Employment after Childbearing: A Survival Analysis

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Abstract.

Longitudinal data from two cohorts of women born in 1946 and 1958 are used to describe the break in employment experienced by women after childbearing. This is reducing in length. The decline in the employment gap, observed for women born in 1958 has largely been confined to those women who delayed their childbearing until their late twenties and early thirties and women who were more highly educated. What seems to be occurring is a polarisation between mothers in the more and less privileged social groups, in terms of their ability to enter and stay in paid employment once they have responsibility for children. Although mothers at both ends of the social scale have to balance the dual demands of paid and domestic work, older and better educated mothers are more likely to be in higher status occupations, to earn adequate income to pay for childcare and to be better placed to take advantage of any changes in employer provisions for working mothers.

INTRODUCTION

Since the Second World War there has been a dramatic increase in the numbers of women in the labour force in Britain. Women are also increasingly combining the roles of mother and paid worker, the biggest recent increase being in women with pre-school aged children. The aims of this paper are summarised by the title. The intention is to describe British women's experience of employment longitudinally in relation to their childbearing up to the 1990s. Concentrating on the length of the break in employment after the birth of their first child, how this has changed over time and some of its socio-economic co-variates. The reference to "survival analysis" in the title, can be interpreted both literally and metaphorically. Literally, it refers to the main methodology used to describe the data in terms of duration of spells away from the labour force. Metaphorically, this paper attempts to describe how women manage to "survive" juggling the dual demands of a paid job and motherhood. Also considered is to what extent old patterns of compromise between these dual demands are surviving, despite changes in equal opportunities legislation, maternity leave provisions and the introduction by some employers of "family-friendly" policies for their workers.

This paper focuses on two cohorts; born in 1946 and 1958. Information on women's employment and fertility histories is taken from the most recent sweep of the National Child Development Survey (NCDS), collected in 1991 when the cohort members were aged 33[1]. This is compared with data from the earlier 1946 cohort of the MRC National Survey of Health and Development (NSHD). Some additional data is also taken from the 1988 Policy Studies Institute's Maternity Rights Survey.

A comparison of two cohorts gives a valuable lifetime perspective on the changes which are occurring in women's lives. Such a perspective is vital if we are to understand when and why changes have occurred and the factors which are responsible for them. Cohort comparison allows us to begin to unravel some of the factors which explain changes in individuals' behaviour which are often difficult to disentangle. Individuals change over time because of ageing. There can also be influences on a birth cohort, which arise because different groups experience the same life event at different periods in time (cohort effects). Lastly, period effects can also influence individuals; these are the external circumstances operating at the time their behaviour is observed. The problems of disentangling these effects are described in Glenn (1977). In addition, some groups of women may be changing in their experiences more than others. This paper draws some conclusions about these effects and changes as it investigates the changes in the length of the employment break after childbirth for different cohorts of women and for different sub-groups within them.

BACKGROUND

The economic activity rate of British women has roughly doubled in the post-war period; the expansion being largely due to the increase in the number of part-time jobs which have been filled by married women (Joshi, Layard and Owen, 1985; Joshi, 1989). By 1992, 73 per cent of married women aged 16-59 were in paid employment outside of the home, the same percentage as for the non-married women (OPCS, 1993). The percentage of economically active women with children under 5 years rose from 27 per cent in 1973 to around 50 per cent in 1992. The percentage of employed women who work part-time in the 1990s is approximately 44 percent. Women have typically shown discontinuity in their labour force

attachment, because they spend time out of paid work to have children.

Women seldom reject motherhood for a career, neither do they tend to abandon employment for motherhood. Before the Second World War women in Britain would leave employment upon getting married. During the 1950s it became more common for women to stay in paid work until their first birth, typically returning to a part-time job some years later. More recently however, there has been an increase in full-time work amongst British mothers, as more of them have benefitted from Maternity Leave provisions (Employment Gazette, 1993).

Over time, the gap between leaving employment to become a mother and any subsequent return has grown shorter, and employment between births has become more common (Dex, 1984; Martin and Roberts, 1984; Joshi and Hinde, 1993; McRae, 1991). The reduction of this gap in employment is cited as the most important factor in explaining rising female participation rates. Joshi and Hinde (1993) report that the break from employment on becoming a mother has at least halved between 1950 and 1970. By 1988, the employment of mothers of children aged under three had risen to 33 per cent from 18 per cent in 1980, (Joshi and Hinde, 1993). Amongst British mothers in the 1980s, a pattern of continuous employment is becoming more common.

There have been a number of attempts to try and explain this post-war increase in participation (Joshi, 1985; Joshi, Layard and Owen, 1985; Joshi and Hinde, 1993). There have been shifts on both the demand and the supply side of the labour market. Clearly, female participation has risen because of the demand- side increase in part-time work. In the

1980s, employers were also introducing strategies such as job retention schemes in an attempt to encourage women back to employment. This was an attempt to prepare for the expected demographic decline in school leavers in the 1990s. McRae's (1993) analysis of employer practices suggested that they make a big difference to women's job opportunities following childbirth. A women's inability to find a suitable job or convenient working hours were, she argued, much more important in keeping women out of the labour force than a wish to stay at home.

McRae also suggested that there has been a polarisation between women's experiences in the labour market; those at the upper and lower ends of the occupational scale have very different opportunities. Clearly opportunity to take maternity leave and the nature of the benefits and amounts of leave are often much greater for women in higher occupational groups. By 1991, only 50 per cent of economically active women were entitled to maternity leave and these women would be likely to be at the top end of the occupational hierarchy.

Cross-sectional studies have shown that the presence of children, and in particular, the age of the youngest child, is the most crucial determinant of whether a women is in paid employment (Martin and Roberts, 1984; Joshi, 1984). Social norms and the sexual division of labour dictate that women typically assume the major responsibility for childcare and other domestic work, even if they also have a job. Undoubtedly attitudes towards the acceptability of women with children engaging in paid work have changed. In 1980, 91 per cent of currently childless women indicated that they expected to either continue working or only give up work for a time, following a birth (Martin and Roberts, 1984). The fact that household income now has a smaller negative effect in explanatory models of women's labour

force participation is also taken as evidence of an attitude change, (Joshi and Hinde, 1993). Increasingly women are entering paid employment out of choice rather than out of necessity. However, there is still much debate over the circumstances in which mothers should or should not undertake paid work[2]. There is also popular concern about the strain on women's health of having to manage the multiple roles of mother, spouse, employee and domestic manager[3].

The nature and extent to which a women's employment is compromised on her becoming a mother has important implications when trying to explain the labour market disadvantage experienced by women relative to men (Joshi, 1991). In addition, the fact that a woman's occupational status tends to be unstable over her lifecycle has consequences for the use of a woman's occupation as a predictor in social and medical research (eg. Goldthorpe, 1983; Martin and Roberts, 1984; Moser and Goldblatt, 1990; Harrop and Joshi, 1994). The rest of this paper examines the most recent changes in mothers' experiences and durations of paid work around motherhood. We are examining which mothers' employment careers survive the birth of children and which do not, within and across cohorts. How much has changed between the time periods in which two cohorts of women were entering motherhood (roughly the 1970's and the 1980's)? Is there evidence of polarisation taking place between groups of women? Can these changes be characterised as either generation or period effects and have all members of the successive generations been equally affected?

DATA

The main source of data in this analysis is the National Child Development Study. This is a cohort of men and women who were born in one week in March 1958, also supplemented

by the inclusion of school aged immigrants to Britain born on the relevant dates. More than 17,000 individuals have been in contact with NCDS at some stage. Data collection sweeps have taken place at birth and when the cohort members were aged 7, 11, 16 and 23. The most recent wave occurred in 1991 when the cohort were aged 33, where 5799 women were interviewed. The overall response rate was over 80% of those traced. Further details can be found in Ferri (1993).

In 1991 cohort members were asked to provide retrospective employment and fertility histories, covering the period from 1974, when they were aged 16, and 1991. This information forms the core for this analysis. Eleven percent (628) of the 5799 female cohort members did not provide either any employment or birth history information and so are excluded from this analysis, as are the 25% (1277) who had not had at least one live birth at the 1991 interview leaving a sample size of 3894.

Further information is taken from the MRC National Survey of Health and Development (the 1946 cohort). This is a cohort of all legitimate single births born in a week in March 1946 (see Wadsworth, 1991 for full details), making them 12 years older than the NCDS cohort members. Only a sub-sample of the original cohort were followed up for reasons of cost. Because of the under-sampling, the total size of the follow up cohort is smaller, 5362 of whom 2543 were female. Like the NCDS, NSHD cohort members have been periodically followed up across childhood and adulthood. Information used in this analysis is largely taken from a postal contact with the survey members towards the end of 1977 and the beginning of 1978, when they were approaching age 32 and an interview at age 26. The response rate for women at age 32 was 77%. The sample for this analysis is reduced to just

Figure 1: Entry into motherhood for two cohorts

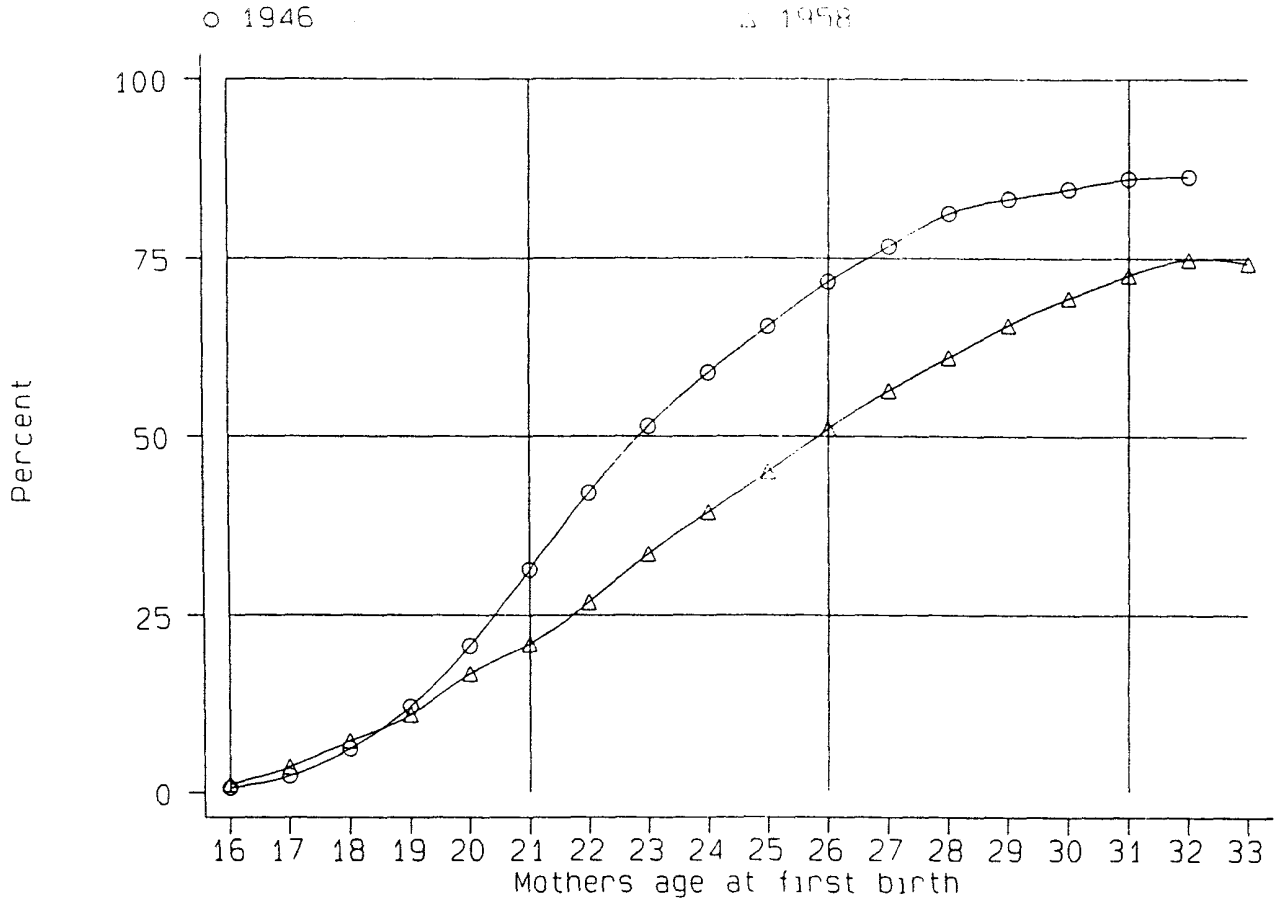
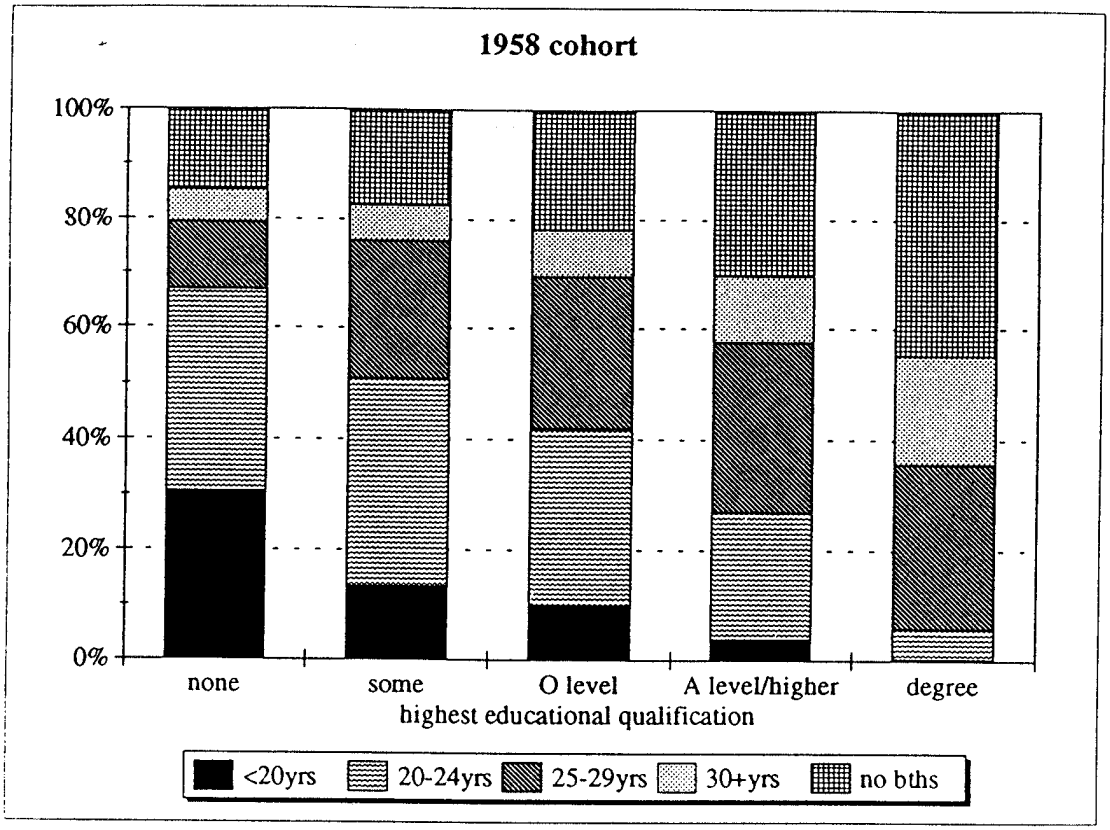
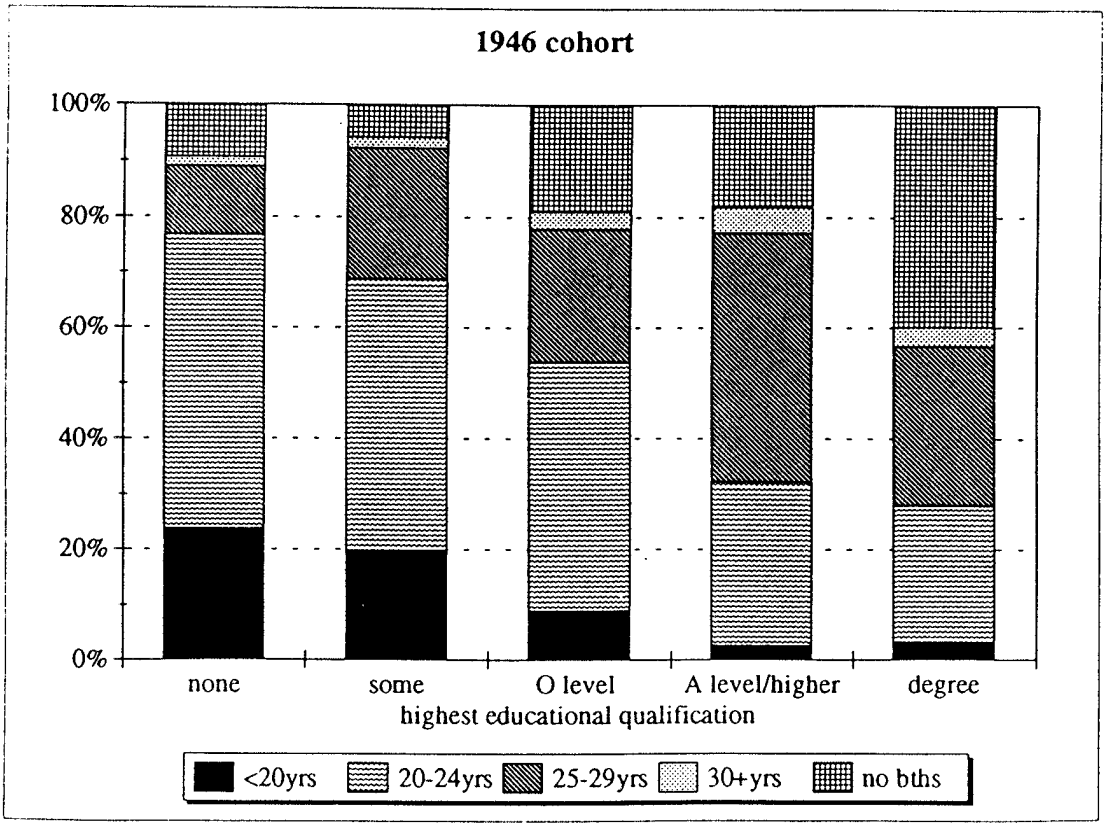


Figure 2: Entry to motherhood by educational qualifications for two cohorts





1543 mothers who had complete information. The analyses reported here have been re-weighted to allow for the class stratification in the 1946 follow up sample.

figure 1 about here

The 1958 cohort started becoming mothers towards the middle of the 1970's (figure 1). By the 1991 interview, 75% of the female cohort members had at least one live birth, half of all women had a birth by age 26; 18% of women had one birth, 38% two births and 19% three or more births. Many have still not completed their families. Among women born in 1946, 87% had a birth by the end of 1977; 11% of women had one birth, 44% two births and 28% three or more births. It is not clear whether the 1958 cohort will eventually have fewer children than the earlier cohort; what is clear is that they have started childbearing later. Some of the labour market experiences of these two cohorts can now be examined.

ENTRY TO EMPLOYMENT AFTER MOTHERHOOD

Of mothers born in 1958, 80% reported at least one subsequent spell of employment after their first birth, compared to just 57% of mothers in the earlier cohort. Essentially, the greater the elapsed time since their first birth, the greater the number of mothers who have entered a job. However, this process will also be moderated by the occurrence of any subsequent births, which may delay a woman's entry to a paid job.

figure 2 about here

Entry into motherhood comes sooner for women with lower levels of educational

attainment on average (figure 2). The association of late motherhood and education is stronger in the 1958 cohort, who were also better educated

LENGTH OF EMPLOYMENT GAP: COMPARING THE 1958 AND 1946 COHORTS.

The main independent variable, in this analysis, is the length of the gap in employment after the birth of a woman's first child. This section compares evidence for women born in 1958 (NCDS) and 1946 (NSHD), to examine how the length of the employment gap after the birth of a first child has changed over time. The length of time between childbirth and the first entry to employment after that birth has been shown to be a useful indicator of a woman's attachment to the labour force. A woman's employment gap was calculated by counting the number of months between her first birth and her first return to employment after that birth. If a first birth occurred within a spell of employment, then the employment gap would be of zero duration (see appendix 2).

In NCDS women were told to include any maternity leave as a spell of employment. Therefore, if a woman took maternity leave she should have an employment gap of zero. Of course it is unclear whether all of the women followed these instructions systematically, as the work histories were self-completed. When making comparisons between the 1958 and 1946 cohorts, it must be borne in mind that for the 1946 cohort there were no conventions for coding maternity leave. Maternity leave might have been included therefore, either as a continuous spell of employment or as an interruption. However, maternity leave would have been less widely available for this older cohort of mothers. Statutory maternity leave was only introduced when this cohort was aged 30. Evidence from the Women and Employment Survey shows that very few women who had births before 1970 took maternity leave (Dex,

1984). Thus, the difference in coding between the two cohorts is not expected to affect the validity of the conclusions by any significant degree.

This paper uses survival or lifetable analysis as the main method for summarising the length of a woman's employment gap. The advantage of this approach is that it provides a way of handling censored cases, which would otherwise be lost from a simple cross-tabulation. A "censored case" is one in which a woman has had a first birth, but by the time of interview she has not made an entry into employment. For censored cases, the life table makes a projection about their future entry into employment on the assumption that the distribution of transition rates observed for women with closed employment gaps (ie. those who have made an entry) will also hold for censored cases[4]. Survival analysis has the benefit of being a relatively simple but very powerful way of carrying out cross cohort comparisons. As well as handling censored cases, it allows us to display clearly the changes in a process occurring over time[5].

Figure 3 shows the survival curves for the entry to employment for mothers born in 1946 and in 1958. The curve for the 1958 cohort is lower indicating a quicker resumption of employment for this later cohort. The median employment gap for the 1958 born women is much shorter than that for mothers born in 1946, being just under 2 $^1/_2$ years (or 29 months) versus over 5 $^1/_2$ years (or 70 months). By one year after their first birth, 39% of mothers born in 1958 had entered employment, five years later 65% and ten years later 84% had made at least one entry to a paid job. Comparable figures for mothers born in 1946 are 20%, 45% and 71% respectively. The earlier cohort entered motherhood sooner and employment later.

Figure 3: Entry to employment aftre first birth
Comparing the 1946 cohort with the 1958 cohort: survival curves

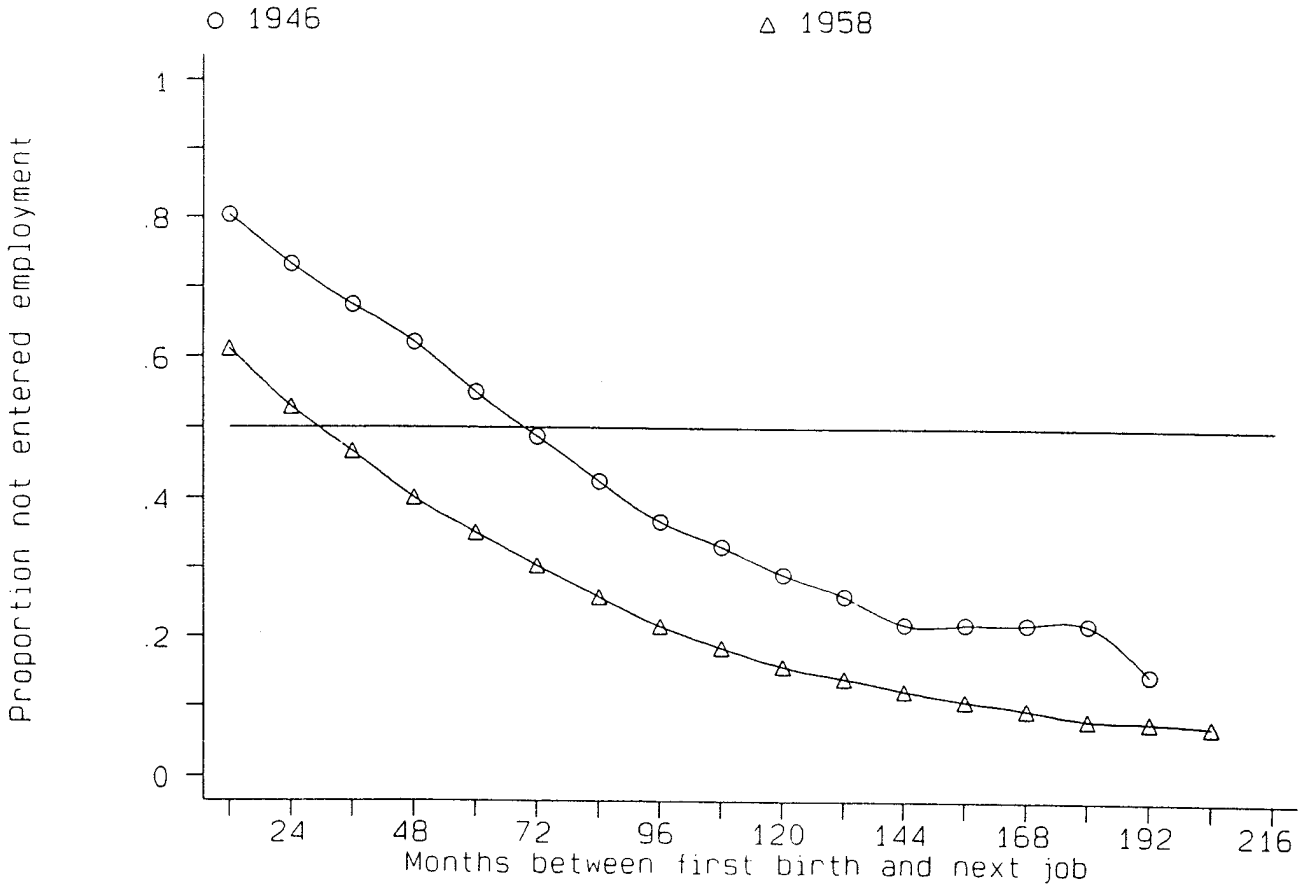


figure 3 about here

AGE AT MOTHERHOOD

In any analysis of this sort, age at motherhood is likely to be an important co-variate. Women who became mothers at younger ages will have had a greater length of follow up in order for an entry to employment to be observed, but they will also tend to have quite different socio-economic characteristics to women who became mothers later in life.

This variation in age at motherhood has implications for the interpretation of the lifetable results. Most of the women with closed employment gaps were young mothers and most of the women with censored gaps are older mothers. Women who enter motherhood later in life are known to be different from those who become mothers at younger ages. The younger group are used by the lifetable to provide evidence for the projected transition rates back to employment for those cases with censored gaps (see Newell and Joshi, 1986). The lifetable method and assumptions will lead to misleading conclusions where the censored and uncensored groups are heterogenous. A splitting of the sample by age at motherhood is a reasonable response to this problem. Separate survival analyses can then be carried out on each age group. However, interpreting the projected transition rates for recent mothers in particular, should be done cautiously.

figure 4 about here

(also see appendix 1 table 1)

Figure 4: Entry to employment after motherhood by age at first birth
Comparing the 1946 cohort with the 1958 cohort: survival curves

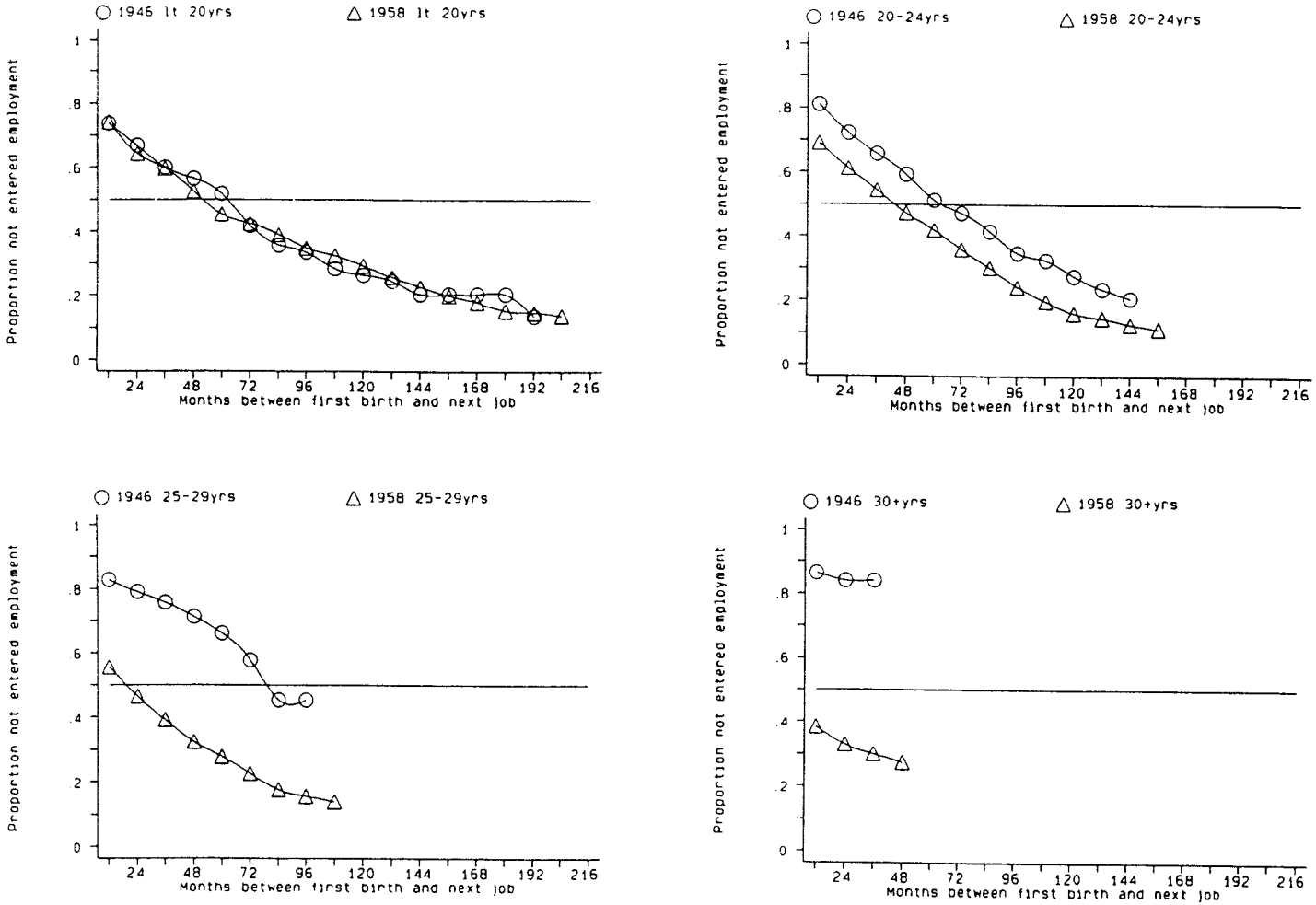


Figure 4 presents the survival curves for mothers born in 1958 and 1946, broken down into four groups according to their age at motherhood (less than 20 years, 20-24 years, 25-29 years and 30 plus years). For the two youngest age at motherhood groups, the cohorts hardly differ in their rates of entry to employment following a first birth . However, among those women who became mothers at ages over 25 differences become apparent. Those born in 1958 have resumed employment far more quickly than mothers at a similar age from the earlier cohort. The median employment gaps for women who became mothers when aged between 25 to 29 was just under one and a half years (17 months) for the 1958 cohort as compared to six and a half years (79 months) for women born in 1946. More than half of women born in 1958 who became mothers over 30 had no gap between childbirth and employment, that is they stayed in their jobs and they were probably on maternity leave[6].

AGE, PERIOD OR COHORT EFFECT?

A question raised by the high employment attachment of the cohort members who became mothers most recently, is whether it is a feature of their delayed childbearing, an effect of age or life-cycle, or whether it is the result of the period in calendar time in which their first birth occurred. The last years of the 1980s were certainly favourable, with a booming labour market and an increasing tendency for employers to institute 'family friendly' employment policies, perhaps in awareness of the 'Demographic Timebomb', a forecast need for women employees, to substitute for an impending shortfall in young labour force entrants.

We have already noted marked cohort changes have taken place in mothers timing of their entry to employment after childbirth. However, it does not seem to be the case of a simple

Table 1: Percentage of mothers in employment 9 months after first birth: women who had worked during pregnancy

Mothers age at first birth	NCDS			1988 PSI Survey		
	Period	%	N	Period	%	N
All ages	1974-91	42	3178	1988	40	1782
<20 years	1974-77	30	369	1988	23	132
20-24 years	1978-82	33	1149	1988	32	438
25-29 years	1983-87	45	1205	1988	41	748
30+ years	1988-91	65	465	1988	50	464

Data: National Child Development Survey, PSI Maternity Rights Survey

upward shift in the propensity to resume paid work after employment. The change is hardly apparent at ages of motherhood below age 25. Evidence from a third source may throw some more light on which cohort or age group is particularly affected by the passage of time.

The PSI Maternity Rights Survey[7] contains comparable evidence on employment nine months after a first birth for a cross-section of mothers who had their births in 1988. In this sample period of first birth is held constant and age and cohort vary. Table 1 shows that although the overall proportions of women employed in pregnancy who had returned to a job within nine months of their first birth are roughly the same (42% NCDS and 40% PSI), there are underlying differences at different ages of motherhood, which in NCDS also means different calendar years. Teenage mothers who had their first births in 1988 were actually less likely to be employed nine months after childbearing than the NCDS cohort members who became mothers as teenagers in the 1970s.

table 1 about here

Earlier evidence was consistent with a trend towards increasing labour force attachment of successive cohorts (Joshi, Layard and Owen, 1985). Does this new data presage a reversal in this trend, (as forecast by Joshi and Overton, 1988)? More plausible interpretations exist than this inference of a cohort effect. Table 1 suggests that any possible underlying difference in labour force attachment of the cohorts is being overlaid by clear period effects. However, these changes do not appear to be entirely due to period, as women who became mothers in 1988, when they were in their twenties, had similar levels of entry to employment as equivalent mothers from NCDS whose first births occurred over the period 1978 to 1987.

These mothers who were having children relatively early did not appear to have been caught up in the 'spirit of the time', furthermore teenage mothers going back to work were in a larger minority before 1979 than in 1988[8]. Thus while age effects interact with period effects, there is a clear age-at-motherhood effect in both the 1946 and 1958 cohorts and the 1988 cross section.

Age effects also appear to vary with cohorts, interacting with period or cohort to produce different age patterns within the two cohorts. An age-specific period effect seems the most likely explanation of these results; that is, that it is something about 1988 which reduced the employment prospects of teenage mothers or possibly that changes occurred in the composition of this relatively small group. One explanation could be that a higher fraction of the teenage mothers in 1988, were single parents who were claiming Income Support.

OTHER COVARIATES OF LENGTH OF EMPLOYMENT GAP

The previous analysis of the 1946 cohort (Newell and Joshi; 1986) found that the number of births (subsequent to the first) occurring before a woman's first entry to a job after her first birth, husband's social status and a woman's educational qualifications were important co-variates of the length of time a woman spends out of the labour force following her first birth. This section presents lifetable analyses of mothers' employment gaps broken down by a number of socio-demographic variables, for the 1958 cohort comparing them with women born in 1946 (see appendix 2 for a description of the variables). The results are presented in table 2 (also see appendix 1 tables 2,3,4).

Table 2: Summary of survival analysis of time elapsed between first birth and subsequent employment broken down by selected co-variates.

	Cohort	Median gap first birth-next job	Number of cases entering life table	Number of censored cases
Number of births (after first) before first job/censoring				
0	1958	1	2319	185
	1946	70	720	209
1	1958	73	1149	359
	1946	89	613	348
2 or more	1958	145	426	217
		141	210	140
Intentions to have more children				
Yes	1958	5	490	116
No	1958	34	1570	331
Don't know	1958	14	513	115
Can't	1958	41	1270	189
Partnership status at first birth				
living without partner	1958	38	326	71
married	1958	29	3254	631
cohabiting	1958	25	314	59
Highest educational qualification				
none	1958	62	550	153
	1946	70	637	256
some	1958	39	793	142
	1946	73	161	71
O level	1958	32	1371	261
	1946	67	368	178
A level	1958	14	782	132
	1946	64	164	74
degree	1958	0	327	61
	1946	67	160	95

* 1946 cohort percentages are weighted; the N's are unweighted.

Data: National Child Development Study, MRC National Survey Health and Development

table 2 about here

Not surprisingly the fewer the number of births a woman had in her employment gap (ie. the number of births a woman had (after her first) before she resumed paid work) then the quicker a woman enters the labour market (ie. the shorter her employment gap). The same pattern can be observed for mothers in both cohorts, although the resumption of paid work is faster for those born in 1958. Women, in the more recent cohort, who had one birth in their gap returned almost as quickly as women, in the earlier cohort, with no births in their gap; a median gap of 73 months versus a median gap of 70 months. In contrast there is very little difference across cohorts among mothers who had two or more births in their gaps.

The group of women that stands out as having an exceptionally short employment gap, are those born in 1958 who have not had a birth in their gap (ie. before resuming employment); 65% percent of them had returned within one year of their first birth, compared to 42% of similar (but less numerous) women born in 1946. Their median gap of 1 month contrasted with a median gap of over 5 $^{1}/_{2}$ years for the earlier cohort. Cross tabulations revealed this group to be mostly made up of mothers who were having their first births since age 25; women who may have delayed their child-bearing because of their stronger attachment to the labour force.

Women who are expecting to have more children tend to enter employment after their fist birth at a faster rate (table 2)[9]. This finding might initially appear counter-intuitive. However, women who have not yet completed their families, tend to be those who have entered childbearing later on in life and who possibly have a high labour force attachment.

Mothers who were cohabiting at the time of their first birth appeared to be slightly more attached to the labour market than women who were married or living without a partner (table 2). The differences in the employment entry rates between the groups do not appear to be that large, however a log-rank test revealed them to be statistically significant (Chi squared=48.5, $p < 0.0001$).

In both cohorts, better qualified women tend to take up employment more rapidly after the birth of their first child, a process which was more marked amongst women in the later cohort. Women born in 1958, with no qualifications, have very similar entry rates to women born in 1946, educated to 'A' level or its equivalent. For the 1958 cohort the difference between the best and least well educated is also more pronounced than is the case in the 1946 cohort (table 2). For example, among women born in 1958, 28% of women with no qualifications versus 65% of women educated to degree level, had entered paid employment one year after their first birth. In comparison, the equivalent figures for women born in 1946, are almost identical to each other, 19% and 18% respectively.

It is also the more highly educated women who have experienced the biggest reductions in the lengths of their breaks away from the labour force. The median gap for women without any qualifications has reduced from 70 months for women born in 1946 to 62 months for similar women in the younger cohort, whilst for women educated to degree level it has fallen from 67 months to less than one month. The trend to more employment amongst mothers with young children is thus not a uniform experience, but socially selective. As higher education became more common, so too did combining it with both motherhood and employment. It is not a simple question of higher levels of education in a cohort accounting

Figure 5: Months stayed in first job after motherhood broken down by size of employment gap. 1958 cohort

for the cohort's increased employment propensity. Thus, cohort differences in levels of qualification do not account for all of the overall differences.

STAYING IN EMPLOYMENT

So far this paper has looked at how long women stay out of employment following their first birth. However, a woman has been counted as making a return to employment regardless of how long she then remained in that job ie. whether she stayed in the job for one month, for 50 months or had not left by the time she was interviewed (survival analysis helps handle the censoring). The job history data in NCDS also allow us to look at how long women stayed in their jobs once they had entered employment. The same data are not available in the 1946 cohort. Although we are unable to carry out cohort comparisons, this analysis of the simple NCDS cohort adds a valuable additional dimension to our focus on how women survive in employment. Cases are split into three groups according to the size of their employment gap either: 0 months ie. they remained in employment (and probably took maternity leave); 1 to 7 months, in which case it was assumed that they were probably on maternity leave but had coded it as a spell of not being in employment; or more than 7 months[10]. The median is the time by which half of the women had **left** their job. Figure 5 is a plot of the resulting survival curves.

figure 5 about here

(also see appendix 1 table 5)

Overall 50% of these mothers had dropped out of employment around $3^1/_2$ years (43

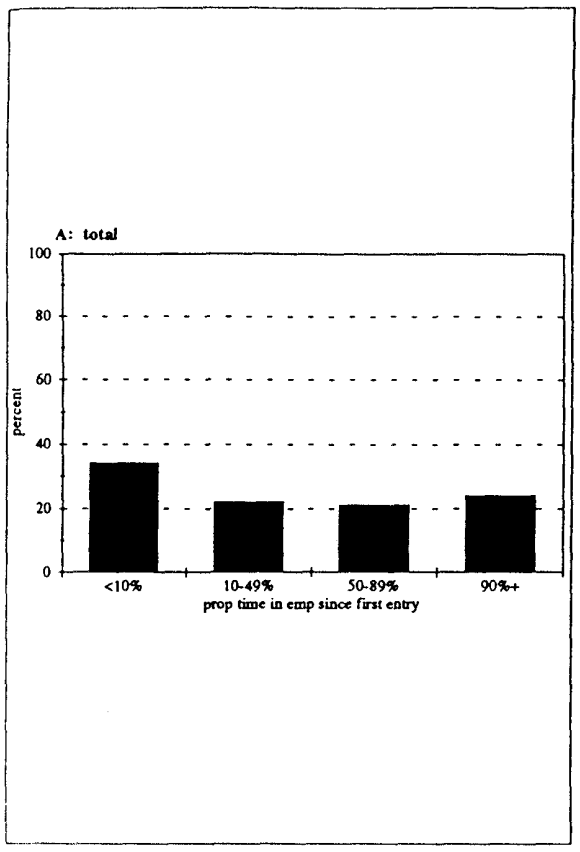
months) after making their first entry after childbearing. Many of these mothers will have left employment in order to have another birth during this time. Length of reported employment gap does not appear to have much effect on the proportions lasting at least a year in employment after their first birth. Beyond a year, those women who returned to a job quickly (ie. have a short employment gap) are also more likely to stay in employment longer. Among women reporting an employment gap of zero, 20% had left employment by one year after their first birth. Many of these women will have left employment at the end of their maternity leave, so effectively they did not return to a job, except to fulfil the conditions of taking maternity leave.

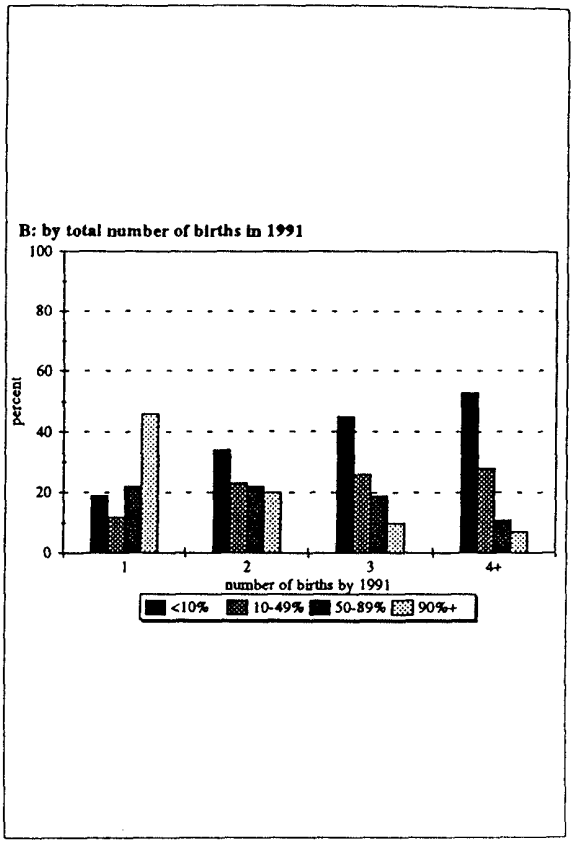
Women with an employment gap of 1 to 7 months, who were likely to have been on maternity leave, were expected to show a similar level of attachment to their jobs as women with an apparent employment gap of zero; their behaviour was more similar to women with a longer (more than 7 months) employment gap. This suggests that those reporting short breaks include some mothers who had a definite discontinuity such as a change in employer.

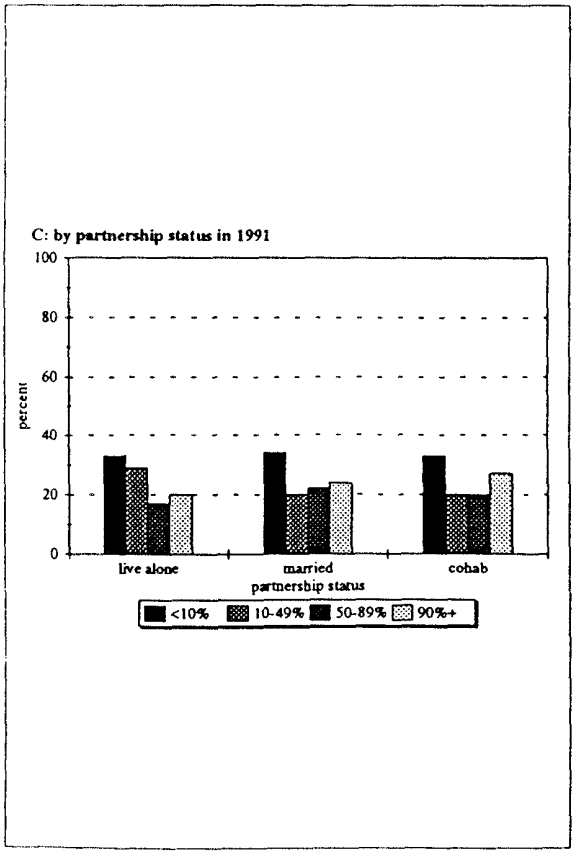
A lifetable analyses of length of time stayed in first job after first birth according to mother's age at birth and her highest educational qualification found differences in the proportions of women remaining in employment according to these co-variates, but they only become apparent after one year. Once she has returned a mother was likely to stay for at least a year[11] (also see appendix 1 table 6).

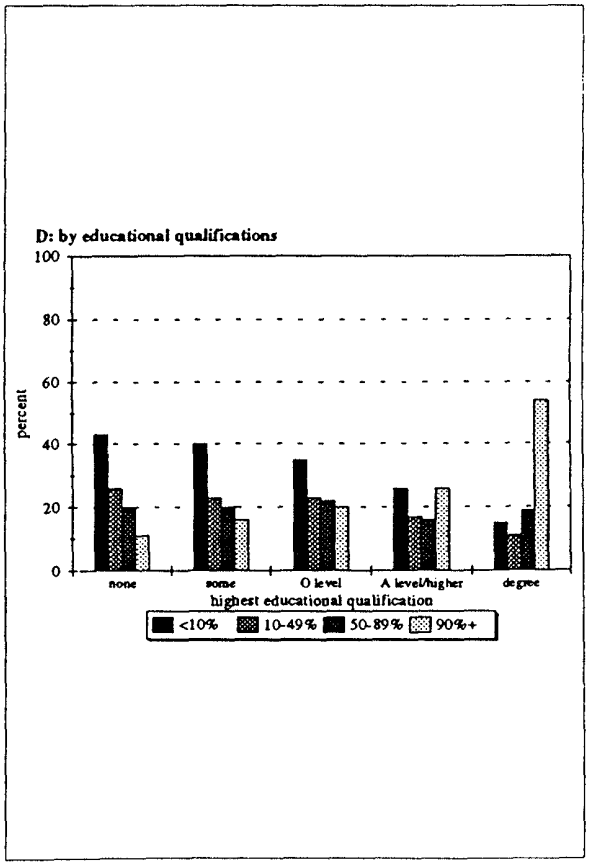
Early mothers tended to leave their first job after motherhood sooner than more recent mothers, a median of 2 $^1/_2$ years for teenage mothers versus a median of just over 4 years for

Figure 6: Percent time spent in first job since motherhood









mothers aged 25 to 29 at their first birth. Early mothers are more likely to have long employment gaps and also to have gone on and had more births. Better educated women were likely to remain in their jobs for longer once they have returned than women others. Of women educated to degree level, more than half (60%) were still in the same job 5 years later. This compounds the increase in labour force attachment established at entry to motherhood.

Proportion of time in employment since making a return.

Taking a slightly different approach, figure 6 presents bar charts of the proportion of time spent in paid employment since making an entry after a first birth (see appendix 2) according to mother's highest educational qualifications, partnership status at the time of the first birth and total number of births by the end of 1991. Figure 6a indicates that overall, just over a third (34%) of mothers subsequently spend less than 10% of their time in paid work after they have entered employment following their first birth. By contrast the earlier survival analysis showed that 77% of mothers who had entered employment were still in the same spell one year later, although half had dropped out after $3^1/_2$ years. Taken together these findings suggests that although there are increasing numbers of mothers entering the labour force after their first birth, the majority of them do not actually remain in that employment for more than a couple of years. NCDS cohort members are still in the family formation phase of their lifecycle, so many mothers will probably have left to have more children, as is suggested by figure 6b.

figure 6 about here

Not surprisingly women with fewer births spend a greater proportion of their time in employment once they have returned. Even having one extra birth after the first seems to make a big difference. Women who were cohabiting at the time of their first birth again seem to be slightly more attached to the labour force than either women who were married or those living without a partner. Women living without a partner at the time of their first birth appeared to be less able to maintain their employment which took them slightly longer to start. There is an obvious gradient when the proportion of time spent in employment is broken down by educational status (figure 6d). For example, 54% of degree educated women spent over 90% of their time in a job once they have returned compared to only 11% of women who did not have any qualifications and just 26% of women who were educated to 'A 'level or the equivalent.

DISCUSSION

This comparison of two cohorts of mothers confirms the trend, observed in other studies (Dex, 1984; Martin and Roberts, 1984; McRae, 1991; Joshi and Hinde, 1993). There has been a marked reduction in the length of the break between a woman leaving employment around the time of her first birth and any subsequent entry to employment. The time by which half of the mothers in each cohort had made an entry to employment after the birth of their first child has declined by around 3 years; from just over $5^1/_2$ years (for the 1946 cohort) to just under $2^1/_2$ years (for the 1958 cohort).

A number of complex and interrelated reasons are likely to have contributed to this

increase in mothers attachment to the labour force. For example, some women may want to maintain their occupational status, pension rights or chances for promotion by resuming employment earlier; others may need to have a job because of financial pressures. Maintaining continuous or near continuous employment protects women's earning power and pension entitlements (Davies and Joshi, 1993; Joshi and Davies, 1994b). There has also been a change in attitudes towards the acceptability of women with young children entering paid employment along with changes in employer practices making it easier (and more attractive), than in the past, for mothers to combine a job with their family responsibilities.

However, the trend towards a reduction in the length of employment gap, observed for the 1958 cohort, does not appear to have occurred for all cohort members at all ages equally. Instead there is a distinct variation by age at motherhood. The decline in the gap has largely been confined to those women who became mothers in their late twenties and early thirties. These mothers, who have delayed their childbearing, are more likely to be better educated and to be working in higher level occupations and thus, are better placed to take advantage of changes in employer provisions for working mothers. In addition they are also more likely to have adequate incomes to pay for childcare, more flexible working arrangements and be highly motivated to be in employment. In contrast, the rates of re- entry to employment for women who were teenage mothers have scarcely changed between the two cohorts. This is perhaps indicative of the special difficulties faced by teenage mothers, which have not changed over time. For example, women who became mothers in their teenage years tend to be less well educated and many will not have had the chance to experience employment before their first birth occurred. In addition they are more likely to be lone parents. For this particular group of mothers, not only are they less likely to acquire a job which is flexible

or which provides an adequate income to cope with the demands of childcare, but they also lack a partner to help spread the load of combining work and parental roles.

As the passage of time appears to have affected different age groups differently, our results do not describe a simple set of cohort-cum-period effects, where the march of time has a uniform impact at all ages. Instead the changes between the two cohorts are probably better thought of as a reflection of particular historical periods, that have not affected all age groups equally. To date, women who became mothers at older ages have made the most upward economic progress and teenage mothers the least. Comparison of the employment gaps of mothers in the two cohorts also reveals that it is the more highly educated women, and those who have had no births before their next job, who have experienced the greatest reductions in the lengths of their gap between their first birth and their next job. In addition, not only do these privileged women resume employment earlier but they also manage to maintain their subsequent employment for longer.

In her analysis of the 1988 PSI Survey, McRae (1993) suggests that a polarisation is occurring, in women's experiences of combining motherhood and employment. On the one hand, there is a privileged group of women in the upper echelons of the occupational scale. By, remaining in a job, or by taking only a short break, these women are less likely to suffer occupational downgrading and more likely to retain their employment benefits. The labour market and social advantages of professional and upper non-manual occupations enables some women to implement their intention to return to work. In doing so they gain benefit from remaining in employment and thus, strengthen their already advantageous position in the labour market. On the other hand, women who lack these labour market advantages are likely

to fail in any intention to re-enter employment after childbirth. As a result, they are vulnerable to further disadvantages in their labour market position as a result of their absence.

The management of childcare is another element in this polarisation. Ward, Dale and Joshi (1994) describe how most mothers in the NCDS in the 1958 cohort use, what they term, "packages" of childcare, which combine both formal paid childcare and informal unpaid care provided by family and/or friends. For those women who do pay, childcare expenses are a substantial proportion of their earnings. However, this can be thought of as offset by the positive long term benefits of maintaining employment for their future financial well-being. In addition, those women will have the emotional, psychological and social benefits from being in the labour force. Again this emphasises a polarity between those women who can earn a high enough income to allow them to pay for formal childcare and to work full-time and those who cannot.

CONCLUSIONS

Many 33 year old women are managing to survive in the labour market to a greater extent in 1991 than women of the same age in earlier generations. The secret of their success is that they are highly educated, they have delayed the birth of their first child, taken maternity leave and returned to full-time work before having any more children, and they have paid for childcare. The times have also been favourable to the strategies adopted by these women. They still appear to have to shoulder the double burden of childrearing and domestic duties alongside their employment. We suspect that they are better off than the less educated of their generation, who may be trapped in less privileged positions and who may be hardly

surviving at all. Further research is needed to uncover whether the polarisation noted in our analyses can be detected in income data and has these further ramifications.

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Notes.

1. NCDS data are still in the process of being cleaned. This process discovered that the errors in the occupational coding were sufficient to require a complete recoding of the occupational histories. It is not clear when this recoding exercise will be completed.

2. Although there is now much evidence to indicate that a mother's employment per se does not affect her children negatively (eg. Rutter, 1981; Hoffman, 1989), the attitude remains that a working mother is a neglectful mother.

3. Weatherall, Joshi and Macran (1993) and Macran, Clarke and Joshi (in preparation) found no evidence for this negative health effect in their analyses of mortality and morbidity. Also see Macran (1993) for a review.

4. See Newell and Joshi (1986) for a fuller discussion of the usefulness of survival analysis for describing this sort of data.

5. Multivariate analysis would not necessarily help in this task since it could hide some of the changes over time which we are attempting to document.

6. The very small employment gaps observed for new mothers aged over 30 in both cohorts should be not be given too much weight because of severe censoring due to the short period of follow up available for both groups (just three years for women born in 1958 and only two years for women born in 1946).

7. A survey of a random sample of 5000 women, identified from Department of Social Security Child Benefit records, who had a birth in either December 1987 or January 1988. The mothers were interviewed in September 1988, nine to ten months after their birth. The data presented here is for the 1782 women in the survey who were first time mothers.

8. There is also some evidence consistent with a 'late 1980s' effect. NCDS data on women who became mothers when aged over 30, refers to the years 1988 through 1991, not just 1988-9. For most of this time, until late 1990, the labour market conditions for skilled women who became mothers were probably improving.

9. In 1991 NCDS cohort members were asked about their intentions to have children. Almost three quarters of the mothers in our sample appeared to have completed their families. That is, they indicated that they either did not intend to or could not have any more children in the future. See Condy (1994) for a discussion of the problems of classifying individuals according to their intentions to have children.

10. We should bear in mind the qualifications about the quality of these data which were expressed earlier.

11. No median could be calculated for the most recent mothers or for women with a degree because more than half of them had not left their first job by the end of follow up.

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APPENDIX 1

Table 1. Survival analysis of time elapsed between first birth and subsequent employment, by mothers age at first birth.

Mothers age at first birth	Cohort	Number of cases entering life table	Number of censored cases	Percent entered employment			Median gap first birth-next job
				after 1 year	after 5 years	after 10 years	months
<20 years	1958	569	88	26	55	71	53
	1946*	253	65	26	48	74	62
20-24 years	1958	1466	210	31	58	84	43
	1946	799	292	19	49	72	63
25-29 years	1958	1354	296	44	72	--	17
	1946	429	290	17	34	--	79
30+ years	1958	505	167	61	--	--	0
	1946	62	50	14	--	--	48
Total	1958	3894	761	39	65	84	29
	1946	1543	697	20	45	71	70

* 1946 cohort percentages are weighted; the N's are unweighted.

Data: National Child Development Study, MRC National Survey Health and Development

APPENDIX 1

Table 2. Survival analysis of time elapsed between first birth and subsequent employment, by intentions to have further children.

	Number cases entering lifetable	Number censored cases	Percent entered employment			Median gap between first birth-next job
Intends to have more children			**after 1 year**	**after 5 years**	**after 10 years**	**months**
yes	490	116	55	78	90	5
no	1570	331	37	63	83	34
don't know	513	115	48	72	85	14
can't	1270	189	31	60	83	41
Intends to have more children (women with one child only)						
yes	324	83	59	80	98	0
no	303	44	48	77	93	13
don't know	186	35	60	81	95	0
can't	129	17	40	72	90	23

Data: National Child Development Study.

APPENDIX 1

Table 3. Time elapsed between first birth and subsequent employment, survival analysis by partnership status at time of first birth.

Partnership status at time of first birth	Number of cases entering life table	Number of censored cases	Percent entered employment			Median gap first birth-next job
			after 1 year	after 5 years	after 10 years	months
living without partner	326	71	36	61	38	38
married and living with partner	3254	631	39	65	29	29
cohabiting with partner	314	59	40	67	25	25

Data: National Child Development Study.

APPENDIX 1

Table 4. Survival analysis of time elapsed between first birth and subsequent employment, by mothers highest educational qualification.

Highest educational qualification	Cohort	Number of cases entering life table	Number of censored cases	Percent entered employment			Median gap first birth-next job
				after 1 year	after 5 years	after 10 years	months
none	1958	550	153	28	49	69	62
	1946*	637	256	19	45	69	70
some	1958	793	142	32	61	83	39
	1946	161	71	23	44	75	73
O level	1958	1371	261	36	65	87	32
	1946	368	178	17	45	74	67
A level/higher	1958	782	132	48	73	90	14
	1946	164	74	28	49	96	64
degree	1958	327	61	65	83	--	0
	1946	160	95	18	46	68	67

* 1946 cohort percentages are weighted; N's are unweighted.

Data: National Child Development Survey, MRC National Survey Health and Development

APPENDIX 1

Table 5. Time spent in the next job after the first birth, survival analysis by length of employment gap.

Length of employment gap	Number of cases entering lifetable	Number of censored cases	Percent still in employment			Median length of time stayed in employment
			after 1 year	after 5 years	after 10 years	months
0 months	1150	673	79	53	44	79
1-7 months	216	72	75	36	26	25
>7 months	1767	776	77	38	27	36
Total	3133	1521	77	43	33	43

Data: National Child Development Survey

APPENDIX 1

Table 6. Survival analysis of time spent in the next job after the first birth, by mother's age at first birth and educational qualifications.

	Number of cases entering lifetable	Number of censored cases	Percent still in employment			Median length of time stayed in employment
Mother's age at first birth			**after 1 year**	**after 5 years**	**after 10 years**	**months**
<20 years	481	144	75	34	25	31
20-24 years	1256	547	76	42	33	40
25-29 years	1058	568	78	47	--	52
30+ years	338	262	84	--	--	--
Highest educational qualification						
none	397	135	74	32	23	27
some	651	293	76	40	29	39
O level	1110	521	78	42	31	41
A level/higher	650	367	79	50	40	66
degree	266	179	81	60	55	--

Data: National Child Development Survey

APPENDIX 2

Derivation of variables taken from the National Child Development Survey

The fifth follow up of the National Child Development Study occurred in 1991 when the cohort members were aged 33. Data used in this analysis is taken from two sections of the 1991 survey:

> The Cohort Member Interview, an interview of around one and a half hours, which asked for information about employment, education, family, housing, income, health, as well as including some attitudinal measures;

and

> "Your Life Since 1974", a self-completion questionnaire, which asked cohort members to give retrospective information about their relationships, children, employment and housing, for the period between January 1974 until their 1991 interview.

For more information about the survey see Ferri (1993).

Variables relating to length of employment gap, time of first birth, partnership status at first birth etc, were derived from the dataset prepared by Peter Elias (Elias, 1993) from the original 'Your Life' data. Other variables were derived from the 1991 Cohort Member Interview.

Data. In total 5799 women were interviewed in 1991. Of these, 628 did not give any good employment or birth history information and so were excluded from this dataset, leaving a

total of 5171 women of whom 3894 had at least one live birth.

Cohort members were told to include both live and still births in their birth histories. Cross checking with the pregnancy histories, obtained from the cohort member interview, revealed that for 29 women the first birth in their birth history was a stillbirth or a miscarriage. These 29 women were recoded, such that their next live birth was treated as their first birth. If they had no subsequent live births, they were recoded as having no births.

Employment gap. Derived from the Your Life dataset prepared by Peter Elias. A woman's employment gap was calculated by counting the number of months between her first birth and her first entry to employment after that birth.

Counting started at the month of her first birth and continued until the last month before she entered employment. If a woman was in employment in the same month as her first birth the count was zero. For women who had a first birth but had not entered by the time of interview (censored cases), their employment gap was counted from their first birth to the month before they were interviewed.

The survival analysis procedure also requires the calculation of a flag variable, to indicate whether a case has made the transition being investigated or not (eg. whether a woman had a made an entry to a job after her first birth or not). This flag has a value of 1=entry or 0=no entry.

Age of mother at first birth. Derived from date of first birth, as given in the Elias dataset. 75% of female cohort members, with good life history information, had at least one live birth by 1991 interview.

Number of births in gap. Derived from the Elias dataset. Simply a count of the number of births, subsequent to her first, born to a woman before she reports her first entry to paid employment.

Intention to have more children. Derived from the 1991 Cohort Member Interview questions, which asked cohort members about their intentions to have any/more children and also whether they or their partner are able to conceive any/more children. A four category variable: "yes", "no", "don't know", "can't".

Partnership status at time of first birth. Derived from the partnership histories in the Elias dataset. A three-fold classification ("living without a partner"; "married and living with partner"; and "cohabiting with partner"). Cohort members were classified according to whichever partnership status they indicated in the same month as their first birth.

Mother's highest educational qualification. A five category variable ("none"; "some"; "O level"; "A level"; "higher"; "degree"), derived from the 1991 cohort member interview (using John Bynner's code). Variables n501441 to n501469. Cohort members were asked to give all the qualifications they have ever obtained.

Staying in employment. Derived from the Elias dataset. This was the number of months

a woman stayed in employment after making her first return. Counting started from the month after her return entry to employment after her first birth, up to and including her last month in employment, or the month before 1991 interview, whichever was the sooner. Women who left employment before interview were given a value of 1 on the flag variable and women who had not left before they were interviewed (censored cases) were given a value of 0.

Proportion of time in employment since first return. Derived from the Elias dataset. Calculated by totalling the number of months a women indicated that she spent in employment (full or part time), since making her first entry to employment after her first birth, which was divided by the number of months between a woman's first return and the month of her 1991 interview.

(See Newell and Joshi, 1986) for the derivations of variables taken from the National Survey and Health and Development).