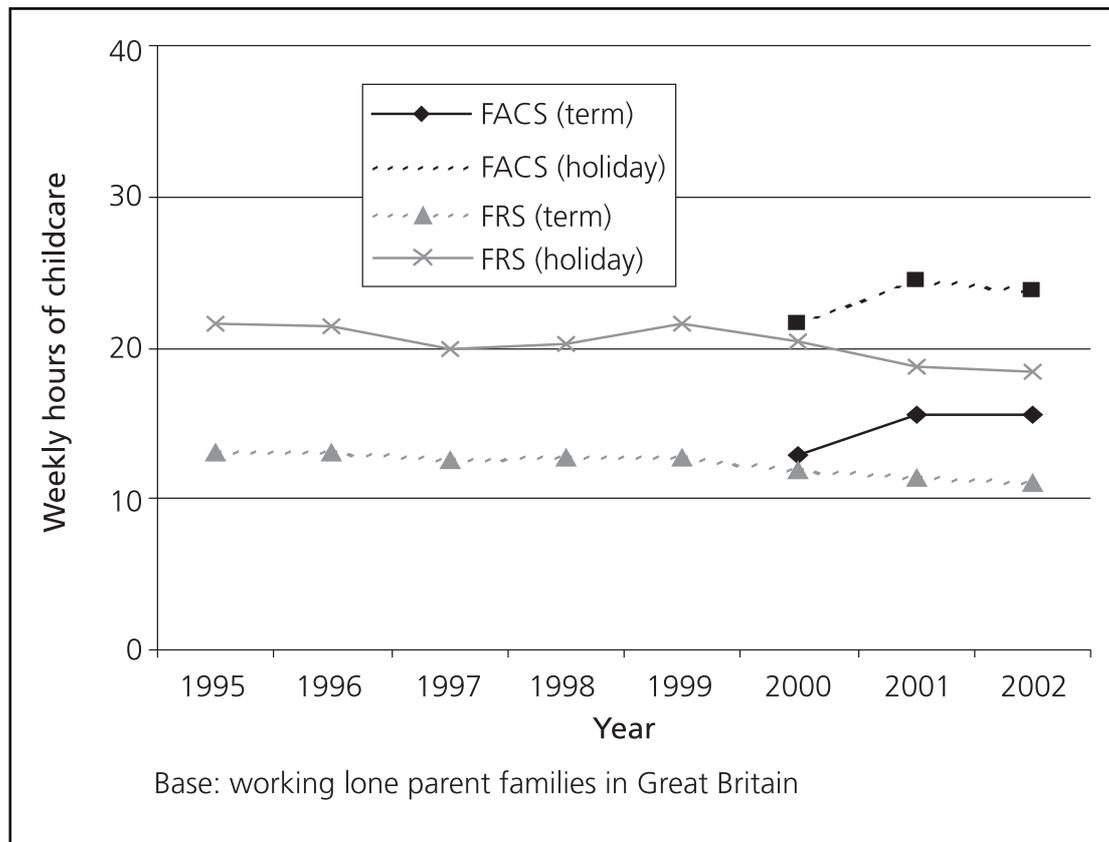


Figure 4.15 Mean weekly hours of childcare amongst working lone parent families using childcare

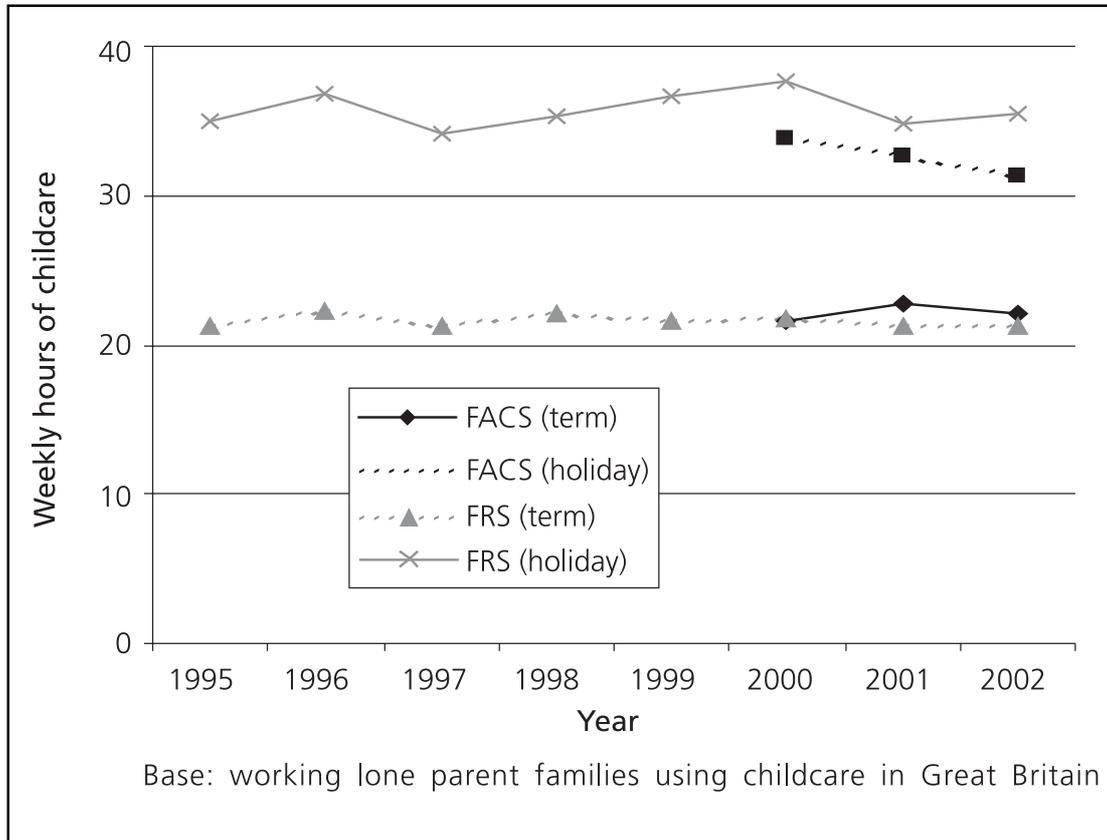


Figure 4.16 Mean weekly hours of childcare amongst couple families with working mother

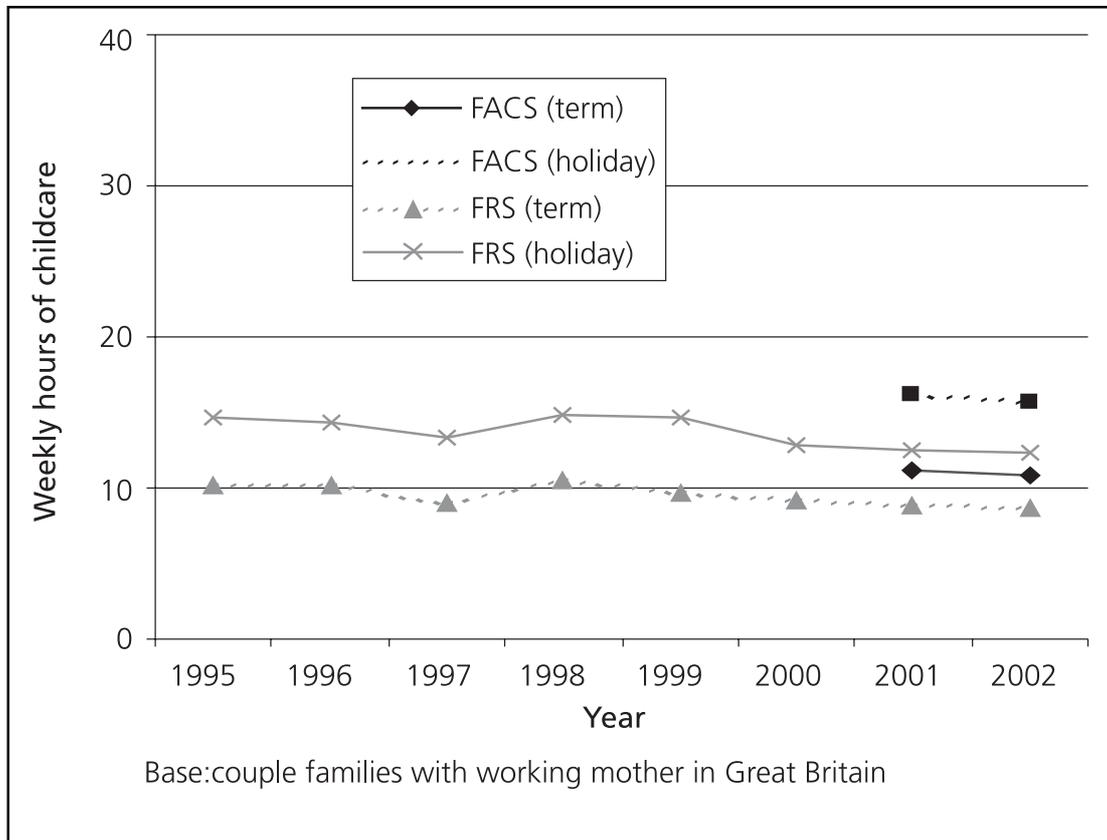
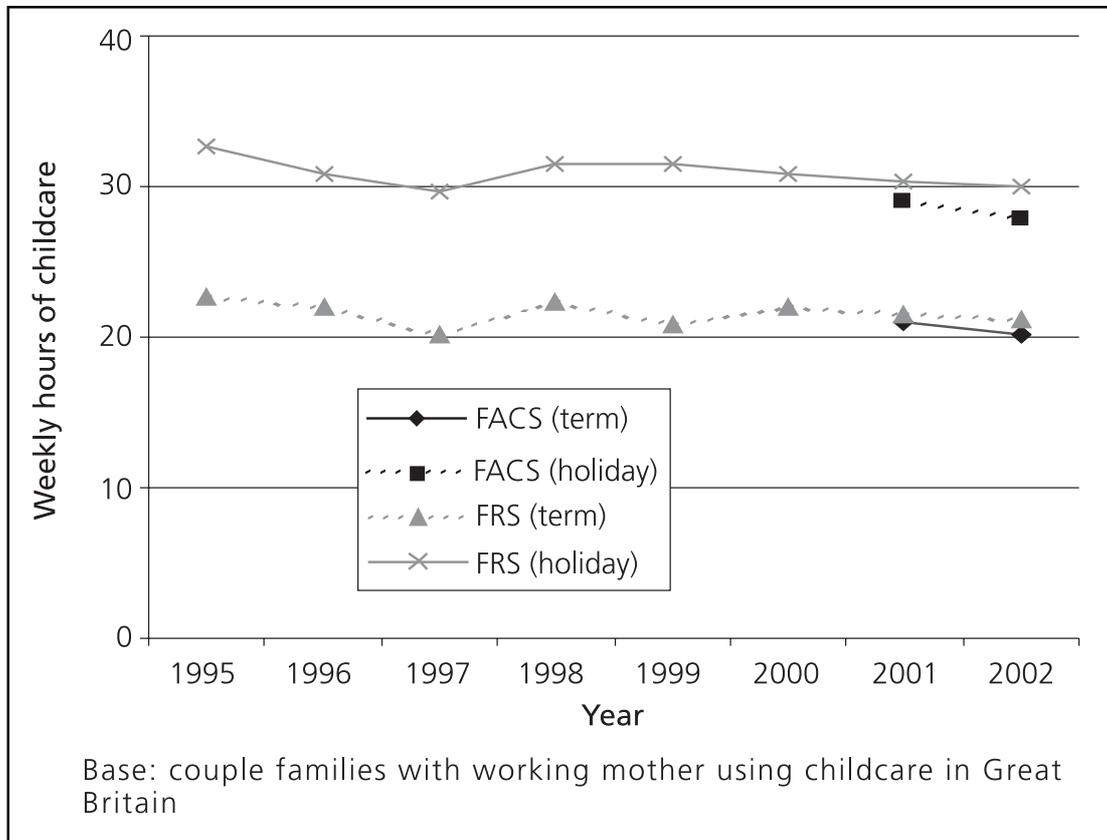


Figure 4.17 Mean weekly hours of childcare amongst couple families with working mother using childcare



Figures 4.18-4.21 plot mean weekly family childcare expenditure. All expenditure has been updated to September 2003 prices and outliers removed (see Appendix C for more details).

For both lone parent and couple families, FACS and FRS show a steady rise in real expenditure on childcare. FACS and FRS also suggest families who use childcare spend more on childcare during school holidays than in term time (the difference is much bigger for lone parents than for couples).

In the years where there is an overlap, FRS records higher expenditure for those using childcare than FACS. The childcare questions in FACS changed between waves 1 and 2, and we attribute the sharp rise in expenditure to this.

Figure 4.18 Mean weekly family childcare expenditure amongst working lone parent families

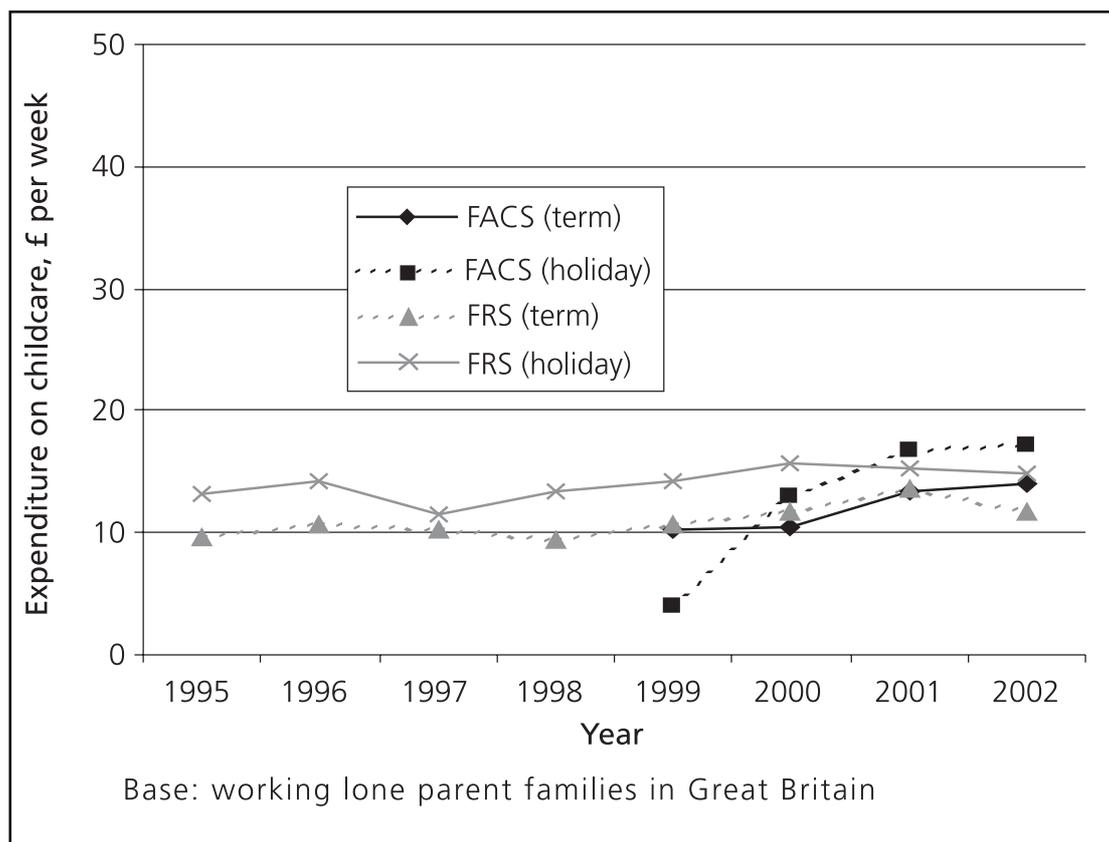


Figure 4.19 Mean weekly family childcare expenditure amongst working lone parent families using childcare

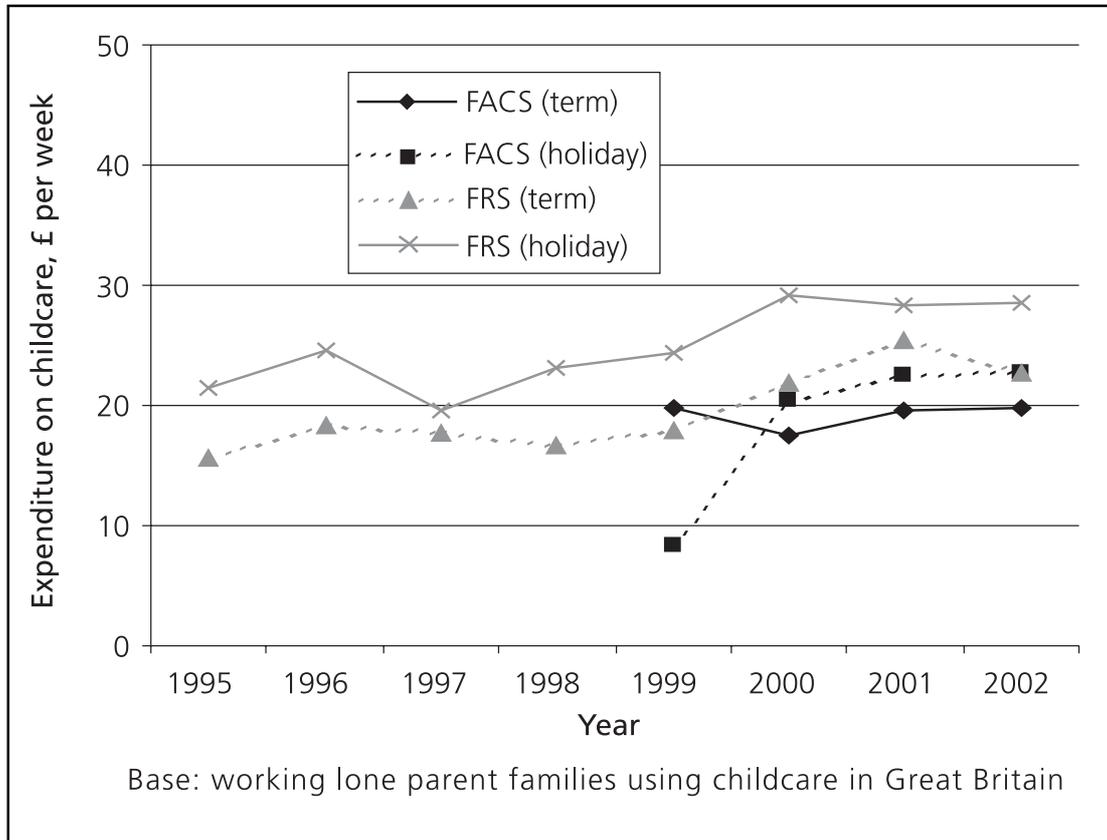


Figure 4.20 Mean weekly family childcare expenditure amongst couple families

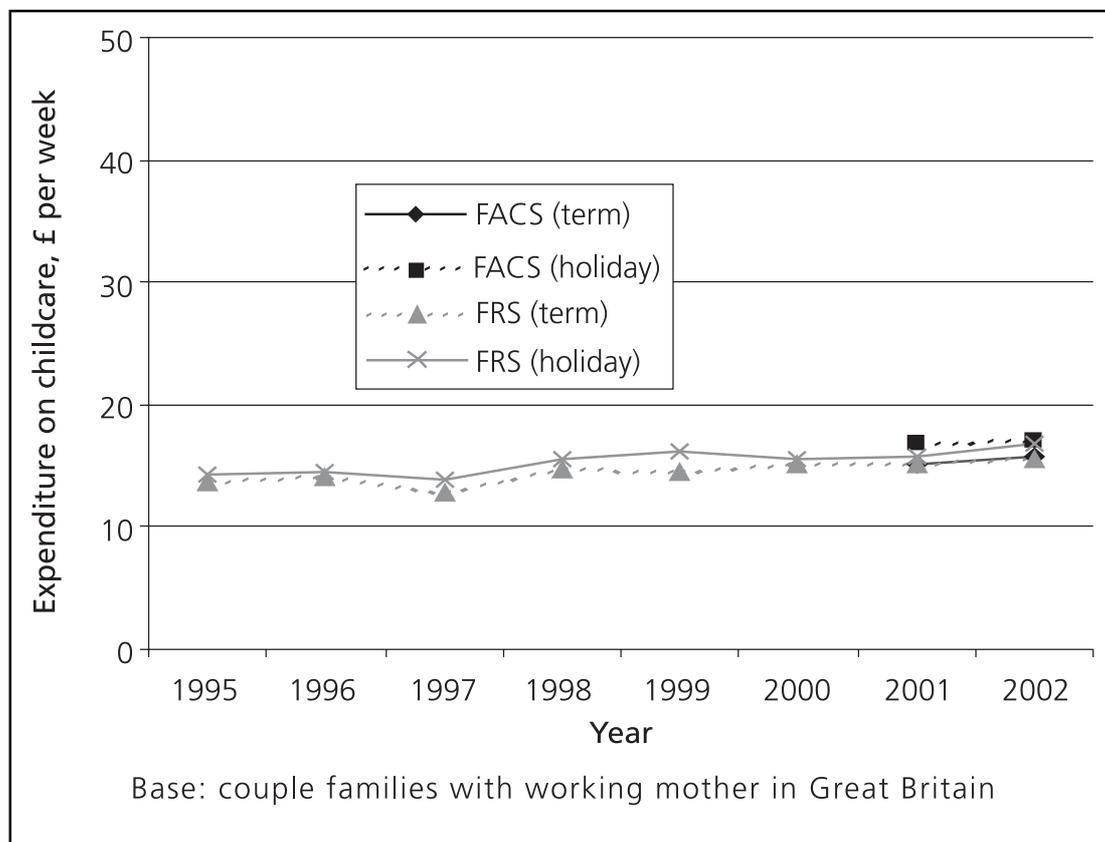
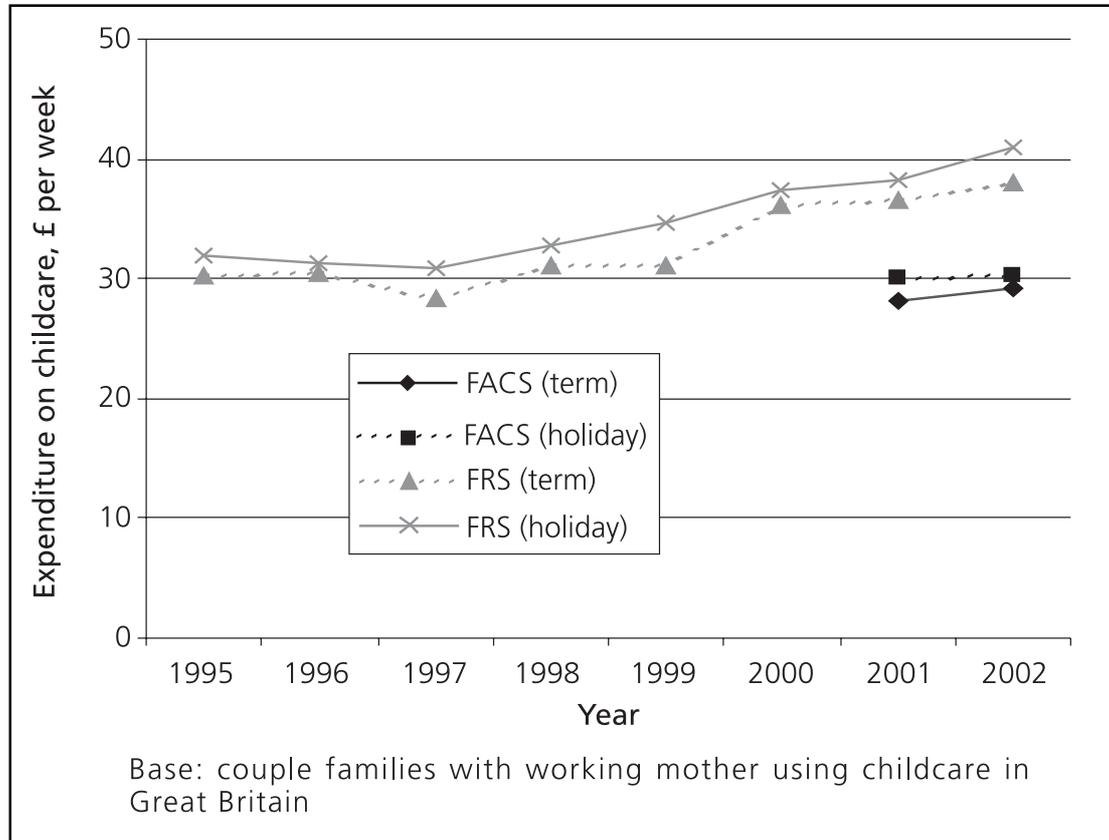


Figure 4.21 Mean weekly family childcare expenditure amongst couple families using childcare



The next four figures show the proportion of families paying for childcare. There is little trend in the proportion of working lone parents or working mothers in couples who pay for childcare (around a fifth), but a slight upwards trend in the proportion of families using childcare who pay.

The most noticeable thing, however, is (again) the strange behaviour of FACS in 1999 for lone parent families: a much smaller proportion of these families are recorded as paying for childcare than in subsequent years. This may illustrate the impact of changes in the childcare questions.

Figure 4.22 Proportion of working lone parent families who pay for childcare

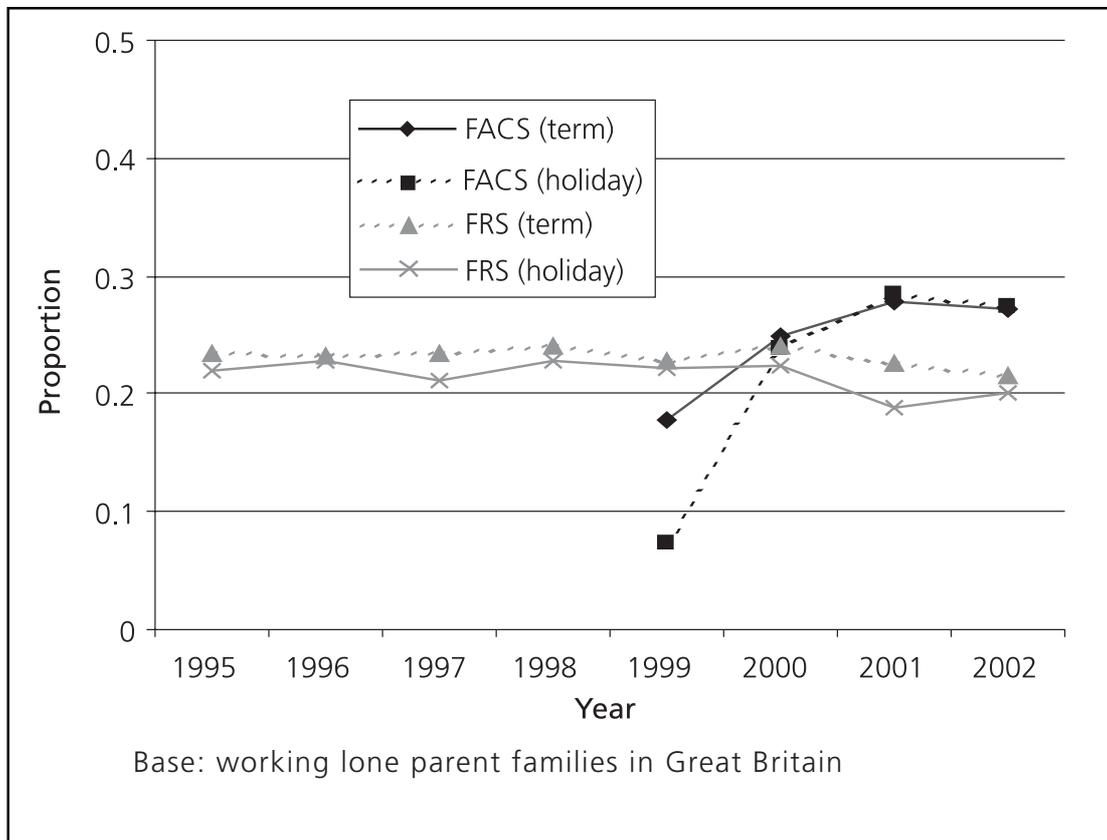


Figure 4.23 Proportion of couple families with working mother who pay for childcare



Figure 4.24 Proportion of working lone parent families who pay for childcare amongst working lone parent families using childcare

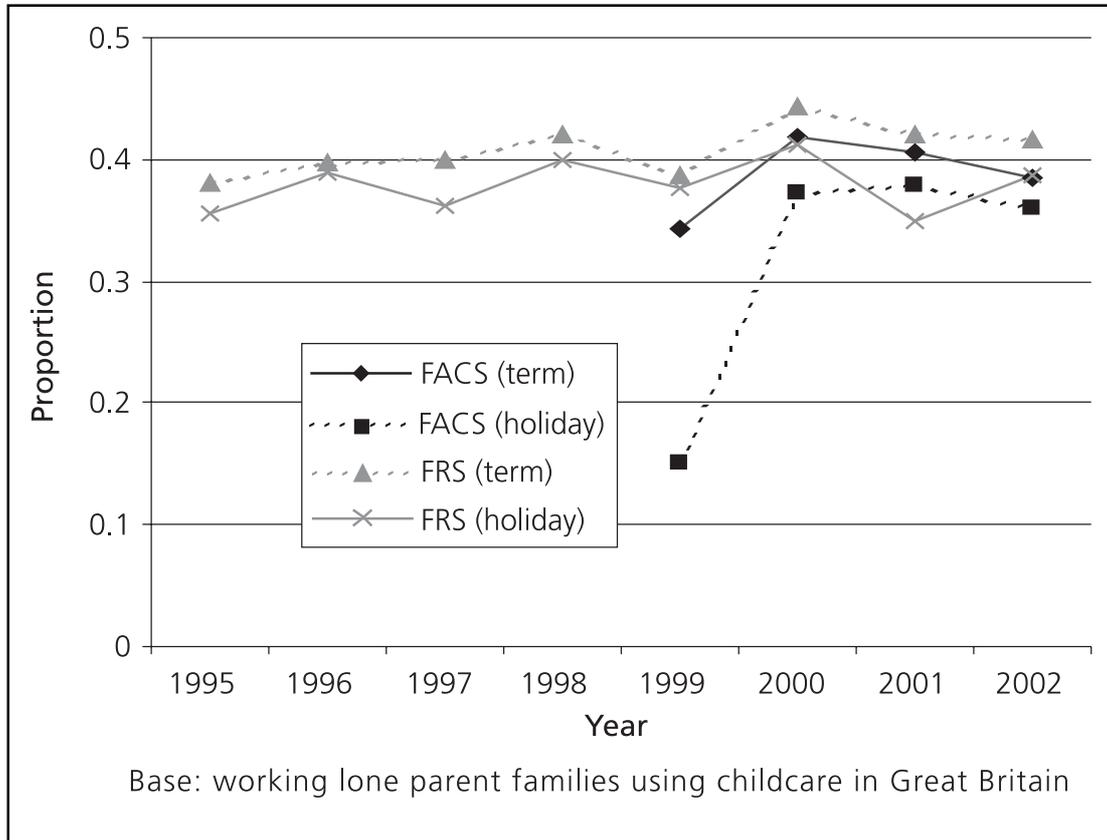
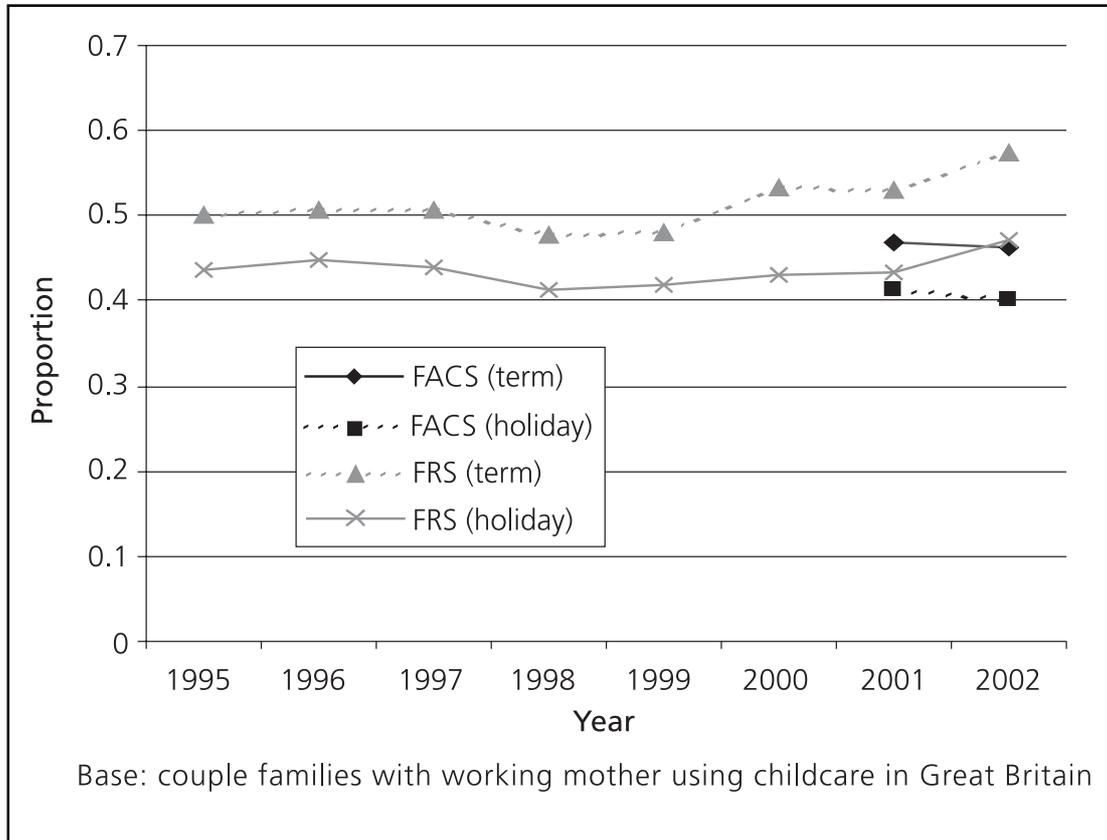


Figure 4.25 Proportion of couple families who pay for childcare amongst couple families using childcare



4.3.2 The price of childcare

Figures 4.26 and 4.27 show the trend in price per hour over time. The average price has been calculated for children who pay for childcare, and all prices have been updated to September 2003. The mean price is not presented separately for each childcare type since FACS is the only dataset which records these trends.

There has been a steady rise in the real price of childcare, particularly for children in lone parent families.⁴⁸ For lone parents, according to FRS, the average annual real rise since 1995 has been around five per cent. Since 2000, though, it has been seven per cent in term time and ten per cent in the school holidays (respectively 12 per cent and 15 per cent, according to FACS). For couples, the average annual real rise since 1995 has been around four per cent, with no evidence of an accelerating rise since 2000.

By 2003, there was very little difference in the average price of care used by children in lone parent families and couples in FACS, but in FRS, the price of childcare used by children in couple families remained higher than for children in lone parent families. Term time childcare is more expensive than holiday childcare, but both FACS and FRS suggest that the difference in price is larger for children in lone parent families than for children in couple families.

⁴⁸ Interpretation of these figures is slightly difficult because they are the average price amongst those who pay for childcare, but Figures 4.22-4.26 showed that the proportion of working mothers who pay for childcare has not changed much since 1995.

Figure 4.26 Rate for children living in lone parent families, conditional on paying

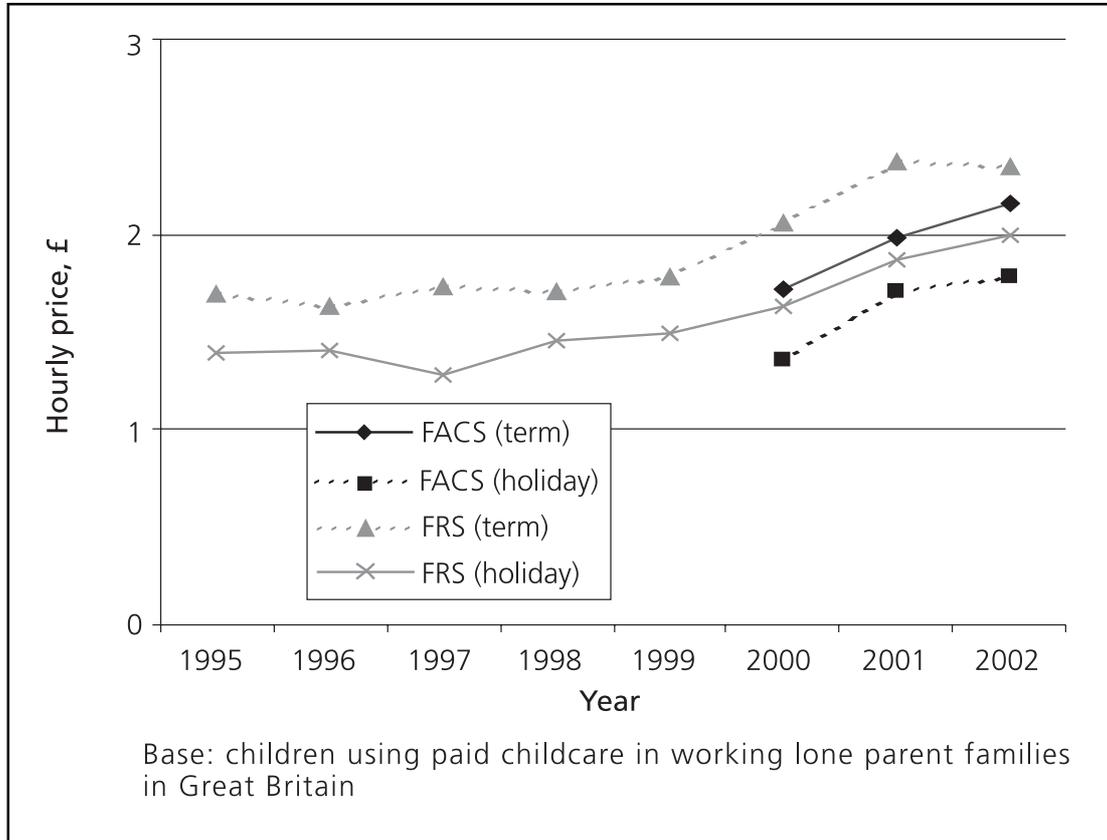
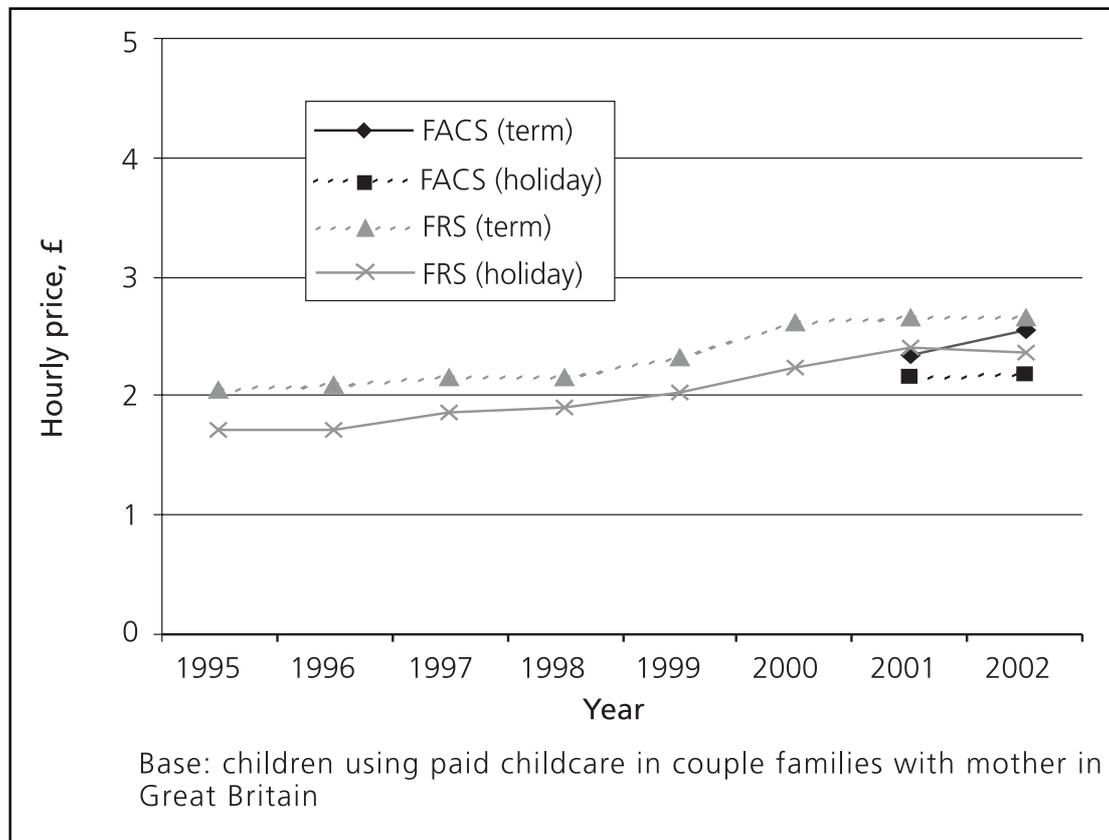


Figure 4.27 Rate for children living in couple families, conditional on paying



4.4 Summary of findings

- The analysis in this chapter used three datasets (FRS, FACS and LFS) with data spanning 1995 to 2003, although there are only two years where data from all three surveys exists.
- The majority of the analysis is on a sample of children aged 14 or under with a working mother (or a working lone father) living in Great Britain. The composition of the sample will have changed over time, not least because employment rates for mothers are on an upward trend.

4.4.1 Differences between surveys

- There is a worrying difference in the trend in overall childcare use: the FRS shows childcare use to be on a downward trend, but FACS and LFS show a constant or rising trend, albeit on a smaller span of data. This difference is largely due to a disagreement over the trend in informal care use: all surveys show that use of formal care is rising, driven by increasing use of centre-based care and out-of-school clubs, although childminder use is declining.

4.4.2 Key facts about trends in childcare use

- The analysis presented has little to say about the total amount of childcare use by all families because we do not have a time-series of childcare used by non-working mothers.
- The FRS says that lone parents are using less childcare now, on average, than they were in 1995, but lone parents who use childcare are using the same number of hours, on average. Couples are using less childcare now, on average, than they were in 1995, and couples using childcare are using less childcare now, on average, than in 1995. These trends are less evident in FACS.
- Although overall childcare use may have fallen, the proportion of families using formal care has risen over time. This is due to an increase in the proportion of children using centre-based care and the proportion using out-of-school or holiday clubs.
- Trends in expenditure or the proportion paying for care are not clear from FACS. The FRS suggests that the proportion of working mothers paying for care has hardly changed since 1995, but the proportion of childcare users who pay for some childcare is increasing. Similarly, while the average amount spent across all working mothers has not been changing in real terms, the amount spent by families who use care, is rising.
- The FRS suggests average annual real growth since 1995 in the hourly price of childcare of around five per cent a year for lone parents and four per cent for couples. In recent years, there is evidence that the price of paid-for childcare used by lone parents has been rising markedly, but this has not been the case for childcare used by couples.

5 Comparison with administrative data on childcare tax credit awards

The aim of this chapter is to compare the information on childcare use and expenditure in household surveys with that captured in administrative records of Childcare Tax Credit (CCTC) awards. The strategy is to construct datasets of Working Families' Tax Credit (WFTC) recipients from household surveys that are comparable to the datasets based on administrative records of WFTC claims.

We first compare the childcare used by all WFTC recipients in survey data to childcare used by CCTC recipients in the administrative data, and then look at an even closer comparison of the childcare used by working WFTC recipients who also receive the CCTC in survey data, to childcare used by CCTC recipients in the administrative data.

5.1 Description of the administrative and survey data

Our administrative data consists of five per cent samples of all WFTC awards in February and November 2001. These two datasets each include information contained on the application form of 1 in 20 of all WFTC awards live on a given day, such as weekly hours of work, net earnings and selected other income sources, number and age of children. They also contain some information on the childcare used by parents who CCTC.⁴⁹

Our strategy was to construct datasets of WFTC recipients from household surveys that were as comparable as possible to the administrative datasets. We used the same four household surveys as in Chapter 3, each of which asks parents whether they are receiving WFTC and the CCTC, and constructed comparable variables such

⁴⁹ The key childcare variables used were *waccc1-5* for spending in pence, *toccc1-5* for the type of care. *totcc* gives the sum of *waccc1-waccc5.cccosts* was not used.

as net earnings, hours of work, ages of applicants, and so on.⁵⁰ We excluded observations from Northern Ireland, and so most of our data are from families in Great Britain, except for Parents' Demand for Childcare (PDFC), which is from England only.

The administrative data contains information on the childcare used by parents who were awarded CCTC, and has no information of childcare used by parents who were not awarded CCTC.⁵¹ The rules of CCTC place restrictions on the type of families who can receive it, and, therefore, on the sort of childcare expenditure that we observe. In many cases, this leads to differences between what is captured in the administrative data and what is captured in the survey data. In particular:

- the administrative data contains information only on 'eligible' childcare (see Section 2.2.1). The definition of eligible childcare for CCTC is given in Box 5.1. We do not know which childcare in the surveys was eligible, and so only include childcare in the survey data that is centre-based care, out-of-school clubs or childminders. This will be an overestimate of the use of eligible care (since eligible care must belong to one of these three categories, but not all of these sorts of care are eligible);
- the administrative data contains information only on childcare used by children up to 1 September after their fifteenth birthday (16 if the child is entitled to Disability Living Allowance or is registered blind), but the survey data is restricted to children under 14. We do not attempt to correct for this, but this discrepancy is likely to make almost no difference to the results;
- the administrative data contains no information on hours of childcare. It records the type of childcare only if one type is used: if more than one type is used, then it records that the family used a combination of types. We, therefore, construct a similar classification for families in the household surveys;
- the eligibility rules of WFTC and CCTC mean that administrative data contains only families where at least one adult works 16 or more hours per week, and on childcare used only by families where all of the adults were working 16 or more hours (or where one was working and the other had a disability). This is not the case in survey data: some lone parents receiving the WFTC are not working when they are surveyed, for example, presumably because they have changed their working patterns in the six months since they claimed WFTC. We do **not**

⁵⁰ The four surveys were the Families and Children Study (FACS) 2001 (Wave 3), the repeat PDFC study, families sampled in 2001 in both Family Resources Survey (FRS) 2000/01 and 2001/02 and the Labour Force Survey (LFS) autumn 2001.

⁵¹ We ignored the information about the childcare used by parents who unsuccessfully claimed CCTC.

restrict the survey data to families where all of the adults were working 16 or more hours per week;⁵²

- the administrative data contains information on childcare used by families when they applied for WFTC, which is between one day and six months before the dates given above. Two of the surveys (PDFC and LFS) tell us the childcare used in the week before the survey, and two of them tell us about usual childcare use in term time and school holidays. The administrative data will, therefore, cover both term time and school holidays, with the November 2001 dataset covering more school holiday time than the February 2001 dataset. As discussed in Section 2.2.1, the repeat PDFC only tells us about childcare use in the spring-term of 2001. The LFS asks about childcare used in the previous week, and, in a departure from our approach in Chapters 3 and 4, we include all people in this quarter, meaning that some of the families will have been interviewed in term time, and some in school holidays;
- even though the surveys are all from 2001, there is a difference in the precise timing, and some of our sample were observed over 16 months apart (the repeat PDFC survey was carried out in January – April 2001, we use families in the FRS who were surveyed in 2001, FACS was surveyed in autumn – winter 2001 and LFS is surveyed in September – November 2001. Because of the nature of WFTC awards, the information in the administrative data could refer to awards that began up to six months before the date the data was collected, meaning that some information will relate to August 2000. We do not attempt to correct for any of these differences. All prices are given in cash terms;
- we used the grossing weights that are supplied with the administrative datasets, FRS, FACS and LFS. For the PDFC surveys, we constructed our own – very crude – grossing weights by multiplying the sampling weights by a constant so that the sample grossed up to the known population of families.

⁵² In FACS (FRS), we do not know how much childcare is used in families where the mother is not working (where neither parent is working) at the time of the survey: in the tables that follow, we will assume that they use none.

Box 5.1. What counts as 'registered' or 'approved' childcare?

'Registered' or 'approved' childcare includes: registered childminders; nurseries and playschemes; out-of-hours clubs on school premises run by a school or local authority; childcare schemes run by school governing bodies under the 'extended schools' scheme, childcare schemes run by approved providers; for example, an out-of-school-hours scheme; or a provider approved under a Ministry of Defence accreditation scheme. A registered childminder, nursery or childcare scheme, or an approved home childcare provider, is one that is registered or approved: in England, by OFSTED or the National Care Standards Commission; in Wales, by the National Assembly for Wales (through the Care Standards Inspectorate for Wales); in Scotland, by the Scottish Commission for the Regulation of Care; and in Northern Ireland, by a Health and Social Services Trust. Certain out-of-school schemes or schemes run by school governing bodies, may be approved by local authorities or local education authorities. Help can also be claimed for the costs of using one of these schemes.

5.2 Comparison of key demographic variables

Table 5.1 reports the sample sizes, and compares some basic demographics. The administrative datasets are far larger than the comparable surveys. There are also some important differences between the datasets, many of which could be due to people changing their behaviour in the time between claiming WFTC and being interviewed for a survey:

- The surveys vary in their estimate of the total number of people receiving WFTC: the FRS giving a considerable underestimate, and PDFC an over-estimate. In the case of the FRS, around half of this difference is due to the effect of the grossing weights.⁵³ In the case of PDFC, this may reflect the inadequacy of our crude grossing weights.
- A greater proportion of WFTC recipients are lone parents in the administrative datasets than in the surveys.
- The surveys record a small minority of families receiving WFTC where no adult is working 16 or more hours per week. By definition, these cannot exist in the administrative datasets. More mothers in couples, and fewer fathers in couples, work 16 or more hours in the surveys than the administrative datasets, but on balance, more couples have both adults working at least 16 hours per week in the surveys than the administrative datasets.

⁵³ In other words, if uniform grossing factors were used, the estimate of the total number of WFTC recipients in the FRS would be higher. See Clark and McCrae (2001).

- Around 20 per cent of lone parents receiving WFTC, and two per cent of couples, received the CCTC. The surveys give wildly differing estimates of the proportions of WFTC recipients who also receive CCTC. In all but the FRS, they are over-estimates.

Table 5.1 Summary statistics

	Feb 2001	Nov 2001	FRS	FACS	LFS	PDFC
Sample size	59037	62337	7018	6885	15399	5416
Sample of WFTC recipients	59037	62337	1104	1203	2509	1061
Sample of WFTC recipients (grossed)	1180740	1217820	957672	1103081	1097997	1315020
Proportion of families with children receiving WFTC	N/A	N/A	.155 .004	179. .005	.163. .003	.189 .005
Everything that follows is conditional on receiving WFTC						
Proportion of couples	.486. .002	.482 .002	.558 .015	.557 .015	.591 .010	.596 .015
Proportion of lone parents receiving CCTC ¹	.197 .002	.219 .002	.108 .014	.390 .021	.263 .013	.278 .020
Proportion of couples receiving CCTC ²	.024 <.001	.026 <.001	.024 .006	.142 .014	.091 .008	.053 .008
Proportion where any adult works 16 hours or more	1	1	.868 .011	.960 .006	.878 .007	.947 .010
Proportion where any adult works 30 hours or more	.593 .002	.590 .002	.565 .015	.633 .014	.598 .010	.642 .015
Proportion of lone parents where parent works 16 hours or more	1	1	.881 .018	.939 .010	.840 .011	.972 .008
Proportion of couples where mother works 16 hours or more	.256 .003	.251 .003	.294 .019	.386 .020	.330 .013	.361 .020
Proportion of couples where father works 16 hours or more	.834 .002	.833 .002	.723 .019	.859 .014	.800 .011	.856 .014
Proportion of couples where both work 16 hours or more	.091 .002	.084 .002	.157 .015	.269 .018	.227 .011	.261 .018
Proportion of couples where any work 16 hours or more	1	1	.859 .014	.977 .006	.904 .007	.854 .015
Hours worked, lone mother	26.78 .052	26.71 .050	25.14 .656	25.75 .401	23.97 .400	25.58 .463
Hours worked, mother in couples	7.44. .073	7.30. .072	9.29 .572	11.92 .621	10.64 .384	11.63 .610
Hours worked, father in couples	31.23 .097	31.11 .096	30.49 .883	41.08 .800	37.79 .431	N/A
Mothers' age	34.19 .030	34.26 .030	33.73 .214	33.42 .207	33.49 .145	N/A

Continued

Table 5.1 Continued

	Feb 2001	Nov 2001	FRS	FACS	LFS	PDFC
Fathers' age	35.97 .048	36.04 .047	36.03 .313	35.51 .318	35.60 .198	N/A
Number of children	1.95 .004	1.96 .004	2.069 .032	2.006 .031	2.022 .020	2.017 .032

Note: Feb 2001 and Nov 2001 refer to the administrative data-sets of 5% of all WFTC recipients. The base for the other surveys is all families with a dependent child. Except where marked 'unweighted', estimates use grossing weights as described above. The second number is the estimated standard error of the mean. The samples are limited to Great Britain, except PDFC, which is from England.

¹ 8% in FACS and 14% in PDFC didn't know (and are counted as 'no').

² 9% in FACS and 26% in PDFC didn't know (and are counted as 'no').

5.3 Comparison of childcare use

Because so few couples received CCTC, the analysis that follows is only for lone parents.

Table 5.2 analyses childcare use at the family level. It compares formal childcare used by all WFTC recipients in survey data, to childcare used by CCTC recipients in the administrative data. The administrative data shows a 20 per cent nominal rise in average expenditure on eligible childcare within six months: this rise mostly disappears when we condition on those who pay for care, which rises by over 11 per cent.

Unsurprisingly – because we are not comparing like with like – the survey data (except for the FRS) records more childcare use than the administrative data. Some of the formal care captured by the household surveys is free: removing that, we find that FRS and FACS find that around a fifth of lone parents receiving WFTC spend money on formal care, the same proportion that receive the CCTC. PDFC, though, records a higher proportion paying for formal care. Estimates of expenditure on formal childcare by lone parents receiving WFTC in FRS and FACS, are similar to the total amount of childcare expenditure reported by lone parents receiving the CCTC in administrative data.

Average expenditure amongst those claiming CCTC in the administrative data is around £55, slightly higher than estimates of average expenditure amongst WFTC recipients paying for formal care in the three surveys (except for holiday care in the FRS).

The bottom of the table splits the survey data up into samples that do and do not say that they are receiving CCTC. Average expenditure amongst those paying for care and receiving CCTC is higher than amongst those not receiving CCTC, so the differences in estimates of average expenditure between administrative data and survey data narrow once we condition on receiving CCTC.

Table 5.2 Childcare use amongst lone parents receiving WFTC (survey data) or receiving WFTC and CCTC (administrative data)

	Feb 2001	Nov 2001	FRS	FACS	LFS	PDFC	FRS hol	FACS hol
All								
Use formal care (or 'Receive CCTC' for administrative data)	.197 .002	.219 .002	.191 .018	.249 .019	.390 .015	.313 .021	.191 .018	.265 .019
Pay for formal care (or 'Receive CCTC' for administrative data)	.197 .002	.219 .002	.174 .018	.232 .018	N/A	.289 .021	.145 .016	.248 .019
Expenditure, all	10.69 .157	12.81 .176	12.77 1.32	11.95 1.20	N/A	14.68 1.39	14.36 1.46	14.61 1.28
Expenditure, conditional on paying	54.22 .494	58.61 .513	51.31 3.37	42.56 3.10	N/A	43.33 3.12	67.05 3.56	48.20 2.82
Receive CCTC								
Expenditure, conditional on paying	54.22 .494	58.61 .513	57.23 5.38	47.12 3.78	N/A	51.75 3.84	76.80 5.74	52.77 3.47
Don't receive CCTC								
Use formal care	N/A	N/A	.123 .016	.075 .014	N/A	.0122 .021	.123 .016	.101 .017
Pay for formal care	N/A	N/A	.106 .015	.058 .013	N/A	.095 .018	.096 .014	.087 .016
Expenditure	N/A	N/A	8.11 1.14	2.87 .555	N/A	3.43 .771	9.46 1.27	4.94 .888
Expenditure, conditional on paying	N/A	N/A	47.60 4.27	26.24 2.96	N/A	21.11 3.47	61.57 4.42	35.18 3.82

Base: lone parents in Great Britain (England for PDFC) receiving WFTC, lone parents in Great Britain (England for PDFC) receiving WFTC and CCTC.

Note: February 2001 and November 2001 refer to the administrative data-sets of 5% of all WFTC recipients. The base for the other surveys is all families with a child under 14 who are receiving WFTC. Estimates use grossing weights as described in Section 5.1. The second number is the estimated standard error of the mean. Sample is limited to GB, except PDFC, which is from England.

Table 5.2 includes lone parents in the surveys who were not working. Table 5.3 further restricts the survey data to lone parents receiving WFTC and working 16 or more hours per week. This restriction tends to increase use of paid formal care and average expenditure in the survey data, and so narrows the gap in estimates of average expenditure between survey data and administrative data.

Table 5.3 Childcare use amongst lone parents receiving WFTC (administrative data) and receiving WFTC and working at least 16 hours per week (survey)

	Feb 2001	Nov 2001	FRS	FACS	LFS	PDFC	FRS hol	FACS hol
All								
Use formal care (or 'Receive CCTC' for administrative data)	.197 .002	.219 .002	.204 .196	.263 .020	.396 .017	.316 .022	.204 .196	
Pay for formal care (or 'Receive CCTC' for administrative data)	.197 .002	.219 .002	.186 .019	.246 .019	N/A	.291 .021	.157 .018	0.262 0.020
Expenditure	10.69 .157	12.81 .176	13.98 1.46	12.68 1.27	N/A	14.97 1.43	15.84 1.62	15.52 1.35
Expenditure, conditional on paying	54.22 .494	58.61 .513	51.96 3.48	42.70 3.12	N/A	43.80 3.16	67.76 3.65	48.36 2.83
Receive CCTC								
Expenditure, conditional on paying	54.22 .494	58.61 .513	57.88 5.52	47.12 3.78	N/A	52.24 3.89	78.20 5.71	52.77 3.47
Don't receive CCTC								
Use formal care	N/A	N/A	.132 .018	.079 .015	N/A	.123 .021	.132 .018	.107 .019
Pay for formal care	N/A	N/A	.114 017	.059 .013	N/A	.096 .019	.105 .016	.091 .018
Expenditure	N/A	N/A	8.96 1.27	3.06 .60	N/A	3.56 .80	10.491 .42	5.32 .96
Expenditure, conditional on paying	N/A	N/A	48.21 4.43	26.43 3.04	N/A	21.51 3.51	61.95 4.58	35.53 3.88

Base: lone parents in Great Britain (England for PDFC) receiving WFTC, lone parents in Great Britain (England for PDFC) receiving WFTC and working at least 16 hours a week.

Note: February 2001 and November 2001 refer to the administrative datasets of 5% of all WFTC recipients. The base for the other surveys is all families with a child under 14 who are receiving WFTC. Estimates use grossing weights as described in Section 5.1 The second number is the estimated standard error of the mean. The sample is limited to Great Britain, except PDFC, which is from England. Estimates from administrative data are identical to Table 5.2, because all lone parents who successfully claim the CCTC are working 16 or more hours per week when they claim. Some statistics are not available for FRS or LFS. FRS allows expenditure on but not use of childcare to vary between term time and school holidays.

Table 5.4 looks at estimates of use of and spending on different types of childcare. It continues to limit the sample from survey data to lone parents working 16 or more hours per week and receiving WFTC. Administrative data only records the type of childcare if families use only one type of childcare, and so the list of possible types is a little different from that used elsewhere in this report. Expenditure by type is not available in the FRS.

Estimates from survey data of the proportion of working lone parents receiving WFTC and using centre-based care and no other formal care (similarly, 'out-of-school clubs and no other formal care') are higher than the proportion of WFTC recipients who claim CCTC and spend money on centre-based care. The reverse is true for childminders, and for the use of more than one type of formal care.

The same pattern is true when considering estimates from survey data of the proportion of working lone parents receiving WFTC and paying for the different types of formal care, compared with estimates from administrative data of the proportion of WFTC recipients who claim CCTC and spend money on various types of eligible care, and when comparing estimates of the average amount spent on each type of care across the whole sample. Estimates of average expenditure on each type of care, for those that pay for it (or those that claim CCTC and pay for it, in administrative data), are reasonably similar, given the large standard errors in the survey data.

Table 5.4 Lone parents, all receiving WFTC and working 16 hours or more per week

	Feb 2001	Nov 2001	FRS	FACS	LFS	PDFC	FRS hol ¹	FACS hol
Use (or 'receive CCTC for' for administrative data)								
Centre-based care	.079	.089	.122	.098	.121	.141	.122	.090
	.002	.002	.016	.013	.011	.016	.016	.012
Out-of-school club	.007	.008	N/A	.080	.162	.085	N/A	.098
	<.001	<.001		.012	.013	.012		.014
Childminder	.075	.079	.072	.071	.059	.061	.072	.081
	.002	.002	.012	.012	.008	.011	.012	.012
Combination	.043	.050	.010	.012	.052	.028	.010	.012
	.001	.001	.005	.005	.008	.007	.005	.004
Proportion who use and pay								
Centre-based care	.079	.089		.088		.127		.080
	.002	.002		.012		.012		.011
Out-of-school club	.007	.008		.077		.075		.092
	<.001	<.001		.012		.012		.013
Childminder	.075	.079		.066		.057		.077
	.002	.002		.011		.010		.012
Combination	.043	.050		.012		.028		.012
	.001	.001		.004		.007		.004
Mean Expenditure								
Centre-based care	4.76	5.91		5.24		6.07		4.57
	.112	.127		.891		.933		.771
Out-of-school club	.160	0.21		1.93		2.03		3.90
	.013	.017		.461		.408		.733

Continued

Table 5.4 Continued

	Feb 2001	Nov 2001	FRS	FACS	LFS	PDFC	FRS hol¹	FACS hol
Childminder	4.35 .105	4.97 .117		3.50 .813		3.67 .900		4.27 .835
Combination	1.41 .051	1.72 .057		0.65 .272		1.90 .543		0.98 .444
Mean Expenditure for those who pay								
Centre-based care	59.92 .782	66.19 .790		59.77 5.38		47.82 5.08		57.34 4.62
Out-of-school club	23.65 1.23	26.11 1.22		25.17 4.46		27.00 3.49		42.57 5.22
Childminder	58.16 .766	63.24 .857		53.09 8.37		64.95 10.47		55.47 6.36
Combination	33.12 .800	34.71 .760		52.18 10.58		67.28 8.72		81.07 20.78

Base: lone parents in Great Britain (England for PDFC) receiving WFTC and working at least 16 hours a week.

Note: February 2001 and November 2001 refer to the administrative datasets of five per cent of all WFTC recipients. The base for the other surveys is all families with a child under 14 who are receiving WFTC. Estimates use grossing weights as described in Section 5.1 The second number is the estimated standard error of the mean. The sample is limited to GB, except PDFC, which is from England. Some statistics are not available for FRS or LFS. FRS allows expenditure on but not use of childcare to vary between term time and school holidays.

¹ 'Use' is the same as FRS term time, by construction.

5.4 Summary of findings

- In general, household surveys capture more spending on formal childcare by lone parents receiving WFTC than is recorded by lone parents claiming the Childcare Tax Credit in administrative data. The differences are not large, though (except for spending on out-of-school clubs).
- Two main factors can account for this: expenditure captured by surveys on formal care may not all be on eligible childcare, and some lone parents receiving WFTC may not have claimed the CCTC even though they were eligible for it (i.e. they were spending money on formal childcare).
- When the survey data is made to look more like the administrative data – by restricting to a sample of lone parents who say they receive the CCTC and who are still working 16 or more hours per week – then survey-based estimates of the proportion paying for formal childcare, and the average amount spent, are little different from administrative data on actual CCTC claims.

6 Recommendations for policy-making and future practice

This report has examined the differences and similarities in the pattern of childcare use amongst working mothers recorded in various household surveys and administrative datasets. Based on this, we have the following recommendations:

Recommendations when using information on childcare use from Families and Children study (FACS), Family Resources Survey (FRS), Labour Force Survey (LFS) and Parents' Demand for Childcare (PDFC):

- These four surveys differ markedly in their ability to capture use of early years' education, out-of-school clubs and care from close relatives.
- All four surveys tell us about childcare **use**, a combination of demand and supply.
- In the four surveys, there is an inverse correlation between the amount of information on childcare use, and the amount of information on other characteristics (such as employment, education attainment. and income information, for example).
- The routing to the childcare questions varies considerably across the four surveys such that, even conditioning on families with a working mother, responses are not completely comparable.

Recommendations for future childcare survey questions:

- Clarify the distinction between different types of childcare, and provide interviewers with definitions to help respondents classify childcare providers. This allows for the greater flexibility when performing secondary analysis.
- Ensure that the list of childcare options adequately incorporates early years' education.

- Collect childcare information for all families, not just those with adults in work.
- Be aware of how sensitive responses are to the precise wording of questions, and ensure that the wording is capable of collecting the information that is required.

Issues for further research:

- Investigate what difference asking about actual arrangements makes compared with asking about usual arrangements.
- Understand why the FRS gives a different picture of the trends in use of informal childcare amongst working mothers from other household surveys.
- Think about how childcare supply and childcare demand might be measured independent of one another.

Appendix A

Overview of the datasets used and childcare information included in each

A.1 Overview of datasets

This report compares childcare use and employment in four datasets: Families and Children Study (FACS), Parents' Demand for Childcare (PDFC), Family Resources Survey (FRS) and Labour Force Survey (LFS). Table A.1 below provides an overview of the datasets, including information about the design of each of the surveys, the time period and geographical area covered, and the sample.

Table A.1 Overview of datasets

	FACS	FRS	LFS	PDFC
Type of survey	Refreshed panel	Repeated cross-sectional	Rolling panel	Cross-sectional
Frequency	Annual (data collection over five month periods, but the fieldwork period changed between waves 2 & 3)	Annual (continuous data collection)	Quarterly since 1992 (data collected continuously)	One-off (data collected between January and April in wave 1, from end February to early June in wave 2)
Period covered	Annually from 1999; data for this report is 1999-2002	Each financial year from 1994; data for this report is 1995-2002	From 1973 (interval varies); data for this report is 2001Q3-2003Q3	Wave 1: 1999 Wave 2: 2001
Geographical coverage	Great Britain	Great Britain	UK	Wave 1: England and Wales Wave 2: England Separate surveys (not analysed in this report) covered Scotland
Target population	1999-2000: all lone parents, and couples with dependent children satisfying at least one of: (i) workless (no adult working 16+ hrs) (ii) receiving FC (1999) or WFTC (2000) (iii) with work and either (a) eligible for FC/WFTC but not claiming, or (b) within a given percentage of FC/WFTC income requirement. 2001-02: all lone parents, all couples. Families who no longer have dependent children continue to be interviewed (but from 2002, only for one year).	All private households	All private households	Households with children aged 0-14
Observation unit	Family	Household	Household	Household (also childcare provider)

Continued

Table A.1 Continued

	FACS	FRS	LFS	PDFC
Sampling method	1999: stratified, clustered random sample of all families receiving child benefit. Booster sample of FC recipients added (not analysed here) 2001-02: stratified, clustered random sample of all families receiving child benefit	Stratified, clustered, probability sample of addresses drawn from 'small users' in the Postcode Address File	Stratified, clustered random sample plus systematic unclustered sample of addresses, both drawn from 'small users' in the Postcode Address File	Part 1: clustered random sample of families with children aged 0-14 receiving child benefit. Information sought about no more than 2 children in each household. Wave 2 had booster sample of student parents, parents with children attending out-of-school clubs and parents receiving childcare tax credit. Part 2 of each survey not used in this study
Achieved sample size	1999-2000: approximately 5,000 2001-02: approximately 8,000	Approximately 24,000	Approximately 60,000 (composed of five waves of approximately 12,000)	Wave 1: 5,152. Wave 2: 5,416 (4,478 national, 938 booster)
Weights	Cross-sectional and longitudinal weights available for all years. Grossing (population) weights available only from 2001	Grossing (population) weights available	Grossing (population) weights available	Weights correct for cap on number of children and booster sample (wave 2 only)
Survey respondent	Main respondent typically the 'mother figure'. For couples, the main respondent is almost always the mother. Partner also interviewed; proxy response permitted	Head of household, other household members. Proxy response permitted. Childcare questions answered by self-reported main carer	Individuals; proxy response permitted (32% of responses collected by proxy). Don't know who childcare questions addressed to	Respondent must be parent/guardian with main or shared responsibility for making decisions about childcare. Partner also interviewed; proxy response permitted for partner
Information sources	FACS user guide and questionnaires provided by DWP (also available from UK Data Archive). FACS respondent website DWP website	National Statistics website FRS technical reports UK Data Archive website	LFS user guide National Statistics website UK Data Archive website	DfES Research Report 176 and 348. Document with survey, briefing notes, etc at UK Data Archive website

Source: authors' interpretation of various information sources (detailed in the last row).

A.2 Childcare information contained in each dataset

For each dataset, Table A.2 sets out detailed information about the routing used to get to the questions on childcare, the precise question asked about types of childcare used, and the answers available. There are a number of important differences between datasets worth highlighting.

Table A.2 Childcare information contained in each dataset

	FACS	FRS	LFS	PDFC
The routing: which respondents are asked questions on childcare?	Asked if main respondent is in work, or has worked in last two years and since the birth of last child. If main respondent isn't currently working, questions apply to when last in work. Only asked of five children in waves 1-3	All main carers asked 'routing question'. Successive questions only asked if the answer to the routing question is 'yes'	Asked of all respondents [I am not sure to which adult they direct the questions]	Asked of all main respondents, but only asked on two children in families with three or more children
Age of children	All dependent children	Under 15	Under 15	Under 15
The question on childcare use	No overall question on childcare use	Routing question is: 'The next questions are about childcare facilities for [name]. Does anyone else normally look after [name] on a regular basis, excluding care for social occasions?'	No overall question on childcare use	'I would like to ask you about any childcare or nursery education that [children's name] may have received over the last year. We are interested in all the different types of childcare or nursery education shown on this card. By 'child care' I mean care carried out by anyone other than yourself (or your current spouse or partner). Please include all types of childcare or nursery education, both formal and informal. We are interested both in people who do not use regular childcare or nursery education and in those who do. Now I would like you to think about the last year, that is from yesterday back to ^DATE ONE YEAR AGO. Did [children's name] receive any of these types of childcare or nursery education at any time in the last year?

Continued

Table A.2 Continued

	FACS	FRS	LFS	PDFC
The question on childcare types	'When you are working, what are your usual arrangements for looking after (<i>child's name</i>)?'. Restricted to three childcare types	'Who looks after [name]?'	1. 'At any time during the seven days ending Sunday the [DATE], did [NAME] attend any of the following?' 2. 'And during those seven days (ending Sunday the [DATE]) were there any other people who looked after [NAME]?'	'One by one, please tell me the names of all the places or people who have provided this childcare or nursery education for [children's name] in the last year. Please do not include time when your children were at school during school hours ... Which of the descriptions on this card best applies?'
The answers	Partner/ex-partner Parents/in law Child(ren)'s older brother or sister Other relative/friend Nursery/creche Nursery school/playgroup Registered childminder Unregistered childminder Live in nanny/au pair Other daily or shared nanny	Close relative Other relative Friend/neighbour Childminder Nursery/playgroup Creche Employer provided nursery Nanny/Au Pair After school or holiday play scheme Other	Answers to 1: Out of school club Holiday scheme Day nursery or crèche Nursery School Infant's School Primary School Playgroup or pre-school Family/combined centre Other	Childminder Daily nanny who came to our home Live-in nanny or au pair Baby-sitter who came to our home Local Authority crèche or nursery school Private crèche or nursery school Workplace crèche or nursery Local Authority playgroup or pre-school Private playgroup or pre-school Community/voluntary playgroup or pre-school Nursery class attached to a primary school Reception class attached to a primary school Family Centre

Continued

Table A.2 Continued

	FACS	FRS	LFS	PDFC
The answers (continued)	<p>After school or holiday play scheme</p> <p>I only work(ed) during school hours</p> <p>Old enough to look after themselves</p> <p>I take/took them to work with me</p> <p>I work(ed) at home</p>	<p>Note: 'Employer provided nursery' and 'Nanny/au pair' introduced in 2000; 'after school or holiday play scheme' introduced in 2002</p>	<p>Answers to 2:</p> <p>Child's grand parents</p> <p>Non resident parent/ex-spouse/ex-partner</p> <p>Child's brother or sister</p> <p>Other relatives</p> <p>Childminder</p> <p>Nanny/Au pair (includes both live-in and day nannies)</p> <p>Friends or neighbours</p> <p>Other</p>	<p>Out of school club (e.g. before/after school, during school holidays)</p> <p>My ex-spouse or ex-partner</p> <p>The child's grandparent(s)</p> <p>The child's older brother or sister</p> <p>Another relative</p> <p>A friend or neighbour</p> <p>Other</p>
Restrictions	<p>No more than three childcare types could be specified (eight in 1999). In 1999, childcare information was not collected at the child level.</p>			<p>For families with more than two children, two children were selected at random to be asked about childcare</p>

Table A.3 Our childcare type classification

	PDFC 1999	PDFC 2001	FACS	FRS	LFS
1 Centre-based care (Entries in bold denote those considered unambiguously to be EYE)	5 Local authority crèche or nursery school 6 Private crèche or nursery school 7 Workplace crèche or nursery 8 Local Authority playgroup or pre-school 9 Private playgroup or pre-school 10 Community/voluntary playgroup or pre-school 11 Nursery class attached to a primary school 13 Family Centre	4 Crèche 5 Nursery school 6 Day nursery 7 Playgroup or pre-school 8 Nursery class attached to primary school 10 Family Centre	5 Nursery/ crèche 6 Nursery school/ playgroup	5 Nursery/playgroup 6 Crèche 7 employer nursery	Playgroup or pre school Day nursery or crèche Nursery school Infant school (nursery class) Primary school (nursery class) Out of school club Holiday scheme Family/combined centre
2 Out-of-school or holiday club	14 Out of school club (e.g. before/after school, during school holidays)	11 Out of school club (e.g. before/ after school) 12 Holiday club/scheme	11 After school or holiday play scheme	8 After school or holiday play scheme	
3 Childminder	1 Childminder	1 Childminder	7 Registered childminder 8 Unregistered childminder	4 Childminder	Childminder
4 Nanny/au pair	2 Daily nanny who came to our home 3 Live-in nanny or au pair	2 Nanny or au pair	9 Live in nanny/au pair 10 Other daily or shared nanny	8 Nanny/au pair	Nanny/Au pair
5 Close relative	15 My ex-spouse or ex-partner 16 The child's grandparent(s) 17 The child's older brother or sister	13 My ex-spouse or ex-partner 14 The child's grandparent(s) 15 The child's older brother/sister	1 Partner/ ex-partner 2 Parents/in law 3 Child(ren)'s older brother or sister	1 Close relative	Child's grand parents Non resident parent/ex-spouse/ex-partner Child's brother or sister

Continued

Table A.3 Continued

	PDFC 1999	PDFC 2001	FACS	FRS	LFS
6 Other relative or friend	18 Another relative 19 A friend or neighbour	16 Another relative 17 A friend or neighbour	4 Other relative/friend	2 Other relative 3 Friend/neighbour	Other relatives Friends or neighbours Other non-relatives
7 Other type/type unknown unknown	20 Other 21 Ineligible childcare 22 (missing)	18 Other 19 Ineligible childcare 96 Other specific answer 97 Irrelevant answer	16 Other 19 Type	9 Other	
8 No childcare used			12 I only work during school hours 13 Old enough to look after themselves 14 I take/took them to work with me 15 I work at home		
Not included in classification	4 Baby-sitter who came to our home 12 Reception class attached to a primary school	3 Baby-sitter who came to home 9 Reception class attached to primary school			Boarding School Infant School (if not nursery class) Primary School (if nursery class)

Appendix B

Variable definitions

B.1 Childcare variables

To compare childcare across the four surveys, we needed two pieces of information about childcare:

- a consistent classification of childcare types capable of being constructed in all datasets;
- weekly hours and weekly expenditure for each childcare type (or for each provider).

B.1.1 Whether childcare is used and what type

Childcare is defined in this report as care provided by someone other than the respondent and their current partner, excluding full-time education and reception classes, and babysitters (see Chapter 2). Table A.3 sets out our consistent childcare classification (introduced in Chapter 3), and describes how the consistent classification was created from the list of childcare types in each survey.

Although our childcare definition and consistent childcare classification go a considerable way towards achieving consistency across all four datasets, there are a number of reasons to believe the datasets are still not completely comparable. A number of these relate to points already made in Section 2.1 (the routing to the childcare questions, the way in which the childcare types question is phrased, and the list of possible answers). There are more reasons, though, why we still might expect childcare use to vary across surveys:

- Care provided by ex-partners is usually recorded by the questions on childcare. However, Families and Children Study (FACS) records care provided by partners and ex-partners in the same category. We did not want to include care provided by resident partners as childcare, and so we have excluded this category entirely for couples. This means that we have omitted care provided to children living in

couple families by an ex-partner. Family Resources Survey (FRS) has a single category, 'close relatives', and interviewers were told that this should include the respondent's partner, parent, children or siblings. However, it does not seem that respondents in couples have reported all instances where their partners cared for the children, and so we decided not to exclude this category.

- By mistake, not all respondents in FACS 2000 were asked about childcare. Some (but not all) cases were completed by a later follow-up, meaning the sample is smaller than it would otherwise have been. Although this is unlikely to have had a significant impact on the data, could worsen the problem of non-random non-response if failure to complete the childcare questions at a later date is non-random.
- The childcare questions in Parents' Demand for Childcare (PDFC) explicitly cater for the possibility that children or families might use more than one provider of a given type (i.e. more than one close relative, or more than one playgroup). This is not ruled out by the other surveys, but respondents have to do some on-the-spot mental arithmetic to report total hours and spending correctly. If, as a result, respondents are encouraged to think about hours and spending at just one provider of each type, total hours and spending will be too low. In PDFC 2001, 4.46 per cent of children used more than one provider of the same type, but more than half of the sessions affected were with grandparents, so the affect on expenditure is likely to be small; hours information may have been affected more, though.
- In FRS, the question about which types of childcare are used does not distinguish between term time and school holidays, asking whether anyone else 'normally' looks after the children. It is not clear what this will capture: for example, will respondents report only term time childcare or will they report term and holiday childcare, and will this depend on whether the survey takes place during term or holiday?
- PDFC does not record expenditure on childcare provided by ex-partners, and so we treat all care from ex-partners in PDFC as being free. This is unlikely to have a considerable impact on expenditure since FACS suggests that few ex-partners are paid for providing childcare.

B.1.2 Hours of childcare and weekly expenditure on childcare

The way that these were produced from the datasets is described in Appendix C. The key differences are:

- no hours information is available in FACS wave 1 (1999);
- expenditure information is only available at the family-type level in FACS wave 1 (1999);
- hours and Expenditure information is only available at the child level (not the type- or provider- level) in FRS.

- there is no hours and expenditure information in Labour Force Survey (LFS);
- family-level hours and expenditure information for families with three or more children in PDFC had to be estimated. Our approach (see Appendix C) provides unbiased estimates of hours used and expenditure per family and gives bounds for hours and expenditure when considering only those families using childcare.

B.2 Other variables

This section briefly describes the definition of the main other variables used in our study.

Table B.1 Other variables

Description of variable	Approach used to construct
Employment status	Whether respondent self-employed or employed, regardless of the number of hours worked
Dependent children Indicator for being a couple family	Children aged 0-15, or aged 16-18 and in full-time education. Whether respondent lives with partner (respondents whose partners who were temporarily out of the home were counted as lone parents)
Weights	We used probability or sample weights. These were equal to 1 for all waves of the FRS and LFS, and for FACS wave 1. Weights for the other surveys are discussed in the main document, and in Table A1

Appendix C

Dataset-specific information

This appendix provides details of how each of the datasets we used was constructed, including how we dealt with extreme values of expenditure. The general principle we adopted in dealing with outliers was to flag observations for which weekly expenditure for a given child at a given provider exceeds £1,000, or the calculated childcare price exceeds £20 per hour. Flagged observations were then excluded from all hours, expenditure and price calculations. For the analysis of childcare use, however, the observations were not excluded.

C.1 Parents' Demand for Childcare, 2001

C.1.1 Use of childcare by the selected children

In Parents' Demand for Childcare (PDFC), information about childcare use came in the form of a week-long timetable for each child, giving start and finish times for each childcare session attended. Some of the sessions were exact duplicates of others. We deleted seven sessions that were exact duplicates of other sessions (same provider, same child, same day and times). None of the remaining sessions overlapped with one another in any way. There was evidence that some session data had been lost in a small number of cases (for example, a family with two children where only one of them had sessions with a given provider, but payment to the provider was recorded as covering both children). There was nothing we could do about this. We counted children as using childcare if they had an entry in this 'session' dataset (there is one exception to this: one child is recorded as using a provider, but there was no session data: we counted the child as using childcare, but with missing cost, hours and childcare type information).

C.1.2 Type of childcare and hours of childcare used by the selected children

Information about the type of childcare supplied by each provider was stored separately from the session data. This provider data needed, therefore, to be merged with the session data. This could be done successfully for all but five sessions: in these cases, the provider recorded in the session data did not appear in the dataset containing provider information, so it was not possible to tell what type of childcare was being used. Four of these were due to the respondent specifying a provider who hadn't previously been identified as being used during the last year (respondents were asked first about childcare used in the last year, then about childcare during the reference week). With the childcare type information merged in, the session data could easily be used to determine which childcare types were used, and calculate the length of time spent at each type of childcare provider during the reference week.⁵⁴

C.2 Expenditure on childcare used by the selected children

Calculating weekly expenditure at each provider by each child is difficult because expenditure information was collected at the provider level, potentially covering all of the children in the family that used that provider.⁵⁵ To calculate child-level spending, this family total needed to be split between children using that provider. Our strategy was to attribute spending according to the number of hours spent at the provider by each child, but the implementation of this depended on the number of children in the family (clearly this was not an issue for one-child families!):

- For two-child families, we could split the spending according to the number of hours each child spent at the provider, because we knew the number of hours spent by each child at that provider during the reference week.
- For families with three or more children, we knew how many children were covered by the cost, but only knew hours information for up to two children. We assumed that children who weren't interviewed used the provider for a length of time equal to the average of the number of hours of children for whom we did have information (this gives an unbiased estimate, given that the children were selected to be interviewed at random). We then split the family expenditure between the children according to the actual or estimated number of hours each child spent at the provider.

⁵⁴ As well as asking respondents to say what type of childcare each provider supplied, PDFC contacted providers directly to check what sort of provider they were. This resulted in two slightly different childcare type classifications. We opted to use the original respondent classification, because this is what the other surveys tell us. The choice of classification has little impact on our consistent definition since most discrepancies were between different types of centre-based care (so would be classified the same way by our consistent definition).

⁵⁵ To be consistent with other surveys, we ignored childcare costs that were paid by individuals outside the household.

Matters were complicated by inconsistencies in the data, with some payments to providers recorded as covering only some of the children who were recorded as using that provider, or payments covering children who didn't use that provider. Below, we explain in some detail how the inconsistencies were resolved. Where possible, our underlying principle was to treat the information as correct, and work on that basis:

- In five cases, only one of the surveyed children used the provider, the expenditure was recorded as covering one child, but the child it covered is not the surveyed child who used it. We pretended that the expenditure applied to the surveyed child.
- In one case, both surveyed children used a provider, but expenditure was recorded as covering only one child who was neither of the surveyed children. We doubled the recorded expenditure and split it between the surveyed children according to their hours: this is assuming that the recorded expenditure was the average of the two children, and attributed to the wrong child. If, in fact, the expenditure did cover both surveyed children, then our calculations will give too high an expenditure.
- In one case, both surveyed children used a provider, but the expenditure could not be attributed to anyone. We assumed that the expenditure covered the two surveyed children (this was due to period=99).
- On 69 occasions, both surveyed children used a given provider, but expenditure was recorded as covering only one of them. We attributed expenditure to the other child according to their hours of childcare use. If, in fact, the expenditure did cover both surveyed children, then our calculations will give too high an expenditure.
- On three occasions, both surveyed children used the provider, two children were covered by the expenditure, but that included only one of the two surveyed children. We attributed half the expenditure to the surveyed child recorded as a user, and then attributed expenditure to the other surveyed child according to their hours.
- On 15 occasions, only one surveyed child was recorded as using a provider, but the expenditure covered more children. This suggests childcare sessions were missing. All we could do for these was split the expenditure equally amongst the children that it covered.

Having allocated spending between children, we needed to make this a weekly amount, using the variable 'period' (the period of time covered by the expenditure, with answers including: hour, half day (session), day, week, month, term, year, and one-off cost). Some circumstances needed explanation:

- one-off costs were counted as weekly;
- we assumed that a half day session was four hours, and a day session, eight hours;

- spending covering a term was multiplied by $4/52$, assuming a term is thirteen weeks long.

This approach taken for periods longer than a week assumes that the childcare use recorded for the reference week is representative of the period as a whole.

When analysing the hours and expenditure data, we had to deal with outlying observations. Since PDFC caters explicitly for multiple providers of the same type, we flagged observations after having aggregated over providers of a given childcare type. No observations were flagged on the £1,000 rule, but 17 were flagged due to hourly price exceeding £20 (about 0.2 per cent of childcare types)

C.2.1 Childcare use by the non-selected children, and at the family level: bias and bounds

This procedure creates a dataset giving the types of childcare used, and hours and expenditure for each type of childcare for each surveyed child. For families with one or two children, it is then straightforward to estimate total hours and expenditure for each child, for each family, and for each childcare type for each family.

Problems arise, though, with families with three or more children, because only two children were interviewed. Our basic approach is to assume that the children who were not interviewed had the same use of childcare as the average of their two interviewed siblings. On average, across the whole sample, this is a sensible approach because children were selected to be interviewed at random.

This approach, though, does not lead to unbiased estimates of all characteristics. For example, this process would create an indicator for childcare use at the family level that is biased downwards for families with three or more children. This is because such a process would say that a family with three or more children used childcare if, and only if, either or both of the two surveyed children used childcare. However, some families with three or more children where the two surveyed children did not use childcare would, in reality, use childcare. The process outlined above would assume that the non-surveyed children in these families also don't use childcare, and so the family does not use childcare. In fact, the estimate produced by this process is a lower bound, and we can produce an upper bound by assuming that all families with three or more children use childcare.

There is, of course, no effect that works in the opposite direction: if any of the surveyed children used childcare, then it was irrelevant what non-surveyed children did – these families will always be correctly counted as using childcare.

Our calculation of weekly expenditure for families with three or more children, again, assumes that the non-surveyed children face the same costs as the surveyed children. However, we only know about the costs paid to the childcare providers used by the surveyed children; providers only used by non-surveyed children did not appear. This meant that our estimate of family expenditure on childcare was biased down for families with three or more children. Part two of the PDFC survey contains

a single question on total family-level spending on childcare; we have not made use of this.

This critique does not apply to hours: we assume that the non-surveyed children used childcare for the same number of hours as the average of the surveyed children, and this produced an estimate of hours used by the family that will be right, on average.

C.2.2 Other variables

The main carer was taken to be the respondent, with gender given by the 'sex' variable. We counted a respondent as being in a couple if a partner appeared in the household grid, and the partner's gender was constructed from the household grid. Employment status was constructed from either `activ101` or the derived variable `pactiv1` (depending on who the main carer was). This meant that we treated parents working fewer than eight hours as not working.

There was no variable in the PDFC data for the number of dependent children. We estimated this by summing the number children in the household aged 14 or under for whom the respondent had main or shared responsibility for making childcare decisions, with the number of children aged 15 in the household grid, and the number of children aged 16-18 in the household grid and recorded as being a student.

PDFC was designed to be a term-time survey of childcare use. If the previous week was a school holiday, the week before that was used as the reference week, but we are unclear how this deals with the Easter holiday (some interviews took place in April 2001).

C.3 Families and Children Study (FACS)

C.3.1 Childcare use

Families and Children Study (FACS) wave 1 asked what types of childcare were used by the family, and how much was spent on each type. No information was collected at the child level, and hours information was not collected. Subsequent waves collected information at the child level, and collected hours and expenditure information for each type of childcare used by each child.

Constructing our dataset from this sort of information is relatively straightforward. Some small points should be made, though:

- FACS asked questions about childcare use to some non-working respondents, but the questions were then about the childcare used when the respondent was last working. We have not used this information.

- Missing values of childcare expenditure have been replaced with (median-value) imputations in the dataset supplied by the Department for Work and Pensions (DWP). We reversed these imputations for waves 2-4, but it was not possible to do this for wave 1.
- Parents were allowed to give expenditures that covered more than one child. We split these expenditures across the relevant children, according to the hours of childcare used.
- Because FACS collected childcare information only from families where the main carer works, we will not know about childcare used in families where the mother works and the father does not work and identifies himself as the main carer. These families will have been dropped from our analysis.

Dealing with outliers was slightly more complicated in FACS. FACS wave 1 did not contain any hours information, so we could not calculate prices. This meant that only the £1,000 rule is relevant. Since childcare information was collected for the family as a whole rather than separately for each child, it isn't clear how many children are covered by each recorded cost. This makes it difficult to implement the £1,000 rule. In fact, it turns out that no values of family expenditure on a given childcare type exceed £1,000, so we did not have to worry about how many children were covered, and no observations were flagged. In waves 2-4, the £1,000 rule and the £20 rule could both easily be applied. Twelve observations were flagged in wave 2, 24 in wave 3 and 13 in wave 4.

C.3.2 Other variables

Most of the other variables used in this study came from the household grid, and their derivation needs no explanation. We took the respondent to be the main carer.

C.4 FRS

C.4.1 Childcare use

Childcare information is collected at the child level. We used CARE as an indicator of whether childcare was used, CHLOOK to determine which types were used, and CHHR and CHAMT to measure hours used and expenditure.

Answers to the childcare questions are provided if the respondent says that one of the parents is working, or (since 2000), if the parents pay for childcare. The analysis in this report, though, is conditioned on the main carer working, so we have not made use of the care used by non-working mothers.

The list of options available on the showcard has changed considerably over time. For example, employer provided nursery and nanny/au pair both appear for the first time in 2000/01, and after school or holiday play scheme does not appear before 2002/03. It is impossible to assess the impact this had on the information recorded, although we might expect more formal childcare to have been captured.

Here's how we dealt with outliers in FRS. Hours and cost information in FRS is only collected at the child level (it is not broken down by types). This means we have had to apply the restrictions on total child expenditure rather than by child and childcare type. We decided to keep the rules the same (£20 per hour, £1,000 per week). This is likely to reduce slightly the number of observations flagged on the £20 rule and increase slightly the number excluded on the £1,000 rule. Across all eight years of data, 47 observations are flagged in total. Twelve of these are in 2001, all of which fail the £20 test.

C.4.2 Other variables

We used the derived variable EMPSTAT to determine whether the adults are working. The variable that records whether one of the parents is working (WRK) is not always consistent with the derived variable indicating each adults' employment status (EMPSTAT).

C.5 LFS

C.5.1 Childcare use

In the autumn LFS surveys, childcare information is collected at the child level and is about the previous week. To minimise the instances where this week would be in the school holidays, we dropped people interviewed in weeks 1,2, 9 and 10 (weeks 1 and 2 are late August/early September, and weeks 9 and 10 correspond to the half-term break in late October). It is not possible to tell for certain which weeks do correspond to summer holidays or half-term: we investigated the variable CTRM, which only exists for some children.

Since LFS has no expenditure information, there were no outliers to exclude.

C.5.2 Other variables

We used the variable INECACA to determine whether the adults are working.

Appendix D

Other tables and graphs

D.1 Sample size by age of child

Table D.1 Number of children in families with working mother, by age of child

Age of child	PDFC		FACS		FRS		LFS	
	LP	Co	LP	Co	LP	Co	LP	Co
0	15	135	11	216	24	266	32	355
1	31	223	48	285	26	292	51	428
2	45	262	53	331	40	288	63	439
3	52	260	52	311	61	294	69	420
4	60	258	60	306	58	330	105	469
5	57	288	52	323	78	332	93	523
6	63	330	97	341	74	360	121	530
7	89	317	88	338	77	358	107	542
8	81	321	77	349	75	380	104	527
9	73	340	95	397	93	356	139	608
10	84	344	96	360	127	383	119	563
11	72	320	103	427	104	387	158	567
12	96	342	98	393	109	362	133	560
13	72	300	108	359	117	381	141	604
14	72	258	92	367	116	387	167	566
Total	962	4,298	1,130	5,103	1,179	5,156	1,602	7,701

The table above gives the number of children in each dataset whose mother works, broken down by age of child and family type. The number of working mothers increases with age of child because a higher proportion of mothers with older children work. The fact that there are very few zero year old children whose mother

works is not surprising, but this cannot be attributed entirely to work patterns since there are fewer zero-year-olds in total (i.e. ignoring whether the mother works). This pattern may be a product of the way in which sampling was undertaken. The sample for some of the surveys was drawn from child benefit records. Typically, these are a few months out of date when used, so families who have just had their first child won't be included. This is likely to result in there being fewer zero-year-olds in the dataset.

D.2 More on early years' education

If we investigate the disaggregated childcare categories in the raw data that make up centre-based care, it becomes clear why early years' education (EYE) is unable to explain all the differences between datasets. For FACS and FRS, Figures 3.6 and 3.7 showed that around 40 per cent of three year olds in lone parent families, and between about 30 and 40 per cent of three year olds in couple families used centre-based care. In LFS, the proportion of three year olds using either playgroup/pre-school or day nursery/crèche (neither of which counts as EYE) is 56 per cent for children in lone parent families and 64 per cent for children in couple families. Clearly then, removing EYE cannot possibly reduce the proportion of three year olds using centre-based care to below the level in FACS and FRS. The pattern is similar, though less pronounced, in PDFC: 39 per cent of three year olds in lone parent families and 47 per cent of three year olds in couple families use either day nursery or playgroup/pre-school.

The obvious explanations for these patterns are the preamble to and wording of the childcare questions, and the comprehensiveness of the options given on the showcard.

D.3 Use of other relatives

Section 3.2.2 showed that differences in informal childcare use across datasets are driven by the proportion of children recorded as using close relatives. That said, part of the reason why informal care is much lower in FRS is that considerably fewer children are recorded as using other relatives/friends (see Table 3.4). Figures D.1 and D.2 below plot the proportion of children using other relatives/friends in each of the four datasets. These show that FRS records less of this type of care right across the age range. If other relatives/friends are often used for social occasions then the routing question in FRS (see Section 2.1.3) may encourage respondents to exclude this sort of care. Were this the case, though, we would probably expect FACS to record less of this care type, since the childcare question asks specifically about when the respondent is working. This is not what we find.

Figure D.1 Children in working lone parent families: proportion of children using other relatives or friends during term time, by age of child

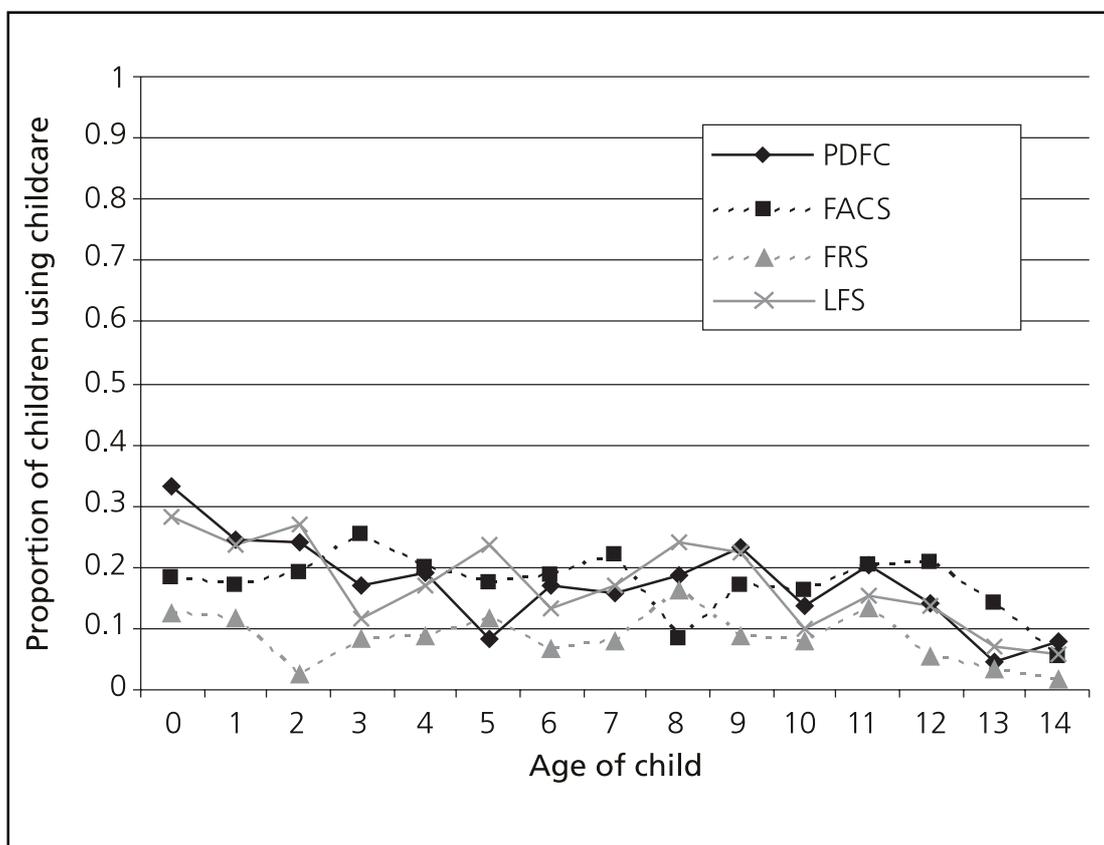
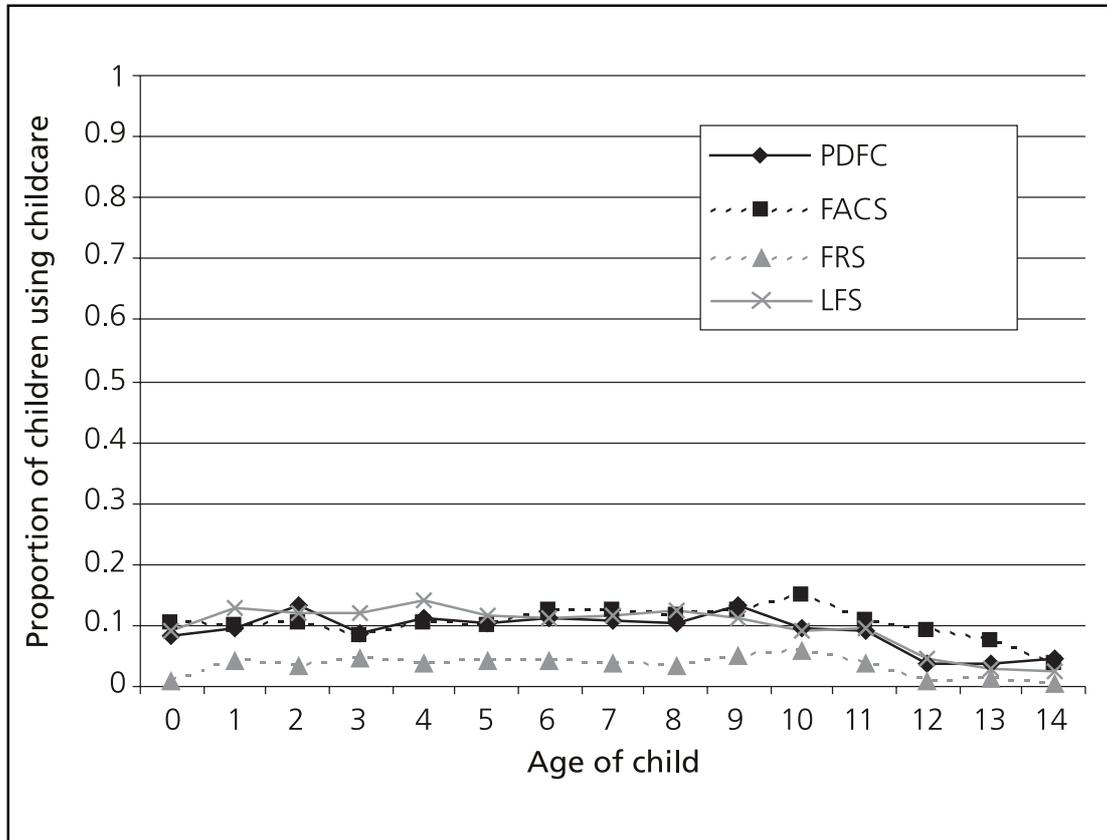


Figure D.2 Children in couple families with working mother: proportion of children using other relatives or friends during term time, by age of child



D.4 Proportion of childcare users who pay for childcare

The next four graphs show the proportion of children using paid childcare, split by age of child. The pattern is similar for children in lone parent families and for children in couple families: the proportion peaks at age three, falls fairly rapidly to age five, and declines steadily thereafter. The fact that this is true when we consider just those children using childcare (Figures D.4 and D.6) suggests that the fall in average expenditure observed as age increases (see Figure 3.18-3.21) is at least partly due to a smaller proportion of children using paid childcare.

Figure D.3 Children in working lone parent families: proportion who use paid-for childcare during term time, by age of child

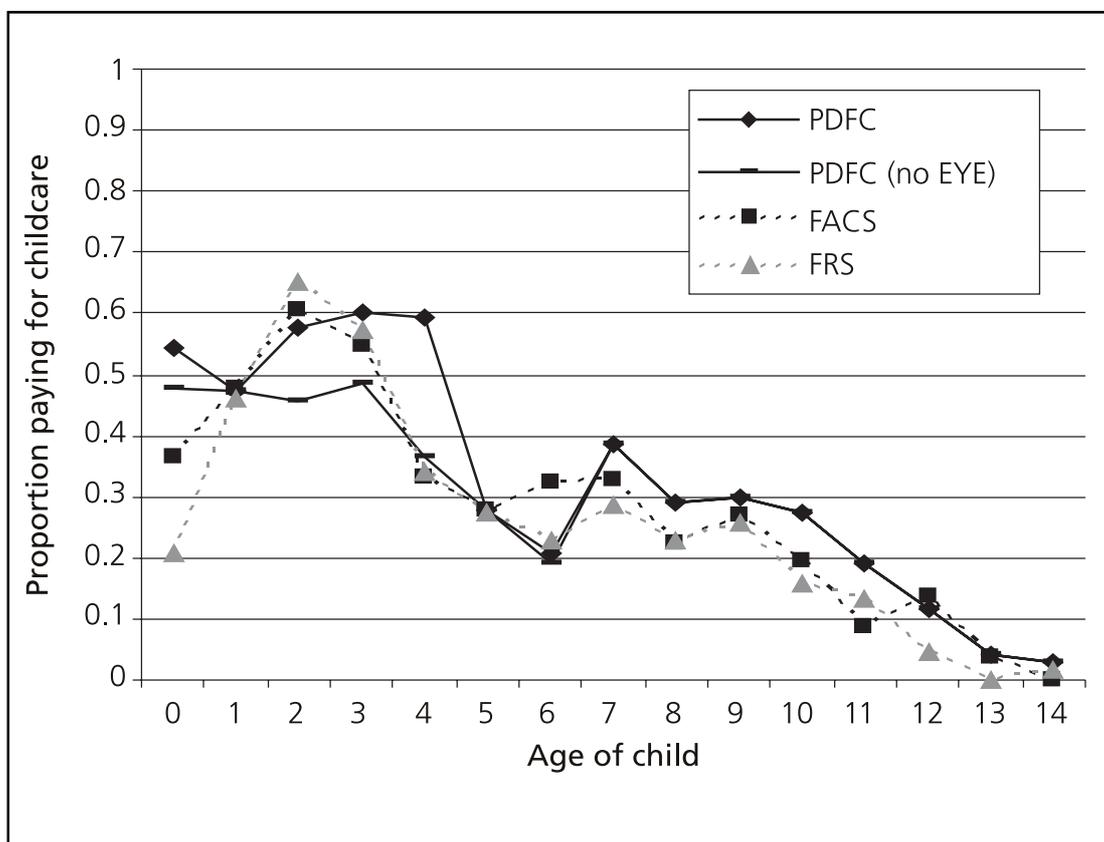


Figure D.4 Children in working lone parent families: proportion of children using childcare during term time whose childcare is paid for, by age of child

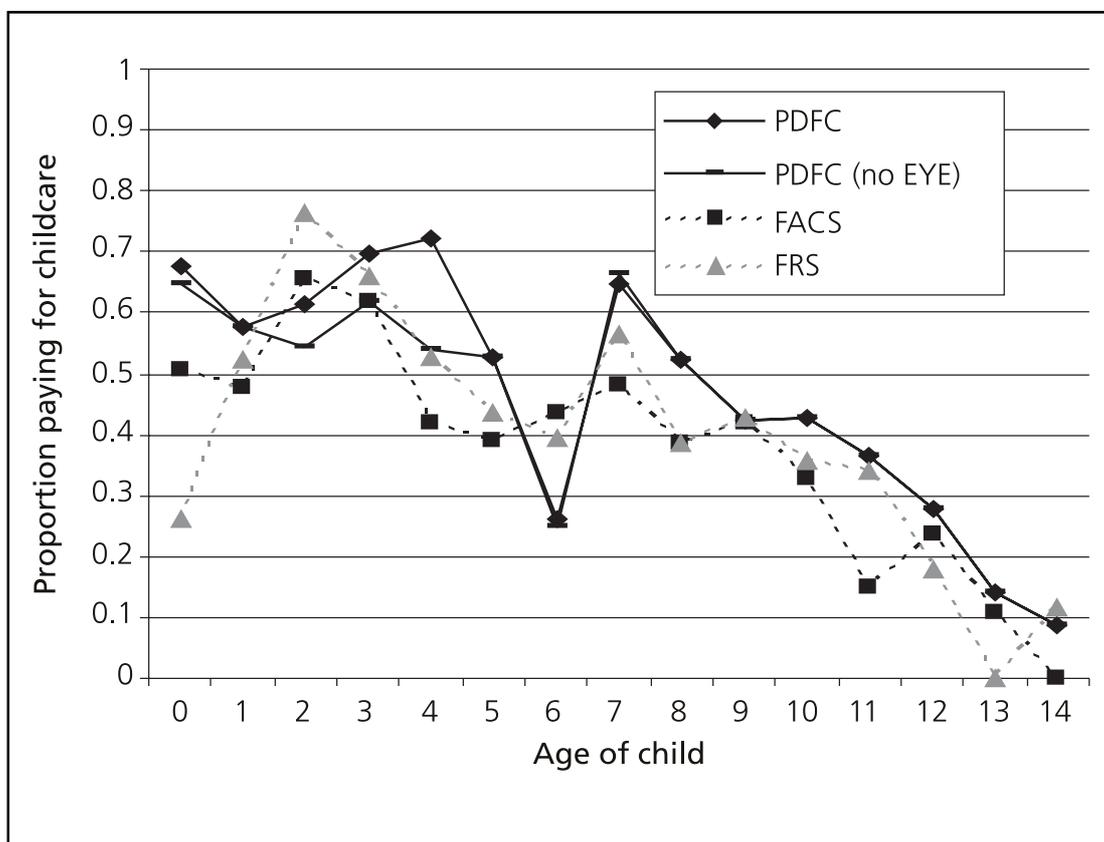


Figure D.5 Children in couple families with working mother: proportion who use paid-for childcare during term time, by age of child

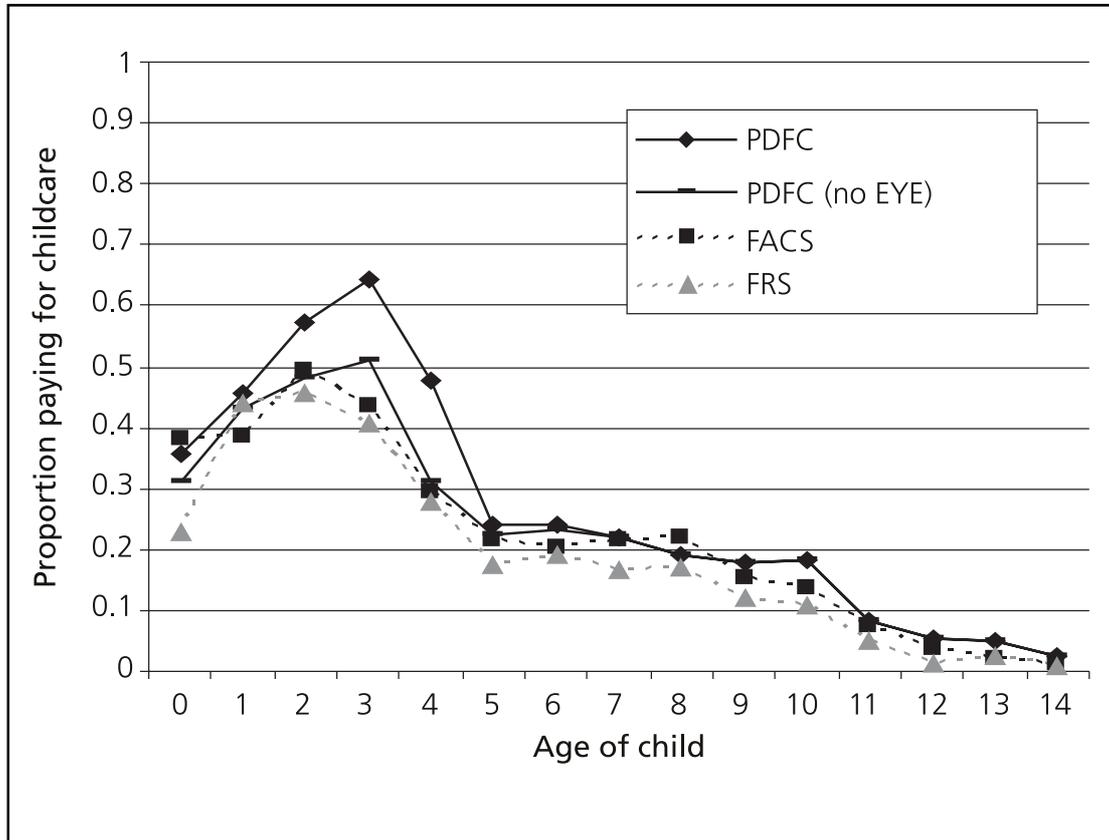
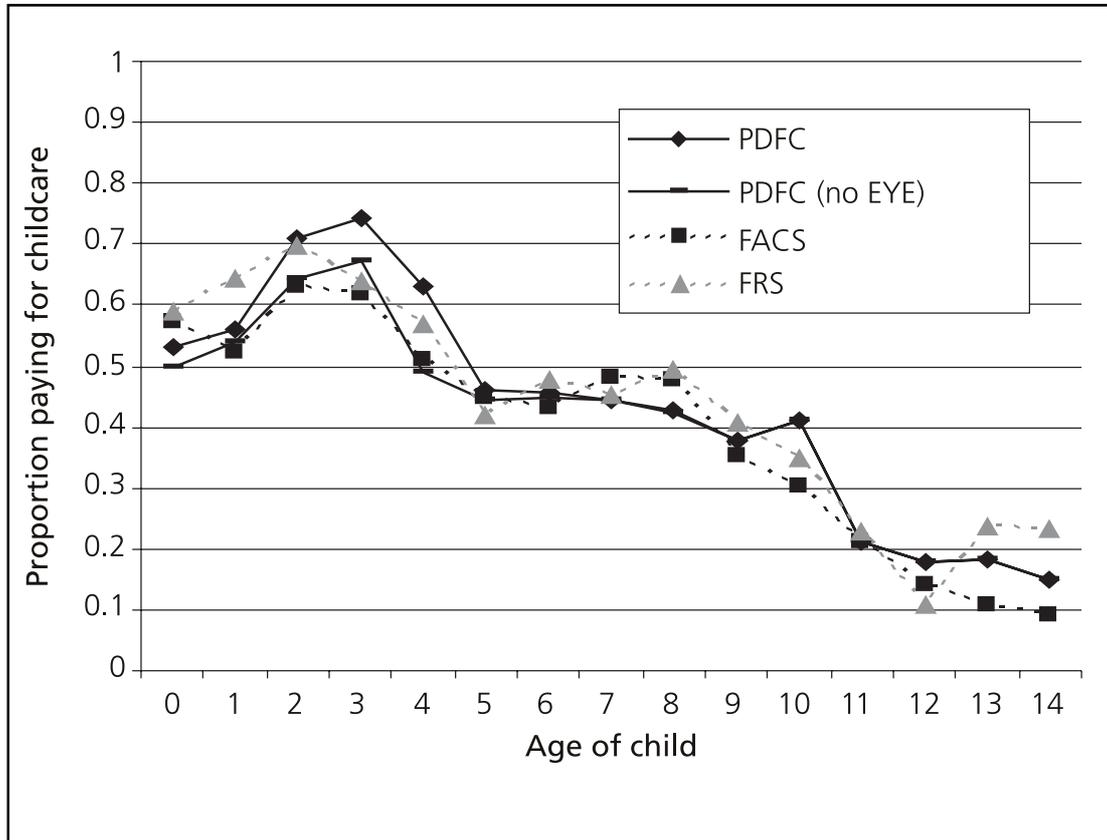


Figure D.6 Children in couple families with working mother: proportion of children using childcare during term time whose childcare is paid for, by age of child



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