# The Employment of Married Mothers in Great Britain: 1974–2000

Paul Gregg, Maria Gutiérrez-Domènech and Jane Waldfogel

#### **Abstract**

This paper analyses the increase in mothers' employment in Britain over the period 1974–2000. The approach consists of isolating those birth cohorts whose mothers experienced significant increases in employment and relating those to changes in policies (maternity rights, taxation and childcare). The results suggest that maternity rights have induced a change in behaviour, toward returning to work in the first year post-birth, among many mothers who would have otherwise gone back to work when their children were age 3 to 5. This effect has been most marked among better-educated and higher paid mothers and has strengthened as real wages have risen through time. However, the paper also suggests that the increased labour market experience and job tenure of mothers as a result of maternity rights legislation has only had a very modest impact on earnings. This is as a result of most of the extra experience being part-time which has very low returns.

JEL Classification: J10, J22

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## 1 Introduction and Institutional Background

Employment rates of married mothers (see Figure 1 and Table 1) have risen dramatically over the last twenty years. This increase in participation of married (or cohabiting) mothers is far in excess of that experienced by other women and is especially marked among those with children aged under five. For example, married mothers' employment rates have risen by 15 percentage points since 1983, with employment of married mothers with children under the age of one rising by a staggering 40 percentage points. The purpose of this paper is to analyse the impact of changes in maternity policies, take home pay and childcare on the labour market participation of mothers in Great Britain over this period.

The results suggest that maternity rights have had a profound effect on employment but this has operated interactively with mothers' wage opportunities. Maternity rights have induced a behaviour change to return to work in the first year post-birth, among many mothers who would have otherwise gone back to work when their children were age 3 to 5. This effect has been most marked among better-educated and higher-paid mothers and has strengthened as real wages have risen through time. However, the paper also suggests that the increased labour market experience and job tenure of mothers as a result of maternity rights legislation has only had a very modest impact on earnings. This is as a result of most of the extra experience being part-time which has very low returns.

The rest of the paper is set out as follows. Section 2 provides an overview of the policies and institutions in the period 1974–2000 in order to explore possible causal candidates for the change in married mothers' employment. Section 3 describes data and methodology used in our analysis. In Section 4 we identify relative employment shifts by the presence and age of children for married women, controlling for characteristics. In Section 5 we isolate the effective policies by exploring the timing of when they came into effect and the variation in impact across groups more or less affected. We interpret these results in Section 6 and conclude in Section 7.

## 2 Policy and the Employment of Married Mothers

## 2.1 Right of Reinstatement and Maternity Leave

The 1974–79 Labour government passed two key employment provisions with concern to mothers expecting a child (both contained in the Employment Protection Act 1975).<sup>2</sup> These were Maternity Leave (a period of paid leave from employment) and the Right of Reinstatement (*RofR* - effectively a period of unpaid leave after which the mother has the right to return to her previous job).

Maternity leave legislation entitles women in employment who meet specific qualifying conditions (these have changed through the period of study) to receive a certain number of weeks of maternity pay after stopping work for childbirth. According to her recent

<sup>&</sup>lt;sup>1</sup>From now on we will call married those women who are not only married but also cohabiting.

<sup>&</sup>lt;sup>2</sup>See Harries (1975) for a summary of the introduction of the main maternity rights in the Employment Protection Act (1975).

employment history, a woman will be paid either by her employer through the Statutory Maternity Pay (SMP) or by the Department of Social Security through the Maternity Allowance (MA). Employers may also choose to make maternity payments in addition to the statutory minimum, or they may make payments to women who do not fulfill the statutory requirements through Contractual Maternity Pay (CMP). Many employers also attached return-to-work conditions to the receipt of CMP. Table 2 summarises the main changes in maternity leave legislation. For the most part, these have been intended to facilitate post-birth employment.

Payments under MA become more generous between 1979–2000 and in 1987, Maternity Pay was relabelled Statutory Maternity Pay (SMP) with minor administrative changes. In 1994, the eligibility for 6 weeks pay with 90% of the salary was relaxed. Women no longer needed to have continuously worked for 2 years/16 hours per week or 5 years/8–16 hours per week with the same employer. Therefore, the only criterion was to have worked for 26 weeks.

The second provision was the RofR and protection from unfair dismissal related to pregnancy.<sup>3</sup> This gives the right to return to the same job at any time up to 29 weeks after childbirth. In order to be eligible for this right, a mother had to have had two years of continuous employment prior to the  $11^{th}$  ( $15^{th}$  from 1987) week before the expected week of confinement (EWC). In 1994,<sup>4</sup> the RofR after 14 weeks leave was extended to all pregnant women, regardless of their hours of work or length of service (raised to 18 weeks in 2000). Those with longer tenure were entitled to an extended RofR period of 29 weeks. Thus, there has been an important reduction in the conditions women need to meet in order to qualify for maternity leave, and a corresponding increase in the share of women who meet the qualifications.

#### 2.2 Taxation

Some taxation changes affect married women disproportionately and, to the extent changes affect part-time workers more, these may have a differential impact on married mothers who are more likely to work part-time.

Both employers and employees pay National Insurance (NI) to cover the cost of certain social security benefits. As reported in Adam and Frayne (2001), prior to the 1985 reform, a person paid no NI if earnings were below the Lower Earnings Limit (LEL). But once she crossed the line, a fixed percentage of total earnings (not just on income above the line) was due. Hence, in 1985 (in 2002 prices) no NI was due on earnings of £71.99 per week or below. However, at earnings of £72.00, NI of £14.00 was due, £6.48 (9%) from the employee and £7.56 (10.45%) from the employer. This step increase in NI payments was called an entry fee to gain access to NI benefits. This step created significant bunching in the labour market at this lower earnings limit and discouraged the use of part-time work, except for very short hours or the lowest paying jobs. In 1985, there was a reduction in the liability to £7.20 (5% employee and employer); this was cut to £2.88

<sup>&</sup>lt;sup>3</sup>The Right of Reinstatement was qualified through the Employment Act in 1980 (Daniel (1981)).

<sup>&</sup>lt;sup>4</sup>In October 1994 the government was forced to implement the EU Pregnant Workers Directive.

in 1989 (2% employee and employer). In 1997, the government eliminated the jump in the liability on entering the NI system. These changes may have made part-time work more attractive to employers and employees and may have become especially beneficial to mothers.

The unit over which income tax is calculated may have an effect on the incentives to work within a married couple. Prior to 1990, the basis was the sum of the combined earnings of the couple (Joint) and, from 1990, the assessment was undertaken separately (Separate). Separate taxation gives a two earner couple a larger tax-free range than a one-earner couple on the same income. So the marginal and average tax rates are usually higher under a Joint system. An extra tax allowance for one earner in a married couple (the Married Couples Allowance, MCA) was progressively reduced in value after 1990 and finally abolished in 2000. The introduction of Separate taxation is expected to increase the number of two-earner couples. Since the greatest gain is over the tax-free zone on income (the personal allowance), this effect may particularly encourage part-time employment.

Table 3 summarises the history of financial support for children in the UK. In-work benefits are likely to have an impact on mothers' participation. At the beginning of our sample period there was the Family Income Supplement (FIS), first introduced in 1971. This was modified substantially in 1988 with the Family Credit (FC) and in 1999 with the Working Families' Tax Credit (WFTC). These in-work child benefit payments are all assessed on joint income for couples. These systems have become progressively more generous over the period and are likely to have the obverse effect from the tax changes since they are raising average and marginal deduction rates. However, these negative effects only apply where there is a working partner on a low income. Thus, they tend to discourage part-time work (two full-time jobs normally lifts people well above qualification) among mothers with low earning partners.

In summary, both the *NI* reforms and the switch in taxation from joint to separate assessment have dramatically reduced the taxation of part-time employment for married women, which in turn has made part-time work more attractive for those with children. At the same time, the more generous in-work child benefit systems go the other way but only for mothers with low earning partners.

## 2.3 Childcare Legislation

The role of the government regarding childcare has changed substantially during the period between 1979 and 2000.5 Under the successive Conservative Governments (1979–92), policy was limited to the regulation of childcare provision. In 1983–87, there was a program devoted to under-fives for disadvantaged families. In 1988, the Children Bill required local authorities to review day care provision in their area. The Children Act in 1989 improved the Children Bill by obliging local authorities (LA) to register and inspect childcare services. Over the period the number of LA nurseries actually fell and there was an expansion of child minding and private and voluntary nurseries. Thus, 1979–1992

<sup>&</sup>lt;sup>5</sup>See Randall (2000) for further information.

was characterised by the state regulating childcare rather than facilitating the services themselves.

During John Major's government (1992–97), the target was to make the private and voluntary sectors (and not the state) the providers of childcare. That is, the government wanted to concentrate on the demand rather than the supply of day care through childcare vouchers. From 1997, the Labour Government rejected the sole development of private childcare provision and accepted the need for a national childcare policy. The Working Families' Tax Credit in 1999 provides an explicit tax credit supplement for eligible childcare. Eligibility means that day care must be provided by registered childminders, private nurseries or after-school clubs on school premises, run by the school or LA. In addition to this, the government undertook to provide a free half-day childcare place for all four year olds by 1999 in schools and this has recently been extended to 3 year olds. If the child is with a private/voluntary carer the equivalent cost of provision by a school is met by the state. Furthermore, LAs have been encouraged to increase provision of after-school clubs and holiday schemes.

Both the improvement of quality requirements for day care centres in the 1980s and 1990s and the introduction of childcare working credits are expected to have had a positive impact on mother's employment. The former make mothers less reluctant to use external childcare, as they know that the quality is regulated by the state. The latter (from 1993 on) reduces mothers' opportunity cost in their labour supply decision. However, any significant impact of childcare supply on mothers' employment decisions is likely to be restricted to the 1990s and probably only to the period after 1999.

## 3 Data and Methodological Approach

We use the General Household Survey (GHS), which is a repeated annual cross-sectional study of private households in Great Britain. In particular, we use all surveys released from 1974 to 2000/01. The General Household Survey has experienced several modifications during this extended period. Major efforts have been undertaken to create a consistent database and build up new variables that unify all changes. The construction of the variables is explained in Appendix A. The main advantages of the GHS database are its long history and its detailed information on birth histories of mothers. The GHS surveys contained responses from approximately 12,000 households per year prior to 1994 and 9,000 households annually thereafter.

Within any year we have information on 2500–3000 mothers<sup>6</sup> with children aged 0 to 15 and around 350 with a single year age group per year. As these samples are getting quite small we create 3-year cohorts of births. For instance, all births in 1980, 1981 and 1982 are grouped into a single cohort. Information on this birth cohort at age 5 will therefore reflect data on births in 1980 from survey year 1985, births in 1981 from survey year 1986 and births in 1982 from survey year 1987. We then track the birth cohorts in successive years, and although this is not true panel data, we are sampling from the same

<sup>&</sup>lt;sup>6</sup>Around 2000 mothers in the 1998 and 2000 GHS release.

population of births as the children age, creating a pseudo-panel.

This approach differs from looking at mothers by the age of youngest child in that the mother remains identified as member of the original birth cohort as well as the new one if there is a subsequent birth. This means that we are always sampling from a constant population. In the analysis, birth order and the numbers of older and younger siblings are always included as control variables. The main advantage is that we can see far more clearly any persistence of responses to changes in behaviour when the children were younger. This should be clear to the reader as we deal with the actual data.

Figure 1, in the introduction, showed the evolution of female employment by marital status and age of the youngest child. Substantial gains in employment were made by married mothers, which were largely not apparent for single or married women without children.<sup>7</sup> These gains were of the order of 15 percentage points on average but were mainly concentrated among women with young children. The point here is to identify the reason for this movement, especially if it is linked to various policies. Note that employment paths could have been driven by changes in specific characteristics across time in each of these groups. For instance, a rise in employment of married women with children could be due to the fact that this group is increasing their education across time. Therefore, we need to condition on observable characteristics.<sup>8</sup>

There are also external common factors (e.g. economic performance) that could be driving the employment rate changes. This is why it is important to select a comparison group through all the analysis. We take married women without children as our reference group since they are affected by the aggregate economic cycle and policy changes unrelated to children but not by child-related policies.

Hence, we are using a standard difference in difference technique but assessing changes over successive cohorts where a range of different policies may have cumulative effects. If after this benchmarking against similar married women without children we still observe an upward trend in mothers' employment, the aim is to relate it to changing institutional policies or labour market opportunities. For instance maternity leave policies can not be driving rising participation among mothers with children aged 5, unless it had effect on participation when the same children were first born. First, we identify both the time and the specific birth cohorts for which any policies kicked in. Second, we focus on sub-groups who are likely to be more or less affected by aspects of policy change.

<sup>&</sup>lt;sup>7</sup>We focus our analysis on married (or cohabiting) women for two main reasons. First, married women with children are the group who experiences the greatest increase in employment. Second, we have very few observations for single women with children, which makes results for this group very noisy.

<sup>&</sup>lt;sup>8</sup>See Figure 2 for the employment pattern of married women once we control for observable characteristics.

## 4 Employment of Married Women with Children 1974– 2000

We base our analysis on three-year grouped birth cohorts between 1974 and 2000 (1974–76, 1977–79, 1980–82, 1983–85, 1986–88, 1989–91, 1992–94, 1995–97 and 1998–2001) and track these birth cohorts as the child ages from 0 to 15.9 We then test for how large 'employment gaps' of mothers in these birth cohorts are, relative to married women without children but with similar characteristics.

The initial focus is on the impact of the introduction of maternity leave and pay rights in 1979 on employment patterns. So our first two birth cohorts are pre-maternity rights. First, we investigate whether there was any significant relative gain by married mothers before maternity rights for any age (i.e. whether the 1974–76 birth cohort is significantly different from the birth cohort 1977–79). If these two birth cohorts are not different, we can merge them into one 1974–79, as this creates a larger sample to use as our base, making comparisons more robust. For this testing, we group the ages of the children in: 0–4, 5–10 and 11–15. For example, we test whether birth cohort 1980–82 is significantly different from 1974–79 for children age 0 to 4 (or 5 to 10, or 11 to 15). Tests for whether the birth cohorts for 1974–76 and 1977–79 differ are rejected for all age groupings together and separately. Therefore, in all results from here on we merge them into a single birth cohort from 1974–79 and continue the analysis by comparing the later birth cohorts with it.

Married/co-habiting women without children have seen reasonable substantive increases in employment rates over the period, from 65% in 1974–76 to 74% in 1998–2001. Our analysis will explore the extent to which married women with children make relative employment gains over and above married women in general. Figure 3, therefore, shows the relative employment gaps of married mothers with children in each birth cohort against the benchmark of married women without children who have the same observable characteristics, from 1974–79 to 1998–2001.

In the 1974–79 period, mothers' employment always lay below the employment of married women without children. However, there is a very pronounced arc shape since the excess deficit is 50% for women with children under 1 but narrowed to just over 20% by age 5, and to 10% at age 11, where the gap stabilised.

<sup>&</sup>lt;sup>9</sup>For the testing and marginal effects' graphs, we always ensure that we have at least 18 months of observations. Note that this is relevant for two reasons. First, the release of GHS in 1996–97, 1998–99 and 2000–01 does not include the whole annual data. For example, the release 2000–01 has data from April 2000 to March 2001, which implies that January to March is missing for year 2000 and, April to December is missing for year 2001. Second, the later the survey years are, the younger the birth cohorts that these year surveys can comprise. Because of these two facts, for birth cohorts 1986–88, we only consider up to age of child is 12; for 1989–91 up to age of 9; 1992–94 up to age of 6; 1995–97 up to age of 3; 1998–2001 up to age of 0.

<sup>&</sup>lt;sup>10</sup>Previous birth cohorts 1962–64, 1965–67, 1968–70 and 1971–73 are calculated and included in regressions but the coefficients are not reported.

<sup>&</sup>lt;sup>11</sup>This information is available upon request.

The are three main points from Figure 3. First, we note the steady rise of employment among mothers with children age 0 and 1. There is a concern that, after the introduction of maternity rights, mothers might report to be employed when they are on leave, and move to inactivity when the period of leave expires. This mechanism would lead to increases in the observed employment rates among recent mothers that are partly fictitious. However, Figure 3 shows that there is a rise when the child is aged 1 that is parallel to that of age 0. Since women whose child is one year old can not be on maternity leave, this means that the increase at age 0 is not just more mothers saying they are on maternity leave but not actually returning to work. 22 Second, there is little increase in employment at age 5 and above relative to married women without children. The impression is of a ramp being raised with the pivot at around age 5 or 6 and the point of greatest movement being at age 0. This makes clear that the relative employment gain of married mothers is confined to those with young children. Therefore, maternity rights legislation did not raise participation of married mothers in general but brought forward the return date. Third, this suggests that changes in taxation have not raised employment of mothers with older children relative to other married women. These tax reforms may have had a general impact on married womens' labour supply but have had no extra effect on those with children.

Table 4 reports both the mean gap of the coefficients for each birth cohort relative to the base 1974–79 for the age groups 0–4, 5–10, 11–15 and 0–15, and the joint significance of these cohort specific age effects (p-value). We observe that the average difference between the base 1974–79 cohort and the 1980–82 cohort is 3 percentage points up to age 4 and significant, but around 1.5 points at older ages and not significant. The average gap widens to 4.5 points in 1983–85 for age 0–4 and reaches 13 points for the 1992–94 cohort. Notice that this is the last cohort to have reached age 5 by 2000 since the subsequent cohorts only cover children up to age 3 (1995–97) and age 0 (1998–2001). Each successive cohort has added 2 to 3 percentage points to that of the previous one in reducing the employment deficit with respect to married women without children. Thus, it appears to be a sustained catch up at a broadly constant rate.

Table 4 also shows that there are no significant cohort effects once the children are aged between 5 and 10 or older than 11 years old, at any point in time. This suggests that there has been a marked shift in the pattern of return to work after birth, from mothers whose child is 3 to 5 years old to mothers whose child is 0 years old. This means that women make use of maternity rights and they do not delay anymore to first return to work when their child is over 5. This type of response to having maternity rights is also found by Burgess, Gregg, Propper and Washbrook (2002) in a study using a panel of births in the Avon district from 1991–92. Hence, there are progressively smaller gains in employment (with respect to married women without children) at ages 2 to 6, and little further rise once the children are aged 5 or 6. Furthermore, this process has not yet stopped with the last two cohorts, who have not reached age 5 yet, posting gains fully in line with past

<sup>&</sup>lt;sup>12</sup>Figure 4 confirms this view since it shows that employment rates after birth are rather flat within any cohort but gradually shift upwards across cohorts. There is, however, a slight decline of mothers' employment rates in 1998–01, which suggests that more generous maternity leave periods could have some positive bias effect for this birth cohort.

cohorts.

To summarise, there is a behavioural change towards more women successively returning to work within the first year after birth, instead of staying out of employment until the child is 5 years old. The rise is more pronounced for birth cohort 1980–82, which clearly highlights the role of the introduction of maternity rights policies. However, the smooth delayed reaction for the subsequent three year birth cohorts may suggest that there are other factors interacting with rights.

Before moving on to explore what else has been important, we first investigate the pattern of full-time employment by mothers over these cohorts. Full-time employment is considered to be 30 hours or more per week. Table 4 and Figure 5 report the same information for full-time employment only. The upward slope of employment as the child ages is markedly shallower for full-time employment and the initial deficit relative to married women without children is smaller. This implies that a sizeable part of the initial employment deficit is from lower part-time as well as full-time work.

More importantly, there is a very small decrease in the relative full-time employment deficit over time and it is broadly the same for ages above and below 5. Just 4 of the 13 point total decline in the deficit by the 1992-94 cohort involves full-time employment. Hence, almost all the increase in mothers' employment when children are under 5 is stemming from increases in part-time employment. Burgess et al. (2002) show that around 75% of returners in the first year post-birth do so to part-time work in a cohort of births in 1991–92. This is despite the fact that there is no legal right to return to part-time jobs if the mother was employed full-time prior to the birth. The observed change in behaviour toward increased employment in the first year after birth, mainly restricted to part-time work, is consistent with the NI changes from 1985, 1989 and 1997 and the switch to separate taxation in 1990, which reduced the tax burden on part-time work for married women relative to full-time work.

In summary, it is clear that maternity policies have had a big impact on employment behaviour after a birth with a sharp shift in employment returns to the first year post-birth from the period 2 to 5 years post-birth. However, this has happened in a progressive way through time and is largely restricted to increases in part-time work relative to married women without children with similar characteristics, which is probably a response to the changes in tax treatment of part-time work for second earners over the period.

## 5 Isolating Effective Policies

## 5.1 First Birth vs. Higher Order Birth

Maternity rights have been extended over time, most notably in 1994 with the introduction of a more limited RofR period (14 week-long) even for those with less than 2 years tenure. Furthermore, the longer qualifying period for mothers working less than 16 hours prior to the birth to be eligible for the full 29 weeks with RofR was ended.

One way of exploring this change in the required tenure to be eligible for maternity rights, without knowing the employment status of mothers before the birth, is to look at mothers for whom it was a first or second or subsequent birth. The data reported in Burgess et al. (2002) confirms the expectation that only 8% (10% of those working) of women were working part-time prior to their first birth in 1991. In contrast, 30% (70% of those working) of women worked part-time before a second or later birth. Part-time workers generally have shorter tenure, which means that many of the women working prior to a second birth will have limited job tenure and also may be caught by the hours rules prior to 1994. However, the data in Table 5 and Figures 6 and 7 show a marked increase in employment amongst first births after 1994.

The divergence in employment patterns between first and second births from 1994 on-wards suggests that the extension of maternity rights from 1994, aimed to cover more part-time workers, has not been fruitful in increasing early return among mothers of second or higher order children (who are highly likely to be part-time workers). This may be because the change in eligibility for maternity rights for part-time workers only applies to those with less than 16 hours employment per week. Hence, this change may be too marginal to be observed in such aggregate data. Therefore, it appears that the extensions to maternity rights in 1994 did not substantially increase patterns of early return.

#### 5.2 Childcare Support

Childcare policy involved little direct provision or extra financial support until the introduction of childcare vouchers in 1995 (Randall (2000)). This, as well as the later guaranteed half day childcare places in 1999, were focused exclusively on 4-year-olds. Although it might be early to evaluate the most recent change, there is no extra jump in the employment of the mothers of 4-year-olds in cohorts reaching that age in the middle to late 90s (see Figure 3). Therefore, there is no evidence that these policies raised employment for this group of mothers. We would like to point out, however, that the aim of providing part-time childcare of a reasonable quality to all 4-year-olds whose parents wanted it was not primarily to raise mothers' employment.

## 5.3 Level of Education, Age at First Birth and Predicted Wage

The major remaining candidates for progressively raising the use of maternity rights through time, other than changing tastes, are rising wages and taxation changes. These can make employment more worthwhile and rising returns experience may increase the cost of not staying in one's old job.<sup>14</sup> To explore which groups have been more responsive, we repeat the earlier analysis but split mothers by education, age at first birth and predicted wage. We investigate these alternatives as returns to education and experience

<sup>&</sup>lt;sup>13</sup>The vouchers experiment was short-lived since the Labour government rapidly repudiated it. However, the vouchers scheme helped lay the groundwork for the establishment of the Labour's Early Years Development programme and the universalising of the provision for 4- and ultimately 3-years-olds (Randall (2000)).

<sup>&</sup>lt;sup>14</sup>Akin to the cost of job loss literature see Farber (1993), Kuhn (2002), Gregg and Wadsworth (2002), Nickell, Jones and Quintini (2000).

have risen over this period (see Schmitt (1995) or Machin (1999)). Rising returns to education are likely to imply that the wage is increasing returns to working relative to the cost of childcare, which is generally provided by low skilled labour. Furthermore, returns to experience are likely to be eroded or lost by an extended separation from the labour market after child birth.

The literature of the cost of job loss highlights how separation from employment results in lower earnings on return to the labour market. This research also points out that this penalty rises with the duration of the period out of work and never fully recovers (see Gregory and Jukes (2001), or Borland, Gregg, Knight and Wadsworth (2002)). Furthermore, Nickell et al. (2000) show that these costs of separation have risen over this period and are more marked for more highly educated workers. Thus, the rising returns to education and experience, and the growing wage penalty associated with loss of employment among these groups make continued attachment to the labour market increasingly worthwhile.

The rising returns to education and age can be combined by looking at the position of the mother in the distribution of wages predicted by her characteristics. This has the advantage of also capturing the increasing prevalence of higher education and delayed first child birth in the population of mothers.

Tables 6, 7 and 8 report the changing employment patterns for the normal cohorts split by education, <sup>15</sup> age at first birth and predicted wage. The better-educated mothers see larger increases in employment in the first two birth cohorts. Afterwards, there is broad equivalence across the groupings or even a slight narrowing in favour of the less well educated. Older mothers (at first birth) are those that have changed their behaviour most as a result of the advent of maternity rights. This is more pronounced than for better-educated mothers and the gap between younger and older mothers is maintained throughout the period. Using predicted wage terciles shows a broadly monotonic pattern with the higher predicted wage groupings having a more rapid response, although the lowest grouping is somewhat unstable. The picture appears to be that the third with the highest potential wage responded to maternity rights legislation most strongly in the first two cohorts, with some modest further gains thereafter. The middle third in the predicted wage distribution made significant gains between 1986 and 1991, a period of more rapidly rising wages and wage inequality, whereas the lowest earning third sees virtually no increase in employment.

Real wages of women within the lowest earning tercile have risen (much more than for men – Machin (2003)) over this period despite rising wage inequality. The fact that the employment behaviour amongst these women has not changed, despite extended rights for part-time workers, may suggest that the cost of childcare is a limitation for them. As wages in the caring professions largely fall in the lowest tercile of wages, the cost of childcare is likely to have risen in line with earnings of lowest paid workers. Since earnings have risen faster for higher paid women than for the lowest paid, the relative cost of childcare has declined for better paid groups, especially in the 1985–90 period when wage inequality grew most rapidly and tax reductions would have boosted pay relative to childcare costs, but not for the lowest paid.

<sup>&</sup>lt;sup>15</sup>For education, see also Figures 8 and 9.

#### 5.4 Partner's Employment Status

The final area of variation we explore is partners' status. Women with non-working partners face very different incentives to work relative to those with working partners, especially for part-time work. This follows from the UK welfare system which has little dependence on insurance benefits and, instead, relies on a joint income test for a couple. The family unit loses welfare payments pound for pound (apart from a small disregard) until the family welfare entitlement is exhausted.

However, the existence of an in-work support system for families with children complicates this issue. Under FIS and FC prior to 1992, if one earner in a couple worked 24 hours per week or more (16 hours after 1992), then they could receive in-work support, which was withdrawn at 70p in the pound for net earnings above a threshold. This eases work disincentives for mothers with non-working partners but they were still very low for part-time working. However, the high withdrawal rate reduces incentives to work whenever the partner has a low paid job. Reliance on these in-work systems was never very extensive since only around 10% of couples with children were claiming this benefit prior to the switch to the more generous Working Families Tax Credit in 1999.

These systems became more generous and coverage of couples with children on FC/WFTC grew after 1992. This support is entirely restricted to situations where the partner is working with a low paid job or not working, and the woman works at least 16 hours, as two earner couples are likely to almost always exhaust this support. We might expect these schemes to diminish employment growth among women with low earnings or non-working partners (as the bulk of the earnings are lost in reduced welfare payments). This may have started to ease somewhat for those with non-working partners after 1992.

The employment situation for mothers according to their partners status and education is shown in Tables 9 and 10. There is no evidence that the occupation and education status of the partner matters in the observed change in behaviour among women with young children. However, those with a non-working partner show very minimal relative employment gains over the period, even though the comparison is being made relative to those childless couples with non-working partners. Hence, the disincentive effects of welfare withdrawal means that mothers with non-working spouses are not utilizing maternity leave rights, even with the in-work financial support available.

## 6 Implications and Expectations for Current Policy Reform

The results presented earlier in Table 4 suggest that mothers with children born between 1992–94 had employment rates (up to the child reaching age 4) which were on average 13 percentage points higher than in 1974–79 relative to married women without children. This equates to an average increase in labour market experience for this cohort of mothers of just 8 months. Even allowing for two births, this does not amount to a huge change over the average woman's lifetime. However, the impact on current job tenure may be

greater as the *RofR* will promote contact with the previous employer.

We observe a rise in the proportion of employed mothers with one child under 1 and tenure longer than one year. These are women who have remained in the same job after motherhood and did not interrupt their employment, except for the legitimate maternity leave period, which maintains their human capital. The percentage of employed mothers with tenure greater than one year jumps from 61% for birth cohorts 1974-79 to 78% for 1980-82, reflecting the introduction of RofR. This proportion stays rather constant until the birth cohorts 1992-94, when it rises to 82.5%. Then the percentage increases smoothly until 88% for birth cohorts 1998-01, perhaps a reflection of the relaxation of the eligibility conditions for the RofR and MA.

Up to the child reaching age 4, there are two observed effects. First, more women with short tenure are working because of the *RofR*. This participation increase is likely to come from those shorter pre-birth job tenure. Second, those who would have worked anyway are increasingly coming back to the same employer on return to work. That is, those women did return to work shortly after a birth even in 1974-79 and they are likely to be those who were strongly attached to the labour market and thus had long job tenure. On the other hand, fewer women are starting again the labour market when their child reaches age 2 to 5. These twin effects make it rather difficult to determine what will happen to average tenure amongst those in work. However, by age 5, the first effect weakens and we are left with just the effect of increased return to the original employer.

Following the same methodology as described in Section 3, we estimate the probability (conditioned on being employed) of having tenure less than one and tenure more than five years. The results are presented in Table 11.

For reasons given above, we focus on the group of mothers whose youngest child is aged between 5 and 10 years old. The proportion of mothers with children aged 5 to 10 with tenure less than one year falls by 5 percentage points for the 1989–91 cohort. More importantly, the proportion with tenure in excess of 5 years rises sharply by 8 percentage points of working mothers. The increase in job tenure is most marked when children of each cohort are aged 5 to 6, which is consistent with the contact with the pre-birth employer being maintained.

There are immediate positive consequences on the expected tenure profile and the gains in employment (i.e. experience). We would expect that for mothers, an increase in tenure will have a positive effect on their wages. Furthermore, we would also expect rises in mothers' wages since they accumulate more experience by returning earlier to their jobs.

In order to link tenure, experience and wages, it is useful to provide a sensitive magnitude of the average increase in tenure and experience. It is also necessary to estimate the log-wages using the same difference-in-difference methodology as applied before for employment.

First, we calculate an average number for the rise in tenure and experience for moth-

ers. Results in Table 11 suggest that mothers with children born between 1992–94 had 'tenure > 5' (with their child aged 5 and 6 years old) on average 11% more than in 1974–79. For this group, there was a decline of around 6% for 'tenure < 1' and, consequently, a drop of 5% for 'tenure 1–5' years. If we assume that the average tenure for 'tenure < 1' is half year, the average tenure for 'tenure 1–5' is three years and the average tenure for the group 'tenure > 5' is seven and a half years, this equates to an average increase in tenure for this cohort of mothers of around 7.5 months.

Second, we compute the average increase in working experience for the same birth cohort 1992–94 up to the children reaching the age of 6. This group has employment rates which were on average 13% higher than in 1974–79. This results in an average increase in labour market experience for this cohort of mothers of 8 months.

The last step is to investigate how the modest increases in both experience (an average of 8 months) and tenure (an average of 7.5 months) has been translated into increases in mother's wages.

Table 12 displays the results for the wage estimation. However, we find no significant reductions in wage deficits for married mothers with young children vs. childless married women. Increases in wages with respect to the eldest cohorts only occur in cohorts 1989–91 (2%), once children are aged 5 and more, and especially in cohorts 1992–94 (6%). <sup>16</sup>

Therefore, the modest increases in experience and tenure have not led to significant gains in wages. The low impact in rises in employment on earnings could be explained by the fact that most of the increase in mothers' employment is part-time work, which is found to be worse paid in the literature (e.g. Ferber and Waldfogel (2000)).

There is perhaps some gain for mothers whose births occurred after 1991 when their children are aged 5 and 6 years old. Mothers with children aged 5–6 born between 1989–91 have much more modest rises in wages than mothers with children at the same age born between 1992–94. Interestingly, the increase in full-time employment for the later cohort has been 6%, while only 2% for birth cohorts 1989–91. This might suggest that larger increases in full-time employment in cohorts 1992–94 than in earlier cohorts, are leading to wage gains. The policy implication is that in order to decrease the wage gaps between married women with children and married women without children (and indeed men), we need to engineer returns to experience and tenure for part-time jobs.

From April 2003 maternity rights legislation is being revamped. The changes involve extending the period of flat-rate paid leave to 26 weeks, increasing the generosity of the payment and extending the RofR period to reach to one year post-birth. The legislation also requires employers to consider favourably requests to return to part-time employment, except when there is a clear over-riding business case against such a move.

On the basis of the past experience shown here, we expect that these changes might

<sup>&</sup>lt;sup>16</sup>In order to look at the wage gap, we must focus on children aged 5–6, for the same reason as given for tenure. Only at that age, we avoid the competing effects discussed earlier.

lead to an increased incidence of returning to work by mothers in the first year after birth from among those now returning when their child reaches age 2 to 5. Furthermore, we expect that this increase in employment will mainly be part-time work. These amendments will probably not have any observable impact on employment of mothers once the child is about 5 or 6 years old since the changes in behaviour primarily involve switches in timing of return up to age 5 but not much thereafter. Nor will it have any noticeable impact on mothers relative wages as returns to experience and tenure are so low for part-time work.

The evidence presented also suggests that the employment patterns of mothers with characteristics that place them within the lowest paying third of mothers will not be substantially affected by these reforms alone. This does not mean that the recent rise in low wages does not have any observable effect. Rather, the evidence is consistent with the idea that it is the relative wage that matters, with the relativity being with respect to the wage of the likely carers of pre-school children. In other words, the cost of childcare has been prohibitive to mothers with low potential earnings. This may be reinforced by, first, a higher incidence of worklessness amongst their partners and, second, by the likelihood that the wage gap between the current job and future replacement is lower than for better-educated women or those with more experience. However, it is possible that the explicit subsidy of childcare costs in WFTC since 1999 and the expansion of state provision of low cost care in poorer neighbourhoods (as part of the National Childcare strategy) will mean that employment rates for mothers with low potential earnings will now begin to rise.

#### 7 Conclusions and Further Remarks

Maternity rights legislation introduced by the 1974–79 Labour government has transformed the employment patterns of around two thirds of new mothers. In other words, there has been a dramatic increase in part-time employment of women with mid-higher potential wages in the first year after a birth. However, this transformation has been largely dependent on the increase in relative earnings and a reduction in the taxation of part-time work by second earners within couples, which occurred through the Conservative years.

Those women with low potential earnings have seen no increase in employment. Nor have those with non-working partners. The reforms to maternity rights legislation due to come into force in April 2003 are mainly intended to change the work-life balance choices facing mothers, allowing them to stay at home longer whilst receiving an income and a right to return to the same job. The likely consequence of these reforms on mothers' employment behaviour will be to induce some mothers (who would have otherwise stayed at home until the child reached 2 to 5) to return part-time after one year.

The differential rewards to maintenance of labour market attachment and the relative cost of childcare to take-home pay mean that it is higher earning women who take advantage of such rights. The total effect on the labour market experience and tenure profiles of mothers over their lifetime are positive but modest.

Finally, despite the increase in tenure and experience, there have been no gains in wages for mothers, at least, not before birth cohorts after 1991. The reason for this is that most rises in employment have occurred through part-time jobs, which have low returns to experience and tenure.

The results suggest further changes in participation in the most recent cohorts and more of them through full-time working. We can not observe yet how substantive these effects will be on tenure and wage patterns.

The new polices in 2003 are aimed to facilitate women returning to work later after the birth and part-time. As such, these are likely to extend the patterns observed after previous pieces of legislation: more women maintaining attachment to the labour market, modestly raising experience and job tenure. However, they are likely to have little effect on wages unless returns to part-time working start to rise.

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#### A Constructed Variables

#### • Education:

Four 0–1 dummies that capture the highest education level achieved by each individual. Edu1 is 1 if the person has a postgraduate, graduate, pgce or any other high degree. Edu2 is 1 if she/he has a nursing degree or A level. Edu3 is 1 if she/he obtained an O level or equivalent. Edu4 is 1 if the person has not have any qualification or is missing or the person did not attend school.

#### • Tenure:

Three 0–1 dummies. *TenureL1* is 1 if the person has been less than one year in the current job, *Tenure1–5* is 1 if she has been from 1 to 5 years, and *TenureM5* is 1 if more than five.

#### • Labour Force Status:

Lfstat is 1 if employed, 2 if unemployed and 3 if inactive.

*Employed* is 1 if the person is employed.

Fulltime is 1 if the person works 30 or more hours.

*Empfull* is 1 if individual is employed full-time; 0 if employed part-time or inactive.

#### • Wage and Income:

Wkearngr: weekly earnings of the individual. In order to make feasible the comparison for all years, this variable has been converted into prices of December 2001 by using the retail price index (rpi).

Wagehrs: Hourly wages (in December 2001 units).

ExtInc: the individuals' external income. That is, that income that provides from outside his/her working activities. This variable has been also transformed into units of December 2001.

MissEI: dummy that takes value one if external income is missing.

EI: external income where missing values have been substituted by the median external income value (in per thousands).

#### • Social Variables:

Age: interval dummies (Ag16-19, Ag20-24, Ag25-29, Ag30-34, Ag35-39, Ag40-44, Ag45-49, Ag50-54 and Ag55-59).

Married: 1 if the person is married or cohabiting. Before 1986, it only includes marriage, since the option cohabitation is not given in the survey.

*Non-White*: 1 if the individual is not white.

Immigrant: 1 if immigrant.

Region: 1 (North), 2 (Yorks Humber), 3 (West), 4 (East Midlands), 5 (West Midlands), 6 (Eastern), 7 (London), 8 (South West), 9 (Wales) and 10 (Scotland). We have built up dummies.

*Unemrm*: Yearly-regional male unemployment rate.

#### • Children:

Agyestch: age of the youngest child.

NSibl1: 1 if number of other siblings is one.

## • Interactions between age of the youngest child bands, marital status and year (periods of three years jointly):

SNC't''t+2' is 1 if the individual is single without children in year from 't' to 't+2'; MNC't''t+2' is 1 if married (or cohabiting) without children in year from 't' to 't+2'; SCU1-'t''t+2' is one if single with youngest child under one in year from 't' to 't+2'; MCU1-'t''t+2' is 1 if married with youngest child under one in year from 't' to 't+2'; SC13-'t''t+2' or MC13-'t''t+2' is 1 if youngest child is between one and three for single and married respectively; SC4-'t''t+2' or MC4-'t''t+2' is 1 if youngest child is between five and ten; SC1115-'t''t+2' or MC510-'t''t+2' is 1 if youngest child is between eleven and fifteen.

• Interactions between age of each child at survey time and their birth cohorts: b't''t+2''a' is 1 if the individual has a child born between 't' and 't+2' with age 'a' ('a' is from 0 to 15) at the survey date.

#### • Year dummies

#### • Childcare information

Yearly-regional per thousand children under five: England (North, Central, South and London), Wales and Scotland.

Nursery: Day nurseries look after under fives for the length of the adult working day. They may be run by Social Services Departments (or Education Departments), voluntary organizations, private companies or individuals as a business, community groups as a cooperative enterprise, employers in the public or private sectors including local authorities and Government Departments for their workforce, or any of these bodies on a partnership basis.

Childmind: Childminders look after children aged under five and school age children outside school hours and in the holidays on domestic premises, usually the childminder's own home. Parents and childminders negotiate terms and conditions.

*Playgroup*: Playgroups provide care for children aged between three and five, although some may take children aged two and a half. They are normally on part-time basis.

#### B Tables

Table 1: Female Employment Rates in Great Britain: 1974–2000

	1974-76	1977-79	1989-91	1998-01	$\Delta$ (2000-1974)
Married Without Children	65.1	67.8	74.0	74.0	8.9
Married With Children	47.3	50.4	60.9	69.7	22.4

Table 2: History of Maternity Rights in Great Britain: Statutory Requirements and Type of Payment Received<sup>1,2</sup>

Year		Statutory requirements	Duration of Leave and Payments
	RofR	• 2 years/16 hours pw or 5 years/8-16 hours pw continuous employment with same employer into the $11^{th}$ prior FWC	return to work at any time up to 29 weeks after confinement
1979	MD	, ,	6 weeks maternity pay at 90% salary less
	IMI	employment with same employer into the $11^{th}$ prior EWC	flat-rate $MA$ ; and 18 weeks flat-rate $MA$
	Rof R	$\bullet$ 2 years/16 hours pw or 5 years/8-16 hours pw continuous	return to work at any time up to 29
	376037	employment with same employer into the $15^{th}$ prior EWC	weeks after confinement
<u> </u>		• 2 years/16 hours pw or 5 years/8-16 hours pw continuous	6 weeks SMP pay at 90% of the salary
		_	
1987		• 6 months of insured employment with same employer in	18 weeks of flat-rate $SMP$ (£32.85 pw)
	MP	previous 12 months into the $15^{th}$ week before $EWC$	
		• 6 months of insured employment in previous 12 months,	18 weeks flat-rate state $MA$ (£30.05 pw)
		prior to the 15 <sup>th</sup> week before $EWC$	
		• Most employers use CMP to 'top-up' SMP, many of them attached return-to-work conditions to its receipt	attached return-to-work conditions to its receipt
	$D_{c}fD$	• All pregnant women regardless of their hours of work	14 weeks of leave
	nOm	• 2 years continuous service have additional leave	28 weeks of leave
1001		• 26 weeks insured employment with same employer in	6 weeks paid at 90% of average weekly earnings
4	MD	previous 12 months into the $15^{th}$ week before $EWC$	and 12 weeks of flat-rate $SMP$ (£52.50 pw)
	1111	• 52 weeks of insured employment in previous 66 weeks,	18 weeks flat-rate state $MA$ (£52.20 pw)
		which precede their $EWC$	
	$D_{\alpha}fD$	• All pregnant women regardless of their hours of work	18 weeks of leave
	urchir	• 1 year continuous service have additional leave	29 weeks of leave
		• 26 weeks insured employment with same employer in	6 weeks paid at 90% of average weekly earnings
	MD	previous 12 months into the $15^{th}$ week before $EWC$	and 12 weeks of flat-rate $SMP$ (£75 pw)
	TAT	• 52 weeks of insured employment in previous 66 weeks,	18 weeks MA depending on average earnings
		which precede their $EWC$	standard rate $(£75 \text{ pw})$
	RofR	• All pregnant women regardless of their hours of work	26 weeks of leave
	116011	• 1 year continuous service have additional leave	52 weeks of leave
8000		• Employed without a break for at least 26 weeks into the	6 weeks paid at 90% of average weekly earnings
2	MD	$15^{th}$ week before $EWC$ and earning at least £77 pw	and 20 weeks of flat-rate $SMP$ (£100 pw)
	TAT	• Employed or self-employed and earning at least	26 weeks $MA$ up to a standard weekly rate
		f.30 nw	(f100) dononding on mount of minge

<sup>1</sup>Source: McRae (1991), Callender, Millward et al. (1996), Palmer (1996), Department of Trade and Industry and Department for Work and Pensions.  $^2$  RofR stands for Right of Reinstatement; EWC means expected week of childbirth; MP denotes any form of maternity pay; MA stands for Maternity Allowance; SMP means Statutory Maternity Pay; CMP denotes Contractual Maternity Pay.

Table 3: Chronological Evolution of Financial Support for Children in the UK: $^1$  1970–2000

Years	Non-Means Tested Payments	Support through Tax System	Means-tested Benefits	In-Work Benefits
1971				Family Income Supplement (FIS) introduced as a means-tested
1977	Child benefit introduced	Child tax allowances abolished (1977–79)	Family allowance abolished	
1988				Family Credit (FC) replaced FIS with increased generosity and
				lower marginal withdrawal rates 24 hours' work pw to qualify
1991	Higher rate for eldest child			
1992				Cut to 16 hours pw to qualify
1995				Extra credit for working more than 30 hours pw
1996				
1998			Rates of child premiums equalised for children < 16	Rates of child credits equalised for children < 16
1999				Working Families' Tax Credit (WFTC) replaces FC, with increased generosity and childcare support
2000		Children's tax credit replaced married couple's and related allowances	Increase in real value	WFTC increase in generosity Credit paid through wage-packet

 $^{1}\mathrm{Source}\colon$  Brewer, Myck and Reed (2001) and Brewer (2001).

Table 4: Tests whether Later Birth Cohorts are Different from 1974–79 in All Married Sample

D 10%/ %0	A = = Cl :1.1	$Employ \epsilon$	$ed = 1^{1}$	Fulltime	$e=1^{2}$
Base 1974-79	Age Child	Mean Gap	$p ext{-}value$	Mean Gap	$p ext{-}value$
	0-4	0.0311	0.0001	0.0131	0.0001
1980-82	5-10	0.0187	0.3490	0.0139	0.0314
1900-02	11-15	0.0152	0.6104	0.0085	0.2738
	All	0.0215	0.0041	0.0120	0.0001
	0-4	0.0454	0.0000	0.0147	0.0000
1983–85	5-10	0.0101	0.0792	0.0121	0.1058
1900-00	11-15	0.0088	0.9323	0.0196	0.0428
	All	0.0208	0.0000	0.0153	0.0000
	0-4	0.0804	0.0000	0.0290	0.0000
$1986–88^3$	5-10	0.0008	0.1199	0.0103	0.1606
1300 00	11-15	0.0349	0.2577	0.0257	0.1521
	All	0.0367	0.0000	0.0198	0.0000
	0-4	0.1043	0.0000	0.0322	0.0000
$1989 – 91^4$	5-10	0.0270	0.0637	0.0218	0.0074
1989-914	11-15				
	All	0.0656	0.0000	0.2703	0.0000
	0-4	0.1300	0.0000	0.0384	0.0000
$1992–94^{5}$	5-10	0.1090	0.0001	0.0592	0.0000
1002 04	11-15				
	All	0.1240	0.0000	0.0443	0.0000
	0-4	0.1708	0.0000	0.0521	0.0000
$1995–97^6$	5-10				
	11-15				
	All	0.1708	0.0000	0.0521	0.0000
	0-4	0.2856	0.0000	0.0740	0.0000
$1998-01^7$	5-10				
.000 01	11-15				
	All	0.2856	0.0000	0.0740	0.0000

<sup>&</sup>lt;sup>1</sup>Reference group: all childless married women.

 $<sup>^{2}</sup>$ Reference group: all childless married women. Note that the dependent variable in this column is Fulltime, whereas in all other tables is Employed.

 $<sup>^3</sup>$ Only up to the age of 12 to ensure that we have at least 18 months of observations. The GHS in 1996–97, 1998–99 and 2000–01 does not include the whole annual data.  $^4$ Only up to the age of 9.

<sup>&</sup>lt;sup>5</sup>Only up to the age of 6.

<sup>&</sup>lt;sup>6</sup>Only up to the age of 3.

 $<sup>^{7}</sup>$ Only up to the age of 0.

Table 5: Tests whether Later Birth Cohorts are Different from 1974–79 by Parity

D 4074 70	A (21:11	1 <sup>st</sup> Bir	$rth^1$	$2^{nd+}Bi$	$rth^2$
Base 1974-79	Age Child	Mean Gap	$p ext{-}value$	Mean Gap	$p ext{-}value$
	0-4	0.0189	0.0016	0.0400	0.0012
1980-82	5-10	0.0407	0.0802	0.0489	0.0005
1900-02	11-15	0.0223	0.4134	0.0281	0.2697
	All	0.0281	0.0027	0.0396	0.0000
	0-4	0.0511	0.0001	0.0695	0.0000
1983–85	5-10	0.0508	0.0175	0.0667	0.0000
1900-00	11-15	-0.0012	0.9967	0.0320	0.1339
	All	0.0347	0.0004	0.0567	0.0000
	0-4	0.1081	0.0000	0.1116	0.0000
$1986–88^3$	5-10	0.0785	0.0000	0.4460	0.0002
1300 00	11-15	0.0319	0.5064	0.0558	0.1713
	All	0.0827	0.0000	0.0721	0.0000
	0-4	0.1641	0.0000	0.1420	0.0000
$1989 – 91^4$	5-10	0.1399	0.0000	0.0606	0.0046
1303 31	11-15				
	All	0.1520	0.0000	0.1012	0.0000
	0-4	0.2243	0.0000	0.1800	0.0000
$1992–94^{5}$	5-10	0.2236	0.0000	0.1797	0.0000
1332 34	11-15				
	All	0.2241	0.0000	0.1799	0.0000
	0-4	0.2819	0.0000	0.2136	0.0000
1995-976	5-10				
	11-15				
	All	0.2819	0.0000	0.2136	0.0000
	0-4	0.4407	0.0000	0.2678	0.0000
$1998-01^7$	5-10				
1000 01	11-15				
	All	0.4407	0.0000	0.2678	0.0000

<sup>&</sup>lt;sup>1</sup>Reference group: all childless married women.

<sup>&</sup>lt;sup>2</sup>Reference group: all childless married women.

<sup>&</sup>lt;sup>3</sup>Only up to the age of 12 to ensure that we have at least 18 months of observations.

The GHS in 1996-97, 1998-99 and 2000-01 does not include the whole annual data.

<sup>&</sup>lt;sup>4</sup>Only up to the age of 9.

<sup>&</sup>lt;sup>5</sup>Only up to the age of 6.

<sup>&</sup>lt;sup>6</sup>Only up to the age of 3.

<sup>&</sup>lt;sup>7</sup>Only up to the age of 0.

Table 6: Tests whether Later Birth Cohorts are Different from 1974-79 by Education Level

D 40%1 %0	A (71:11	High Edu	$cation^1$	Low Edu	$cation^2$
Base 1974-79	Age Child	Mean Gap	$p ext{-}value$	Mean Gap	$p ext{-}value$
	0-4	0.0688	0.0089	0.0208	0.0085
1980-82	5-10	0.0042	0.7832	0.0183	0.3041
1900-02	11-15	0.0250	0.2436	0.0132	0.3747
	All	0.0309	0.0647	0.0175	0.0336
	0-4	0.0794	0.0005	0.0337	0.0054
1983-85	5-10	0.0089	0.5225	0.0121	0.0402
1900-00	11-15	0.0530	0.1174	-0.0124	0.7969
	All	0.0381	0.0026	0.0111	0.0083
	0-4	0.0950	0.0000	0.0727	0.0000
1086 883	5-10	0.0066	0.4602	-0.0042	0.0399
$1986 – 88^3$	11-15	0.0812	0.0921	0.0062	0.8639
	All	0.0521	0.0005	0.0270	0.0000
	0-4	0.1151	0.0000	0.0948	0.0000
$1989 – 91^4$	5-10	0.0156	0.5475	0.0294	0.3244
1909-91	11-15				
	All	0.0653	0.0000	0.0621	0.0000
	0-4	0.1743	0.0000	0.1128	0.0000
$1992 – 94^{5}$	5-10	0.0908	0.0934	0.0976	0.0728
1332 34	11-15				
	All	0.1504	0.0000	0.1084	0.0000
	0-4	0.2285	0.0000	0.1593	0.0000
$1995–97^6$	5-10				
1995–97°	11-15				
	All	0.2285	0.0000	0.1593	0.0000
	0-4	0.3581	0.0000	0.2728	0.0000
$1998-00^7$	5-10				
1000 00	11-15				
	All	0.3581	0.0000	0.2728	0.0000

<sup>&</sup>lt;sup>1</sup>Reference group: childless married women with high education.

<sup>&</sup>lt;sup>2</sup>Reference group: childless married women with low education.

 $<sup>^{3}</sup>$ Only up to the age of 12 to ensure that we have at least 18 months of observations.

The GHS in 1996-97, 1998-99 and 2000-01 does not include the whole annual data.

<sup>&</sup>lt;sup>4</sup>Only up to the age of 9.

<sup>&</sup>lt;sup>5</sup>Only up to the age of 6.

<sup>&</sup>lt;sup>6</sup>Only up to the age of 3.

<sup>&</sup>lt;sup>7</sup>Only up to the age of 0.

Table 7: Tests whether Later Birth Cohorts are Different from 1974–79 by Age At  $\mathbf{1}^{st}$  Birth

D 10%1 %0	A (1:11	>= 3	$0^{1}$	< 30	)2
Base 1974-79	Age Child	Mean Gap	$p ext{-}value$	Mean Gap	$p ext{-}value$
	0-4	0.0539	0.0175	0.0304	0.0011
1980-82	5-10	0.0128	0.5161	0.0230	0.4251
1900-02	11-15	0.0112	0.2803	0.0190	0.2568
	All	0.0252	0.0284	0.0241	0.0084
	0-4	0.0902	0.0048	0.0434	0.0000
1983-85	5-10	0.0381	0.2282	0.0112	0.2729
1900 00	11-15	0.0361	0.6531	0.0109	0.8259
	All	0.0493	0.0283	0.0212	0.0006
	0-4	0.1494	0.0000	0.0748	0.0000
$1986 – 88^3$	5-10	0.0211	0.0194	0.0041	0.1352
1986-883	11-15	0.0506	0.2826	0.0409	0.0945
	All	0.0750	0.0000	0.0369	0.0000
	0-4	0.1913	0.0000	0.0953	0.0000
$1989 – 91^4$	5-10	0.0791	0.0581	0.0249	0.2048
1000 01	11-15				
	All	0.1352	0.0000	0.0601	0.0000
	0-4	0.2142	0.0000	0.1232	0.0000
$1992–94^{5}$	5-10	0.1764	0.0074	0.1098	0.0007
1002 04	11-15				
	All	0.2034	0.0000	0.1194	0.0000
	0-4	0.2698	0.0000	0.1641	0.0000
$1995–97^6$	5-10				
1995-97	11-15				
	All	0.2698	0.0000	0.1641	0.0000
	0-4	0.3595	0.0000	0.2881	0.0000
$1998-00^7$	5-10				
1000 00	11-15				
	All	0.3595	0.0000	0.2881	0.0000

 $<sup>^1\</sup>mathrm{Reference}$  group: all childless married women.

 $<sup>^{2}</sup>$ Reference group: all childless married women.

<sup>&</sup>lt;sup>3</sup>Only up to the age of 12 to ensure that we have at least 18 months of observations.

The GHS in 1996–97, 1998–99 and 2000–01 does not include the whole annual data.

<sup>&</sup>lt;sup>4</sup>Only up to the age of 9.

<sup>&</sup>lt;sup>5</sup>Only up to the age of 6.

<sup>&</sup>lt;sup>6</sup>Only up to the age of 3.

<sup>&</sup>lt;sup>7</sup>Only up to the age of 0.

Table 8: Tests whether Later Birth Cohorts are Different from 1974-79 by Predicted Wage

D 40%1 %0	A C(1:11	Lower	$1/3^1$	Medium	$1/3^2$	Higher	${1/3^3}$
Base 1974-79	Age Child	Mean Gap	$p ext{-}value$	Mean Gap	$p ext{-}value$	Mean Gap	$p ext{-}value$
	0-4	0.0137	0.2513	0.0291	0.0155	0.0559	0.0116
1980-82	5-10	-0.0246	0.7000	0.0258	0.3217	0.0094	0.1568
1900-02	11-15	0.0106	0.9201	0.0030	0.9801	0.0173	0.4078
	All	-0.0016	0.7004	0.0197	0.1672	0.0264	0.0219
	0-4	0.0423	0.1765	0.0288	0.3088	0.0608	0.0018
1983-85	5-10	-0.0130	0.6977	-0.0140	0.0921	0.0069	0.5429
1905-05	11-15	-0.0004	0.1436	-0.0002	0.9835	0.0152	0.6207
	All	-0.0004	0.1436	0.0037	0.3441	0.0263	0.0306
	0-4	0.0089	0.2505	0.0773	0.0000	0.0984	0.0000
$1986 – 88^4$	5-10	0.2664	0.0425	-0.0431	0.0078	-0.0038	0.3503
1900-00	11-15	-0.0377	0.6768	0.0483	0.5675	0.0424	0.2558
	All	0.1084	0.1322	0.0172	0.0000	0.0426	0.0000
	0-4	-0.0297	0.2659	0.0988	0.0000	0.1102	0.0000
$1989 – 91^{5}$	5-10	-0.1866	0.2205	0.0289	0.2587	0.0057	0.0953
1303 31	11-15						
	All	-0.1082	0.2008	0.0639	0.0000	0.0579	0.0000
	0-4	0.0102	0.3171	0.1177	0.0000	0.1396	0.0000
$1992–94^{6}$	5-10	0.1754	0.5946	0.1592	0.0080	0.0649	0.1438
1332 34	11-15						
	All	0.0574	0.1174	0.1296	0.0000	0.1182	0.0000
	0-4	0.0435	0.5403	0.1751	0.0000	0.1935	0.0000
$1995–97^{7}$	5-10						
1330 31	11-15						
	All	0.0435	0.5403	0.1751	0.0000	0.1935	0.0000
	0-4	0.2672	0.0000	0.2512	0.0000	0.3702	0.0000
1998-008	5-10						
1000 00	11-15						
	All	0.2672	0.0000	0.2512	0.0000	0.3702	0.0000

 $<sup>^{1}</sup>$ Reference group: childless married women in lower 1/3 predicted wage.

<sup>&</sup>lt;sup>2</sup>Reference group: childless married women in medium 1/3 predicted wage.

 $<sup>^3</sup>$ Reference group: childless married women in higher 1/3 predicted wage.

<sup>&</sup>lt;sup>4</sup>Only up to the age of 12 to ensure that we have at least 18 months of observations.

The GHS in 1996-97, 1998-99 and 2000-01 does not include the whole annual data.

<sup>&</sup>lt;sup>5</sup>Only up to the age of 9.

<sup>&</sup>lt;sup>6</sup>Only up to the age of 6.

<sup>&</sup>lt;sup>7</sup>Only up to the age of 3.

 $<sup>^{8}</sup>$ Only up to the age of 0.

Table 9: Tests whether Later Birth Cohorts are Different from 1974–79 by Partner's employment and Partner's occupation level

D 40%1 %0	A (71:11	Employed	$in High^1$	Employed	in Low <sup>2</sup>	Non-Emp	${bloyed^3}$
Base 1974-79	Age Child	Mean Gap	$p ext{-}value$	Mean Gap	$p ext{-}value$	Mean Gap	$p ext{-}value$
	0-4	0.0227	0.1600	0.0502	0.0000	0.0117	0.7913
1980-82	5-10	0.0084	0.2117	0.0298	0.1992	0.0181	0.8051
1900-02	11-15	0.0263	0.5126	0.0020	0.0778	0.0220	0.9207
	All	0.0185	0.1968	0.0275	0.0000	0.0173	0.9778
	0-4	0.0504	0.0002	0.0393	0.0145	-0.0264	0.6945
1983-85	5-10	0.0088	0.3535	0.0146	0.3280	0.0366	0.0764
1900-00	11-15	0.0157	0.8264	-0.0134	0.0198	0.0204	0.8765
	All	0.0240	0.0060	0.0136	0.0737	0.0113	0.4374
	0-4	0.0864	0.0000	0.0549	0.0002	0.0650	0.1667
$1986 – 88^4$	5-10	-0.0156	0.0119	0.0162	0.7837	0.0208	0.5373
1900-00	11-15	0.0343	0.6637	0.0821	0.1090	-0.1046	0.2661
	All	0.0313	0.0000	0.0413	0.0019	0.0185	0.2542
	0-4	0.0956	0.0000	0.1014	0.0000	0.0334	0.7260
$1989 – 91^{5}$	5-10	0.0290	0.0122	0.0028	0.4664	0.0733	0.3596
1303 31	11-15						
	All	0.0623	0.0000	0.0521	0.0000	0.0533	0.5718
	0-4	0.1342	0.0000	0.1179	0.0000	0.0400	0.4388
$1992–94^{6}$	5-10	0.0897	0.0470	0.0948	0.0757	0.1854	0.0624
1332 34	11-15						
	All	0.1215	0.0000	0.1179	0.0000	0.0816	0.1622
	0-4	0.1635	0.0000	0.1798	0.0000	0.0425	0.4574
$1995–97^{7}$	5-10						
1330 31	11-15						
	All	0.1635	0.0000	0.1798	0.0000	0.0425	0.4574
	0-4	0.2572	0.0000	0.3456	0.0000	0.0651	0.2969
1998-008	5-10						
1000 00	11-15						
	All	0.2572	0.0000	0.3456	0.0000	0.0651	0.2969

<sup>&</sup>lt;sup>1</sup>Reference group: childless married women with employed partner in high occupation.

<sup>&</sup>lt;sup>2</sup>Reference group: childless married women with employed partner in low occupation.

<sup>&</sup>lt;sup>3</sup>Reference group: childless married women with non-employed partner.

<sup>&</sup>lt;sup>4</sup>Only up to the age of 12 to ensure that we have at least 18 months of observations.

The GHS in 1996-97, 1998-99 and 2000-01 does not include the whole annual data.

<sup>&</sup>lt;sup>5</sup>Only up to the age of 9.

<sup>&</sup>lt;sup>6</sup>Only up to the age of 6.

<sup>&</sup>lt;sup>7</sup>Only up to the age of 3.

<sup>&</sup>lt;sup>8</sup>Only up to the age of 0.

Table 10: Tests whether Later Birth Cohorts are Different from 1974-79 by Partner's education

D JONI NO	A (71 : 1 1	High Edu	$cation^1$	Low Educ	$cation^2$
Base 1974-79	Age Child	Mean Gap	$p ext{-}value$	Mean Gap	$p ext{-}value$
	0-4	0.0149	0.0229	0.0414	0.0000
1980-82	5-10	-0.0038	0.4137	0.0352	0.0579
1900-02	11-15	0.0068	0.9746	0.0198	0.5768
	All	0.0053	0.2284	0.0324	0.0000
	0-4	0.0408	0.0325	0.0460	0.0001
1983-85	5-10	0.0082	0.3127	0.0182	0.0364
1900-00	11-15	0.0269	0.5919	-0.0070	0.9116
	All	0.0242	0.1044	0.0191	0.0005
	0-4	0.0610	0.0004	0.0853	0.0000
$1986 – 88^3$	5-10	-0.0133	0.0495	0.0085	0.2909
1986–883	11-15	0.0063	0.7652	0.0531	0.3244
	All	0.0183	0.0007	0.0449	0.0000
	0-4	0.1044	0.0000	0.0960	0.0000
$1989 – 91^4$	5-10	0.0233	0.3630	0.0298	0.0557
1909 91	11-15				
	All	0.0639	0.0000	0.0629	0.0000
	0-4	0.1327	0.0000	0.1262	0.0000
$1992 – 94^{5}$	5-10	0.0606	0.1402	0.1417	0.0002
1992 94	11-15				
	All	0.1121	0.0000	0.1306	0.0000
	0-4	0.1969	0.0000	0.1571	0.0000
1995–976	5-10				
	11-15				
	All	0.1969	0.0000	0.1571	0.0000
	0-4	0.3508	0.0000	0.2607	0.0000
$1998-00^7$	5-10				
1000 00	11-15				
	All	0.3508	0.0000	0.2607	0.0000

<sup>&</sup>lt;sup>1</sup>Reference group: childless married women with partner with high education.

<sup>&</sup>lt;sup>2</sup>Reference group: childless married women with partner with low education.

<sup>&</sup>lt;sup>3</sup>Only up to the age of 12 to ensure that we have at least 18 months of observations.

The GHS in 1996-97, 1998-99 and 2000-01 does not include the whole annual data.

<sup>&</sup>lt;sup>4</sup>Only up to the age of 9.

<sup>&</sup>lt;sup>5</sup>Only up to the age of 6.

<sup>&</sup>lt;sup>6</sup>Only up to the age of 3.

<sup>&</sup>lt;sup>7</sup>Only up to the age of 0.

Table 11: Tests whether Later Birth Cohorts are Different from 1974–79 by Tenure

Base 1974-79	Age Child	Tenure <	$1 Year^1$	Tenure >	$5 Years^2$
	11ge Cittia	Mean Gap	p- $value$	Mean Gap	p- $value$
	0-4	0.0300	0.0826	-0.0268	0.3505
1980-82	5-10	-0.0305	0.0093	0.0275	0.1115
1300 02	11-15	-0.0320	0.0498	0.0377	0.0135
	All	-0.0120	0.0015	0.0137	0.0179
	0-4	0.0502	0.0033	-0.0462	0.0002
1983–85	5-10	-0.0172	0.5152	0.0483	0.0002
1300 00	11-15	-0.0226	0.0900	0.0482	0.0043
	All	0.0022	0.0089	0.0187	0.0000
	0-4	0.0096	0.0274	0.0134	0.1520
$1986–88^3$	5-10	-0.0239	0.2296	0.0548	0.0010
1980-883	11-15	-0.0015	0.9504	0.0089	0.2972
	All	-0.0076	0.0776	0.0318	0.0014
	0-4	-0.0314	0.0125	0.0576	0.0000
$1989 – 91^4$	5-10	-0.0471	0.0069	0.0756	0.0000
1303 31	11-15				
	All	-0.0392	0.0004	0.0667	0.0000
	0-4	-0.0525	0.0019	0.0745	0.0000
$1992 – 94^{5}$	5-10	-0.0626	0.0459	0.1080	0.0090
1332 34	11-15				
	All	-0.0554	0.0006	0.0841	0.0000
	0-4	-0.0485	0.0367	0.5840	0.0001
$1995 – 97^6$	5-10				
	11-15				
	All	-0.0485	0.0367	0.5840	0.0001
	0-4	-0.0427	0.1352	-0.0580	0.1859
$1998-00^7$	5-10				
1000 00	11-15				
	All	-0.0427	0.1352	-0.0580	0.1859

<sup>&</sup>lt;sup>1</sup>Reference group: all childless married women with tenure less than one year.

<sup>&</sup>lt;sup>2</sup>Reference group: all childless married women with tenure more than five years.

 $<sup>^3</sup>$ Only up to the age of 12 to ensure that we have at least 18 months of observations.

The GHS in 1996-97, 1998-99 and 2000-01 does not include the whole annual data.

 $<sup>^4</sup>$ Only up to the age of 9.

<sup>&</sup>lt;sup>5</sup>Only up to the age of 6.

<sup>&</sup>lt;sup>6</sup>Only up to the age of 3.

<sup>&</sup>lt;sup>7</sup>Only up to the age of 0.

Table 12: Tests whether Wages for Later Birth Cohorts are Different from  $1974-79^1$ 

Base 1974-79	Age Child	Mean Gap	$p ext{-}value$
1980-82	0-4	-0.0183	0.5697
	5-10	0.0162	0.4205
1980-82	11-15	0.0156	0.2159
	All	0.0053	0.3921
	0-4	-0.0059	0.3010
1983-85	5-10	0.0100	0.1938
1900-00	11-15	-0.0025	0.3102
	All	0.0011	0.1911
	0-4	-0.0213	0.0487
$1986-88^2$	5-10	0.0029	0.9692
1900-00	11-15	0.0085	0.8501
	All	-0.0055	0.4505
	0-4	-0.0101	0.4343
$1989 – 91^3$	5-10	0.0227	0.2614
1909-91	11-15		
	All	0.0063	0.3331
	0-4	0.0051	0.3273
$1992–94^{4}$	5-10	0.0654	0.0007
1992-94	11-15		
	All	0.0223	0.0049
$1995 – 97^5$	0-4	0.0336	0.1818
	5-10		
	11-15		
	All	0.0336	0.1818
	0-4	-0.0247	0.5269
$1998-00^6$	5-10		
1000 00	11-15		
	All	-0.0247	0.5269

<sup>&</sup>lt;sup>1</sup>Reference group: all childless married employed women.

<sup>&</sup>lt;sup>2</sup>Only up to the age of 12 to ensure that we have at least 18 months of observations.

The GHS in 1996-97, 1998-99 and 2000-01 does not include the whole annual data.

 $<sup>^{3}</sup>$ Only up to the age of 9.

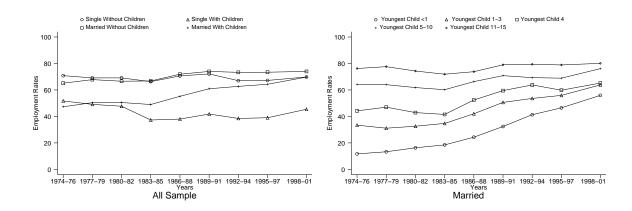
<sup>&</sup>lt;sup>4</sup>Only up to the age of 6.

<sup>&</sup>lt;sup>5</sup>Only up to the age of 3.

<sup>&</sup>lt;sup>6</sup>Only up to the age of 0.

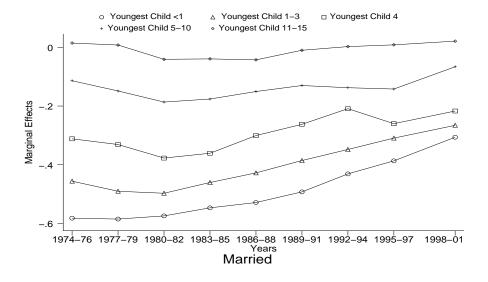
## C Graphs

Figure 1: Female Employment Rates in Great Britain: 1974–2000<sup>1,2</sup>



 $<sup>^{1}</sup>$  All Sample = women aged 16–59.

Figure 2: Marginal Effects on Probability of Married Female Employment in Great Britain:  $1974-2000^{1,2}$ 

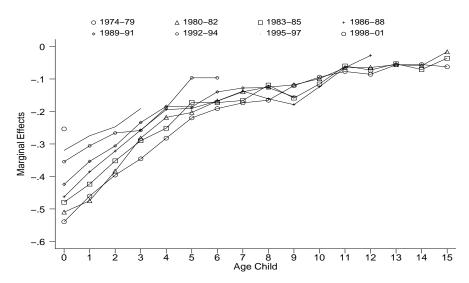


<sup>&</sup>lt;sup>1</sup> Married = both married and women in cohabitation aged 16–59.

<sup>&</sup>lt;sup>2</sup> Married = both married and women in cohabitation aged 16–59.

<sup>&</sup>lt;sup>2</sup> Reference group in the probit estimation is married women without children.

Figure 3: Marginal Effects on the Probability of Employment, By Children's Birth Cohorts and  $Age^1$  — Married Females in Britain



 $<sup>^{\</sup>rm 1}$  Comparison group are all married childless women.

Figure 4: Employment Rates After Birth — Married Mothers in Britain

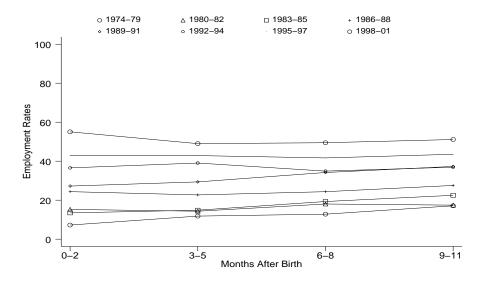
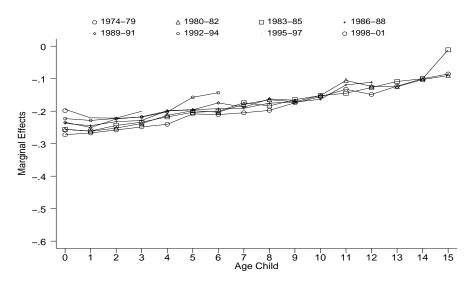
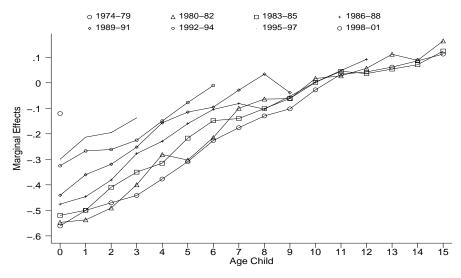


Figure 5: Marginal Effects on the Probability of Full-time Employment, By Children's Birth Cohorts and  $Age^1$  — Married Females in Britain



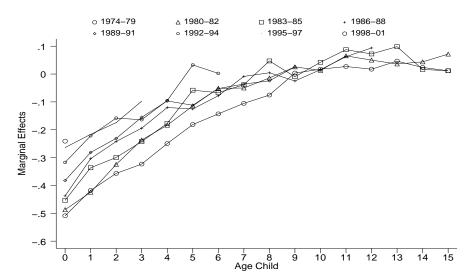
<sup>&</sup>lt;sup>1</sup> Comparison group are all married childless women.

Figure 6: Marginal Effects on the Probability of Employment, First Birth<sup>1</sup>



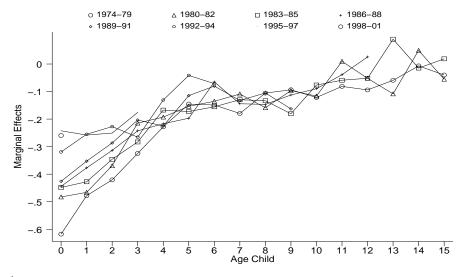
<sup>&</sup>lt;sup>1</sup> Comparison group are all married childless women.

Figure 7: Marginal Effects on the Probability of Employment, Second and Higher Order  ${\rm Birth}^1$ 



<sup>&</sup>lt;sup>1</sup> Comparison group are all married childless women.

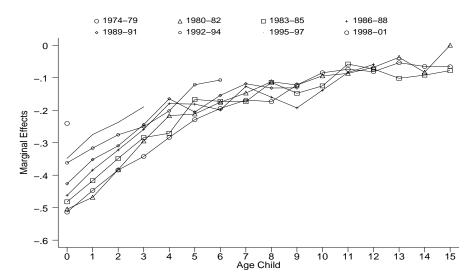
Figure 8: Marginal Effects on the Probability of Employment, Married Women with High Education  $^{1,2}$ 



<sup>&</sup>lt;sup>1</sup> High education means A level and superior.

 $<sup>^{2}</sup>$  Comparison group are all married childless women with high education.

Figure 9: Marginal Effects on the Probability of Employment, Married Women with Low  $\stackrel{\circ}{\text{Education}}^{1,2}$ 



 $<sup>^{1}</sup>$  Low education means below A level.  $^{2}$  Comparison group are all married childless women with low education.

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