

National Longitudinal Surveys



U.S. Department of Labor
Bureau of Labor Statistics

Discussion Paper

Employment Continuity Among New Mothers

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March 1994

Report: NLS 95-22

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This paper was funded by the U.S. Department of Labor, Bureau of Labor Statistics under Grant Number E-9-J-1-0067. The views expressed here are those of the authors and do not necessarily reflect the views of the U.S. Department of Labor. Sally Carson, Larry Painter, Joan Keesey, Natasha Kostan, and Jerene Kelly provided excellent assistance.

EXECUTIVE SUMMARY

Employment Continuity Among New Mothers

Jacob Alex Klerman and Arleen Leibowitz

The last two decades have seen radical changes in the work patterns of new mothers. In the early seventies, work among new mothers was a rarity. Today nearly half of all mothers of one-month-old infants are employed. Only about 10 percent of these mothers of one-month-old infants are actually at work. The difference – those who are employed, but not at work – are the large number of women on paid and unpaid leave. This leave tapers off quickly. By the time the infant is three-months-old, work is nearly at its long-term level (i.e., it is nearly the same as it is for mothers of children between 12 and 24 months). This use of paid and unpaid leave constitutes the de facto maternity leave policy of American employers.

Legislation at the state and federal level now requires employers to guarantee that women may return to their old jobs after a maternity leave of several months (three in the federal statute, one to four in the state statutes). This paper evaluates the importance of such legislation: How many women already returned to their pre-childbirth jobs in the absence of a legislated right to maternity leave, and how many women are covered by maternity leave laws given their non-universal coverage.

The protections of maternity leave statutes are dynamic. They guarantee to women the right to return to their pre-childbirth employer after a leave of up to a guaranteed length. Similarly, the eligibility requirements for coverage under the maternity leave statutes are dynamic. To be covered women must have had a certain number of months of full-time tenure (a year under the federal Family Leave Act). Considering the impact of these maternity leave laws requires, not only information on women's labor market choices at a point in time, but also longitudinal data on labor market choices before and after childbirth.

To evaluate the likely effects of such legislation, we use the longitudinal data collected in the Employer Supplements as part of the continuous work history data of the National Longitudinal Survey-Youth (NLS-Y). Doing so is complicated because the NLS-Y is a cohort study. It follows a sample of about six thousand women who were aged 14 to 21 in 1979. Some recent mothers were born before the cohort represented in the NLS-Y; some were born

after. For our purposes, we want to make statements about all recent mothers. We extrapolate our NLS-Y based results to the set of all recent mothers using regression standardization. We estimate models of the labor supply behaviors of recent mothers using the NLS-Y sample. Those models include regressors which describe how the NLS-Y sample differs from the set of all recent mothers (age, year of birth, race/ethnicity, marital status, education). We then use the model to predict behavior for a sample of all recent mothers. The characteristics of recent mothers are derived from the Fertility Supplement to the June 1990 Current Population Survey.

Our basic finding is that the maternity leave statutes codify existing practice. The overwhelming majority (88 percent) of women who work full-time both before and after the birth of a child return to their pre-childbirth employer. This percentage is, however, lower than the corresponding number among all women (whether or not they had a child in the interim) with similar demographic characteristics as the mothers (97 percent). Both among new mothers and among all demographically similar women, far from all women are still working full-time eighteen months later; for new mothers, the figure is 51.3, for all women the figure is 56.5. Among women who worked full-time a year before their child was born, about 20 percent are working part-time six months after the child is born, and 28 percent are not working at all. Among all demographically similar women, only 10 percent are not still working full-time.

These high rates of return to the same employer are particular to full-time workers. Among part-time workers, only about 8 percent work for their pre-pregnancy employer (whether full- or part-time) six months after childbirth. Among all women, rates of job continuity over a similar 18 month interval are also low (34 percent), but not as low as for new mothers.

These employment continuity rates vary with the demographic characteristics of the new mothers. In particular, employment continuity rates for full-time work before and after the birth of the child are lowest for first births and higher for later births (33.8 percent for first births vs. 52.1 percent second births, and 56.3 percent for third and higher births). Thus, although most women are working shortly after the birth of the child, even some women who worked full-time before the birth of their first child, totally leave the labor force. Across all first births, about 19 percent of all women worked full-time before the birth of the child and are not working at all six months after the birth of the child.

The paper then uses this combined NLS-Y/CPS approach to estimate the coverage of the federal Family Leave Act (FLA). In the effort to build a coalition for passage, the federal FLA was deliberately crafted to cover only some new mothers. Specifically, only employers with 50 or more employees, and employees with 12 months tenure and 1250 hours during the previous year (about 24 hours per week) are covered. Using the data on job tenure, hours worked, and firm size in the NLS-Y, we show that the FLA covers only a minority of working new mothers. Each of the exclusions is important. Among the 63 percent of new mothers who were working a year before the birth of the child, only 77 percent meet the full-time work requirement. Of them, only 68 percent meet the job tenure requirement. Of those women who meet the full-time work and the job-tenure requirement only about 59 percent are working in large enough firms. Thus, the FLA guarantees to only about 32 percent of working women the right to return to their pre-childbirth employer.

Together, these findings have important implications for the likely effects of the FLA. Both analyses suggest that the FLA will have only minimal effects on the labor supply of new mothers. First, only women who work full-time are covered by the FLA. Among them, nearly all women who are working six months after the birth of the child are working for the same employer they worked for during pregnancy. Thus, the FLA's right to return to the pre-pregnancy employer is already standard business practice. Second, the FLA only covers about a third of all new mothers who were working a year before the birth of the child and 41 percent of new mothers who worked full-time. Thus, the law's protections do not apply to many new mothers, and those covered new mothers were almost always returned to their employers even before the FLA.

Family leave legislation may affect other dimensions of women's labor market behavior. As we emphasized in our model, it is possible that, prior to the new laws, women would have liked to have taken longer leaves after the birth of their children, but that employers strictly limited the amount of leave. Given the "choice" of a very short-leave or quitting her job, a women may "chose" the short-leave. Perhaps given the right under the FLA to longer job protected leaves, new mothers will take longer leaves.

ABSTRACT

Recently both state and federal governments have enacted maternity leave legislation. The key provision of that legislation is that after a leave (of a limited duration), the recent mother is guaranteed the right to return to her pre-leave employer at the same or equivalent position. Using data from the National Longitudinal Survey-Youth, this paper correlates work status after childbirth with work status before pregnancy. Almost all women (nearly 90 percent) who work full-time both before and after childbirth continue to work at the same employer. Thus maternity leave legislation is unlikely to have a major effect on employment continuity. However, compared to all demographically similar women, new mothers do have an excess probability of leaving their jobs. Finally, most maternity leave legislation limits its protections to full-time workers with sufficient job tenure sufficiently large firms. Using the NLS-Y, the paper estimates that the federal Family Leave Act covers only about a third of all working new mothers. The restriction to full-time workers is relatively unimportant because few part-time workers would satisfy the tenure and firm-size requirements.

I. INTRODUCTION

The Family Leave Act of 1993 (FLA) was the first piece of legislation that President Clinton signed into law. The FLA, which took effect August 1, 1993 guarantees to new mothers (among others) the right to up to 12 weeks of leave without pay and the right to reinstatement without penalty at the job held at the start of the leave. Although the passage of this legislation had enormous political and social significance, the practical significance of the FLA is yet to be determined. In this paper we assess the likely effects of the FLA by examining pre-FLA labor supply patterns for women following childbirth and by determining what proportion of new mothers would be covered by the FLA.

Much of the impetus for the passage of the FLA came from the substantial rise in labor force participation by mothers of young children. Women's labor supply, especially around the birth of a child, has grown rapidly over the past two decades (Leibowitz and Klerman, 1994). In the past, women tended to quit their jobs when their first child was born and did not return to the labor force until their youngest child entered school. Today, more than half of all new mothers are in the labor force only three months after giving birth. Such a high level of labor supply suggests that women are retaining the jobs they held in pregnancy and returning to work after a short maternity leave. Yet, there has been little analysis of whether, in the absence of legislation, women return to the same job after childbirth, or whether they begin a new job. Such information is crucial to understanding the impact of the FLA, which guarantees a right to return to the job held in pregnancy.

From the employer's point of view it also important to know whether a female worker is likely to return to the job after having a child. Doing so requires comparing job changing among women who are new mothers with job changing among similar women who did not give birth in the period studied. Because the FLA only covers women working more than 25 hours a week with at least a year of job tenure in firms with at least 50 employees, understanding which new mothers continue to work after giving birth and how this relates to the coverage provisions of the FLA is also important to understanding the likely impact of this new legislation.

In this paper we use longitudinal data from the National Longitudinal Survey of Youth (NLS-Y) and representative population data from the Current Population Survey (CPS) to determine what proportion of new mothers are covered by the FLA, taking into account the coverage restrictions relating to firm size, job tenure and hours worked. We also investigate

the characteristics of women who return to the job they held in pregnancy and whether they would be covered by the FLA. This allows us to determine whether the FLA simply codifies existing business practice with regard to maternity leave, or whether it provides new options for women who have not returned to their jobs in the period before the FLA was in force.

The balance of the paper proceeds as follows. Section II reviews the stylized facts and the literature on women's labor supply by age of the youngest child. Section III presents a simple economic model of time away from work around the birth of a child and the decision to return to the pregnancy employer. Section IV motivates and describes our methodology, which combines the NLS-Y and the CPS using a system of logistic regressions. Section V presents our results on job continuity. Section VI presents our results on coverage of the federal Family Leave Act. The conclusion relates the results to the family leave debate and identifies directions for future research.

II. WORK AMONG NEW MOTHERS

The last two decades have seen major and widely noted changes in the work patterns of mothers of young children. Writing in 1974, Mincer and Polachek built a theory of women's earnings on the following characterization of women's labor force behavior:

[A]fter their schooling, the life cycle of married women features several stages which differ in the nature and degree of labor-market and home investment. There is usually continuous market work prior to the birth of the first child. The second stage is a period of non-participation related to childbearing and child care, lasting between 5 and 10 years, followed by intermittent participation before the youngest child reaches school age. The third stage is a more permanent return to the labor force for some, though it may remain intermittent for others. (Mincer and Polachek, 1974, p. S83).

This characterization was based on tabulations from the (then recently available) first wave of the National Longitudinal Survey of Mature Women. Most of these women, who were 30 to 44 in 1967, had their first child during the baby boom of the mid-1950s.

The patterns that Mincer and Polachek described were beginning to change by the 1970s. Figure 1 shows women's labor force participation by age of the youngest child in months, based on data from the June Current Population Survey (CPS).¹ Clearly, at later dates, a

¹The basic CPS interview is designed to supply the nation's official unemployment statistics, and it therefore contains careful probes about work status, distinguishing labor force participation from non-participation, employment from work, and paid from unpaid leave. See Klerman and

greater percentage of women were labor force participants, at each time period following childbirth. In the earliest period, 1973-75, about 35 percent of mothers of two-year-olds (aged 25-36 months) participated in the labor force. Eight years later (1981-83), the percentage had risen ten points to about 45 percent. For the most recent period (1990), work is now the norm, with about 55 percent of mothers of two-year-olds participating in the labor force.

Leibowitz (1994) for a description to the June CPS data and the issues involved in using it to analyze women's labor force behavior. The data for 1973-75 and 1981-83 are simple averages of the rates of participation over the three-year bands, using the June survey, which is the month in which the interview includes information about the age of a woman's youngest child in months. The data for 1990 is computed differently. The CPS is a rolling panel where individuals can be interviewed for up to four consecutive months. The data for 1990 combine information for up to four monthly 1990 interviews that women responding in June 1990 also provided. Reweighting accounts for differential match rates (each interview's weight is computed as one over the number of interviews found for a particular woman). Details of the matching procedure are available on request.

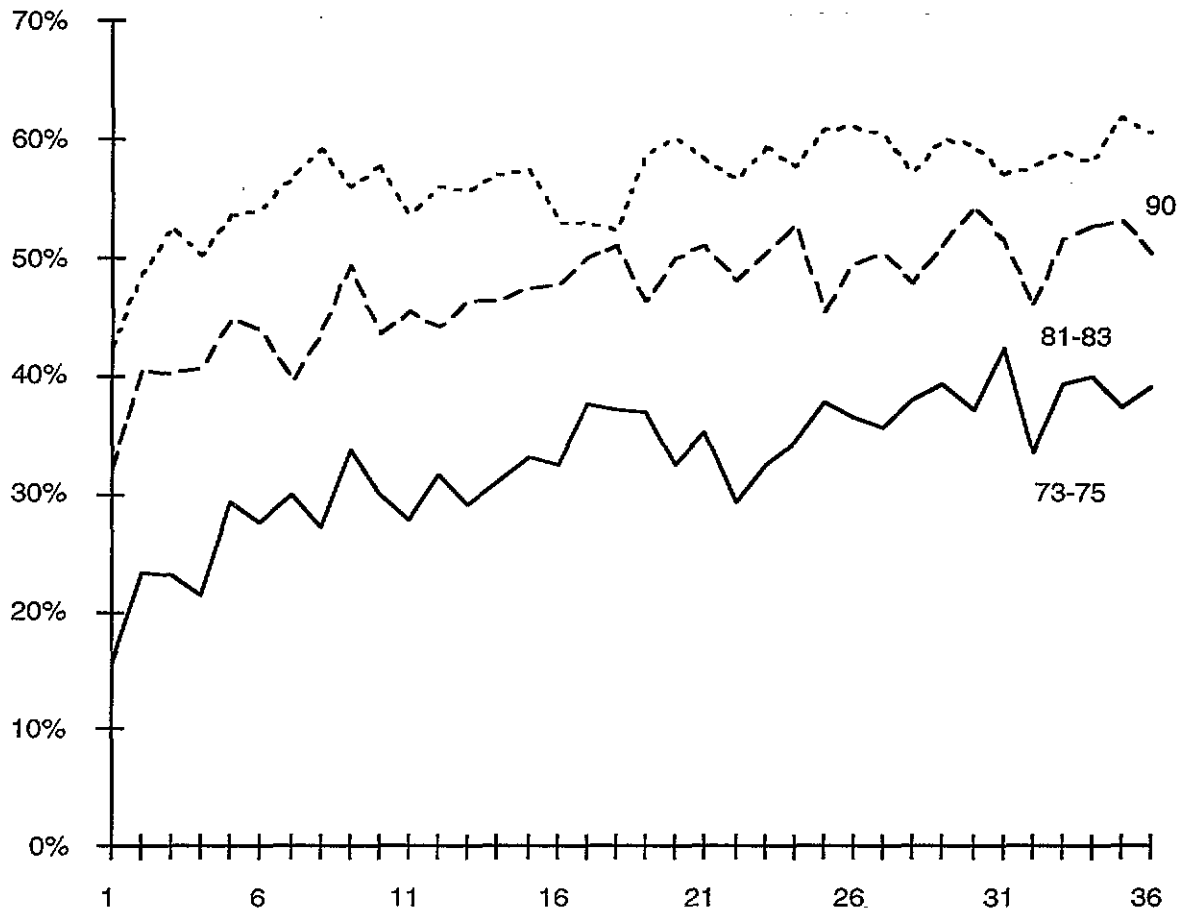


Fig. 1—Labor Force Participation (LFP) for Mothers by Age of Youngest Child, 1973-75, 1981-83, and 1990

Source: Authors' tabulations from 1973, 1974, 1975, 1981, 1982, 1983 June CPS and from matched June 1990 CPS file.

Not only has the level of the participation-age relation shifted up, but the lines have become less steep. In the earliest period, as the youngest child aged from 7 to 36 months, labor force participation rose nearly 10 percentage points. By 1990, despite the higher levels of work among mothers of older children, the increase in participation between 7 and 36 months following childbirth was only two percentage points. This change can be seen more clearly in Figure 2, which magnifies the scale of the previous plot for the most recent period (1990). Figure 2 also plots employment, which subtracts the unemployed from labor force

participants. The figure demonstrates dramatically that mothers of one-year-olds are nearly as likely to have a job as mothers of three-year-olds.

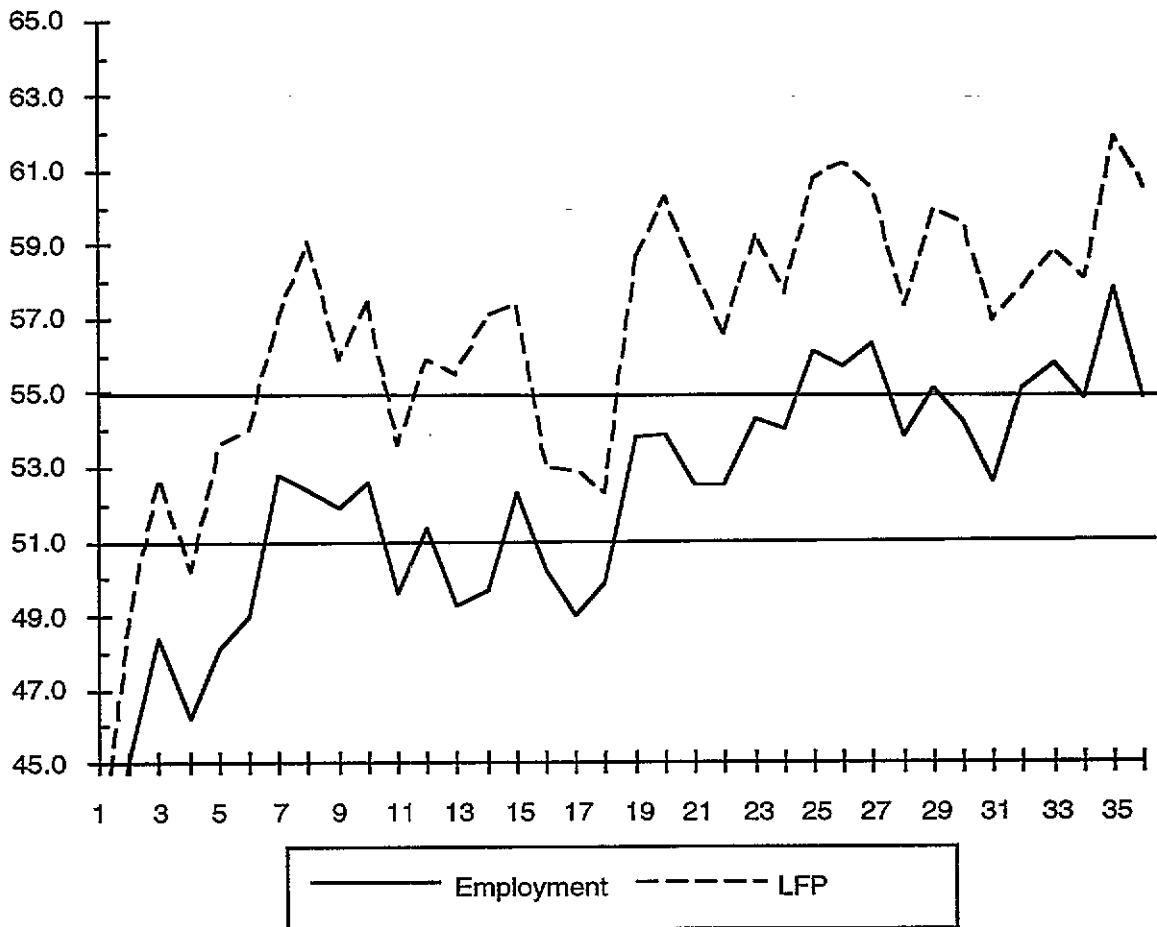


Fig. 2—Detail of Employment by Age of Youngest Child in Months, 1990.

Source: Authors' tabulations from author's matched 1990 June CPS file.

These changes in women's labor force participation among new mothers have been widely noted. Hayghe (1986, with updates in the *Statistical Abstract*) is an official source. O'Connell (1990) uses Survey of Income and Program Participation retrospective data on the timing of leaving work during pregnancy and returning to work after childbirth for first births to identify similar time-series trends. Several papers used hazard models to analyze the timing of return to work after childbirth. Papers by Even (1987) using the first wave of the National

Survey of Family Growth (again retrospective data on first births), McLaughlin (1982) using the National Longitudinal Survey-Mature Women, O'Connell (1990) using the SIPP, and Leibowitz, Klerman and Waite (1991), and Klerman (1993) using the NLS-Y have all shown similar patterns.

The Importance of Informal Maternity Leave

This shrinkage of the time away from work makes possible different strategies for juggling child-raising and a career. For women who will be away from the labor market for several years (as in the quote from Mincer and Polachek or the earlier period of Figure 1), quitting the pre-pregnancy job is the only alternative. When women will be away from the labor force for well under a year, it becomes possible for employers and employees jointly to make arrangements that allow both for employment continuity and for the new mother to spend some time away from the workplace caring for/enjoying the new child. In the next section, we outline a simple model of these choices.

The *labor force participation* (LFP) measure used in the plots in the previous section is an aggregate of four categories: the unemployed (those actively seeking employment), those who are employed and at work, those on paid leave, and those on unpaid leave. The last two categories include women who are employed, but not at work. Such paid or unpaid leave allows women to maintain their connection to their pre-pregnancy employer while still enjoying time away from work in the early post partum period. In fact, this leave taking in the months immediately following childbirth, accounts for a large share of the labor force participants (see Figure 3). The percent of new mothers of one-month-old children actually at work was 15% in 1990, not very different from the percentage of new mothers who were labor force participants in 1973-1975. By 1990, however, as many women were on paid leave as were working, and another ten percent were on unpaid leave. Thus, LFP is nearly three times greater in 1990 than in 1973-1975, but most of these labor force participants were actually on leave from a job.

This use of paid and unpaid leave is a very short-run accommodation. Figure 4 emphasizes this point by plotting paid and unpaid leave explicitly. The paid leave has essentially disappeared after two months and the unpaid leave after three months. Conversely, the percentage of mothers actually at work grows 25 percentage points by the fourth month following childbirth.

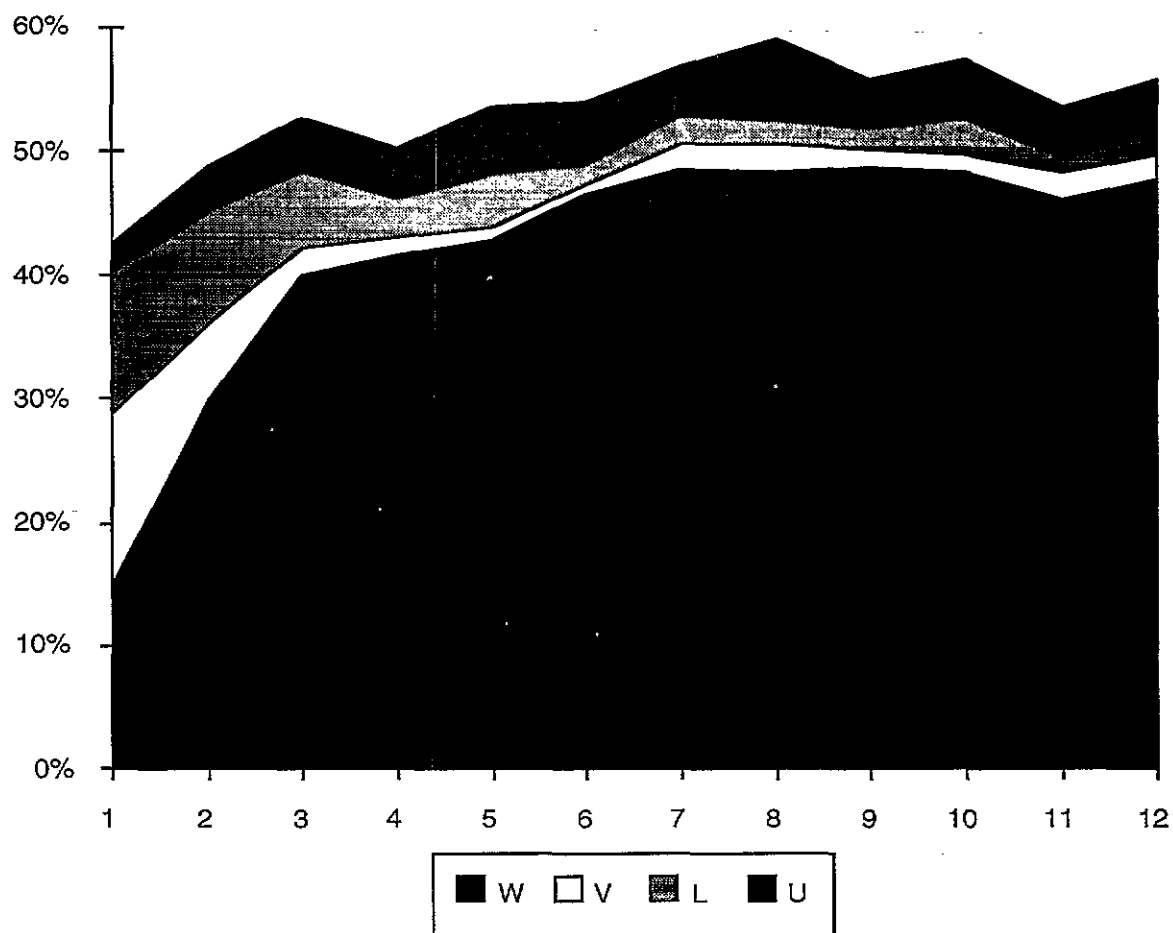


Fig. 3—Components of Labor Force Participation by Age of Youngest Child, 1990. W-Work, V-Paid Leave, L-Unpaid Leave, U-Employment

Source: Tabulations from authors' matched 1990 June CPS file..

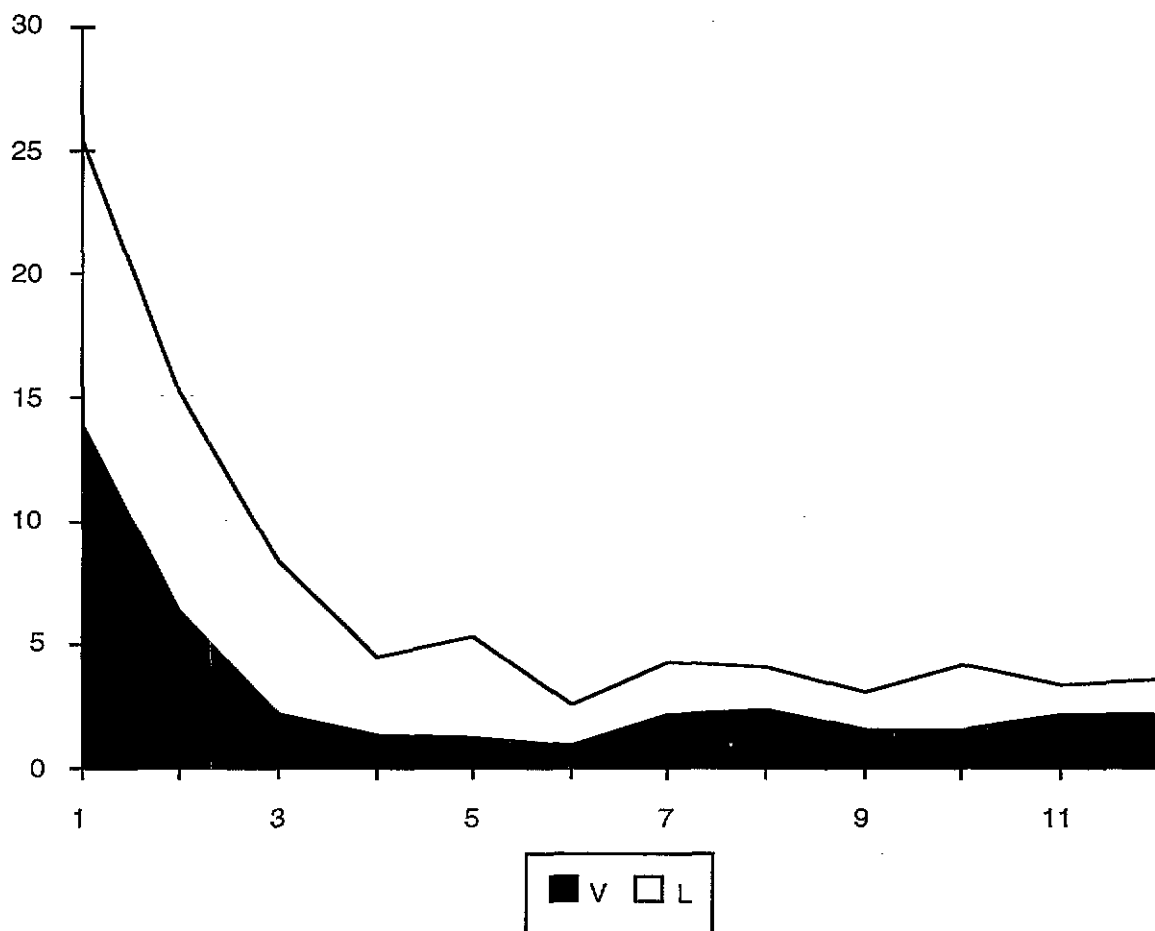


Fig. 4—Paid and Unpaid in 1990 by Age of Youngest Child in Months V-Paid Leave, L-Unpaid Leave,

Source: Tabulations from authors' matched 1990 June CPS file..

However, using CPS data it is not possible to determine whether these women are returning to a job held during pregnancy or whether they are working for a different employer (or whether they held no job in pregnancy). The next two sections describe a simple model for time away from work after childbirth incorporating the decision to return to the same employer, and a methodology for exploring these dynamic aspects of maternal work patterns. This methodology combines cross-section data from the CPS with longitudinal data

from the NLS-Y to address questions about new mother's continuity with a given employer and how this compares with job continuity for women who did not give birth in the period.

III. A MODEL LEAVE FOR MATERNITY

The essence of the new mother's labor supply choice — when to return to work, whether to return to the pre-childbirth employer, and the role of maternity leave is captured by the following simple model. Women (families) maximize a life-time utility function U which is the integral over instantaneous additive sub-utility function V , a function of life-time consumption $C(t)$ and leisure $L(t)$

$$U = \int_B^E e^{-rt} V[c(t), L(t); t] dt \quad (1)$$

where B is the beginning of working life, E is the end of life, and it is useful to think of $t=0$ as time of the birth of the child.

To focus on the essence of the problem, we further simplify by assuming that the labor choice at each instant is dichotomous (a woman either works or does not work), that the sub-utility function V is additive in leisure and consumption, and that the marginal utility of consumption is constant and equal to γ . Thus,

$$V(t) = v[L(t); t] + \gamma C(t) \quad (2)$$

Note that we explicitly allow the utility of leisure to vary with the age of the child, t , thus the normalization of $t=0$ noted above. Specifically, we assume that the utility of leisure is monotonically increasing through pregnancy to childbirth, and monotonically decreasing as the child ages.

The household faces a life-time budget constraint (assuming perfect capital markets) of

$$\int_B^E e^{-rt} p C(t) dt = y + \int_B^E e^{-rt} w(t) [1 - L(t)] dt \quad (3)$$

Discounted life-time consumption equals discounted lifetime income, where lifetime income is the sum of the present value of other household income, y , (e.g. from a spouse) and woman's labor earnings (a function of when she works). For convenience, we assume that utility is discounted at the market interest rate.

Then the assumptions on the utility of leisure imply that the household chooses three items:

- 1) when to begin leave during pregnancy ($b \leq 0$).
- 2) when to end leave after childbirth ($e \geq 0$).
- 3) lifetime consumption.

Substituting into the lifetime utility expression from the budget constraint, we have

$$\begin{aligned} \max_{b,e} U = & \int_B^b e^{-rt} U[0;t] dt + \int_b^e e^{-rt} U[1;t] dt + \int_e^E e^{-rt} U[0;t] dt \\ & + \frac{\gamma}{p} \{ y + \int_B^b e^{-rt} w(t) dt + \int_e^E e^{-rt} w(t) dt \} \end{aligned} \quad (4)$$

We illustrate this graphically in Figure 5. The utility of leisure is falling with an increase in the number of weeks since childbirth. Lifetime utility will be maximized if the end of leave is chosen at $e=e^*$, where the utility of leisure equals the weekly wage.

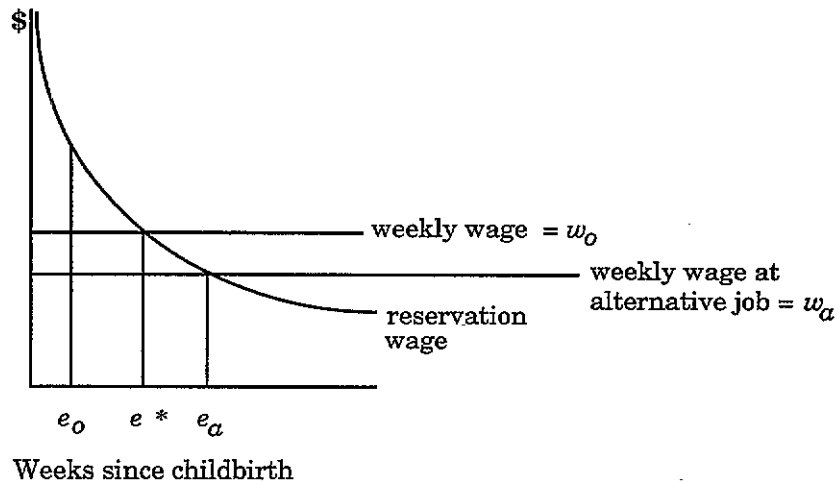


Figure 5: Wage and utility of lesiure by weeks following childbirth

w_0	wage at pregnancy job
w_a	wage at alternative job (forfeiting accumulated firm specific capital)
e^*	unconstrained return date to pregnancy job
e_a	start date for a new (alternative) job
e_0	maximum allowable leave for maternity at pregnancy job

So far, we have discussed the optimum e as though it depended only on the woman's valuation of leisure and her wage. In fact women do not choose whether to work or not on any given day in a spot market. Rather, a new mother faces a labor market with tied offers. A higher wage, w_o , is available to her if she returns to the employer she had in pregnancy; but the ability to come back to the pregnancy job is conditional on returning before exhausting the employer's allowed maternity leave of e_o weeks. Alternatively, the woman could choose e^* weeks of leisure, where $e^* > e_o$, but, at a new job, she will earn a lower wage.² At that new (alternative) job the optimal return date would be later ($e_a > e^*$) and the wage lower. If a job with a higher wage were available to her, she would already have chosen that job in pregnancy. Therefore, we can assume that $w_o > w_a$. Clearly, if the woman's preferred duration of maternity leave does not exceed the employer's maternity leave e^* , there is no problem. However if $e^* > e_o$ as illustrated in Figure 5, the woman must choose between forgoing leisure by returning to work earlier than she would have chosen, or sacrificing consumption by returning to work (at a later date) at a new job with a lower wage (shown as point e_a in Figure 5).

Equation 5 can be used to examine the choice. Instead of behaving as though she faces a spot market for labor, a woman compares lifetime utility at the old job (U_o) where the maternity leave lasts e_o weeks, with lifetime utility on a new job (U_a) with maternity leave of e_a weeks. That difference in lifetime utility is:

$$U_o - U_a = \int_{e_o}^{e_a} e^{-rt} \{U[0,t] - U[1;t]\} dt + \frac{\gamma}{p} \left\{ \int_{e_o}^{e_a} e^{-rt} w_o dt + \int_{e_a}^E e^{-rt} (w_o - w_a) dt \right\} \quad (5)$$

where the first term is the lower utility of working from e_o to e_a (the limited leave vs. unlimited leave, but returning at the time appropriate for the lower wage w_a), the second term is the additional consumption from earnings from work between e_o and e_a , and the third term is the higher earnings ($w_o - w_a$) from not forfeiting the accumulated firm-specific human capital on the current job over the remaining working life.

Clearly a higher initial wage and/or a lower alternative wage makes returning to the pregnancy job more attractive. Also, the longer the allowed leave, the more attractive will be staying with this employer. In evaluating the gain from having a higher wage after the

²Since specific human capital is a major component of earnings (Topel, 1991), the cost in earnings' consumption of changing jobs will be considerable.

return from maternity leave, we should consider the expected duration of this job, rather than the remaining working life. Our results show that there is more turnover in part-time jobs, even among women who do not become mothers. Thus, we expect that women with more job specific training, longer offered leaves, and full-time jobs would be more likely to return to the job held in pregnancy.

IV. METHODS AND DATA

In this section, we describe a method for combining data from the National Longitudinal Survey-Youth (NLS-Y) and the June Current Population Survey (CPS) to estimate longitudinal patterns and labor supply for a representative population. The NLS-Y data are longitudinal and allow us to determine if a particular individual changes employers. However, the NLS-Y sample is not representative of new mothers. In contrast, the CPS has a representative sample of the U.S. population (and thus of new mothers), but does not follow individuals for an extended period of time. Therefore, we combine data from the two sources to yield population estimates of job continuity.

The NLS-Y is a longitudinal sample of young people sponsored by the U.S. Department of Labor, Bureau of Labor Statistics. The original sample was drawn in 1978 from 14- to 21-year-old men and women. Approximately 12,000 individuals were selected in a sampling scheme that over-sampled blacks, Hispanics, and poor whites. This original sample has been interviewed annually since 1979. Here we use data through the 1990 interview. Consistent with the NLS-Y's purpose of measuring labor market dynamics, at each interview an Employer Supplement collects information on each job held since the previous interview. Among the information collected is hours worked and whether this job is the same as the one reported in the previous interview. Thus, using the NLS-Y data it is possible to track employment continuity through time.

Although the NLS-Y has longitudinal job change data, it poses four problems for computing current, representative estimates of maternity leave. First, the NLS-Y is not a simple probability sample, but a stratified sample that deliberately oversampled blacks, Hispanics, and poor whites. This is simply corrected using the 1979 sample weights (which also correct for differential non-response at the first interview).³ Second, the available data

³Work is more common in the weighted than in the unweighted data, as seen in Appendix Table B-1.

include women who gave birth between 1978 (retrospective answers at the 1979 interview) and 1990. Because of the large time-series changes in behavior, simply averaging over all NLS-Y births will not describe the behavior of recent mothers. Third, the NLS-Y is a cohort sample that enrolled women who were aged 14-21 in 1979. These women were 25-33 in 1990; there is no information on women giving births at later ages. Finally, as always, the sample is smaller than we would like, making it difficult to present analyses cross-classifying by covariates.

To address all of these problems simultaneously, we employ a two-stage strategy. In the *first stage*, we estimate a system of weighted logistic regressions on the full NLS-Y sample. The regressors explicitly control for the non-representativeness of the NLS-Y sample (black, Hispanic, age, and calendar year) as well as for the demographic dimensions of substantive interest (parity, education and time period). The weights control for nonresponse and stratified sampling. Then in the *second stage*, we use the regression model to predict labor force behavior for a sample with the demographic characteristics of all recent mothers drawn from the 1990 June CPS.

In order to examine transitions across labor force statuses and over employers, we cross-classify labor force status prior to pregnancy (12 months before the birth of a child) and following childbirth (6 months after the birth of a child). We chose 12 months before the birth for two reasons. First, we want a point where labor supply was not affected by the pregnancy. Second, 12 months before the birth is consistent with the FLA's 12 month tenure requirement. We examine employment six months after the birth because this interval is long enough so that most women who are returning to work have come back from maternity leave. We could not examine employment at a much earlier time (for example 3 months) because the NLS-Y does not distinguish well between those who are employed and on leave and those who are employed and at work (see Klerman and Leibowitz, 1994). With a longer interval than six months, more women may have changed jobs after returning initially to their pregnancy employer, thus obscuring true maternity leaves.

Our goal is to identify the set of women who would have returned to their pre-pregnancy employer if a moderately long maternity leave had been offered (e.g. the 12 weeks of the FLA), but instead quit because their employer allowed only a much shorter leave. Since we noted above that LFP rises only slightly after the first few months post-partum, six months is a plausible cut-off for this concept. To check the robustness of this cut-off, we also consider

results with an 18 months post-delivery window. For intervals greater than 18 months after childbirth, the mother faces a fundamentally different employment decision; child care options differ for toddlers and infants and employers are unlikely to offer maternity leave for absences of more than 18 months.

Our pre-birth classification has three statuses: no work, part-time work, and full-time work (usual hours 35 or more hours per week). For post-delivery status, we define five possible statuses: no work, part-time work for the same employer or for a different employer, and full-time work for the same employer or new employer. Cross-classifying pre-birth and post-delivery statuses yields thirteen cells (3 x 5, less the two impossible cases: no work before to full-time work for same employer after, and no work before to part-time work for same employer after).

We arrange the 13 cells into a tree-structure as represented in Figure 6. At the root (highest level) of the tree is the decision whether or not to work before pregnancy. Those who work before pregnancy decide between part-time and full-time employment. At the next level, women decide whether or not to work after childbirth. At the next level, they decide whether to work part-time or full-time. At the lowest level of the tree, those who work both before and after childbirth decide whether to return to the same employer.

Using this tree structure, there are 12 dichotomous decision points, labeled with letters *A* to *L*. Figure 6 shows the percentage of women choosing each option at each decision node. The number of women in each of the 13 final statuses and the percentages are based on the sample of all births to women in the NLS-Y for which we observe labor force behavior 12 months before the birth of the child and 18 months after the birth of the child.⁴ It is important to note that some of the cells have only a small number of observations (especially the transitions from part-time to full-time work, and from full-time to part-time, which have less than a hundred observations each).

⁴Note that many women appear in the sample more than once (they have several births over the 12 years). We have made no corrections for any induced correlation.

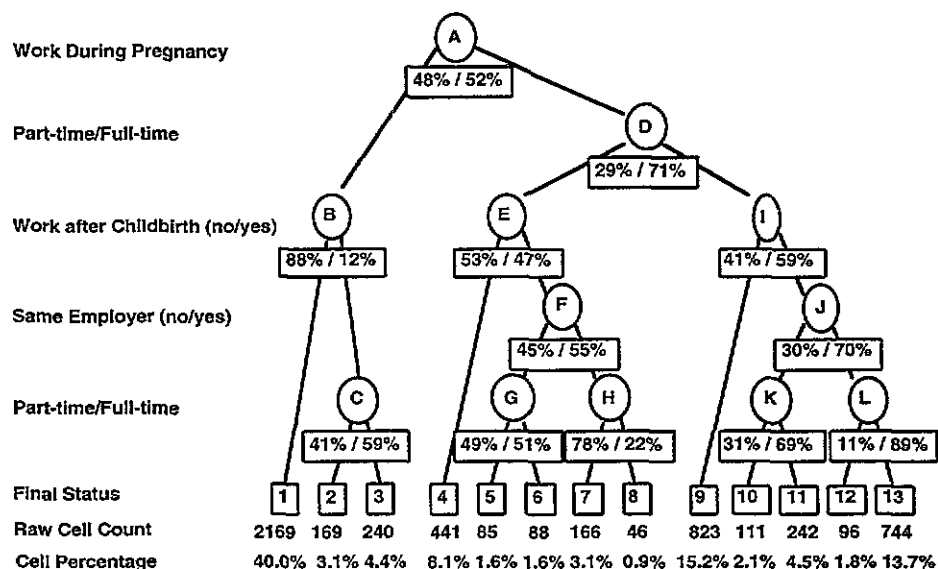


Fig. 6—Tree Representation of System of Logistic Regressions

Using the shorthand BP—Before Pregnancy and AC—After Childbirth. The final statuses and decisions are:

Final Status

- 1 - No work BP or AC
- 2 - No work BP , part-time work AC
- 3 - No work BP , full-time work AC
- 4 - Part-time work BP , no work AC
- 5 - Part-time work BP , part-time work at different employer AC
- 6 - Part-time work BP , full-time work at different employer AC
- 7 - Part-time work BP , part-time work at same employer AC
- 8 - Part-time work BP , full-time work at same employer AC
- 9 - Full-time work BP , no work AC
- 10 - Full-time work BP , part-time work at different employer AC
- 11 - Full-time work BP , full-time work at different employer AC
- 12 - Full-time work BP , part-time work at same employer AC
- 13 - Full-time work BP , full-time work at same employer AC

Decision Points

- A - Work at all BP
- B - Among those not working BP , work AC
- C - Among those not working BP , full or part-time work AC
- D - Full-time or part-time work BP
- E - Among those working part-time BP , work AC

- F - Among those working part-time BP and working AC, return to the same employer or a different employer
- G - Among those working part-time BP and returning to a different employer, full-time or part-time work
- H - Among those working part-time BP and returning to the same employer, full-time or part-time work
- I - Among those working full-time BP , work AC
- J - Among those working full-time BP and working AC, return to the same employer or a different employer
- K - Among those working full-time BP and returning to a different employer, full-time or part-time work
- L - Among those working full-time BP and returning to the same employer, full-time or part-time work

The dichotomous choice at each of the 12 decision nodes is estimated by a weighted logistic regression. Regressors that were available in both the CPS and the NLS-Y and that were unchanging characteristics of the mothers were selected using a simple two-step procedure. At the first step the following variables were entered in levels and interacted with a dummy for first birth: black, Hispanic, age, age squared, year of birth, national unemployment rate, high school dropout, some college (i.e., 13 or more years of education), college graduate (16 or more years of education), never married, once married but not currently married, and an intercept. In the second step the following variables were always included; black, Hispanic, calendar year, first child, age and the intercept. Any other variable with a t-statistic less than 1.28 ($p=0.50$) was dropped from the second step.

Appendix C presents the logistic regression equations estimated on the NLS-Y sample of new mothers. Each column presents results for the predictors of a choice made at a node represented schematically in Figure 6. For example, Table C-1 shows logit coefficients for the probability of any work before pregnancy (node A in Figure 6) and for those not working before pregnancy, whether they worked after childbearing (node B) and if this job was full-time or part-time (node C). Column four relates the full-time/part-time choice for women who worked before pregnancy (node D).

The tables contain a large number of parameters that interact in complicated ways to yield the observed statuses. To draw out these implications in a scale that is more easily interpreted, we present simulations of the distribution of women across dynamic labor force behaviors. A comparison of the observed probabilities in the NLS-Y with the predicted probabilities for each cell (given the NLS-Y covariates) shows that the model fits the data well (See Appendix Table B-2). However, as noted earlier, the NLS-Y mothers are not representative of all new mothers.

To extrapolate to all mothers, we selected all women in the 1990 June CPS who had given birth in the last 36 months and who were age 19 or over at the birth of the child (so that they were over age 18 a year before the birth). Comparing the characteristics of representative new mothers from the CPS with the new mothers in the NLS-Y data, we find as expected that the NLS-Y sample is considerably younger than the CPS sample (more than three years). The NLS-Y also over-represents blacks, high school drop-outs, those who were never married, and first births. We then use the system of logistic regression models to estimate the probabilities of each choice at each node for each woman in the CPS sample. Finally, we multiply the probabilities at each dichotomous decision point to yield the probability of each final state. The estimates we present below are averages of these predictions across the CPS sample.⁵

V. RESULTS ON JOB CONTINUITY

To understand recent mothers' job mobility, we first present simulations of dynamic labor market behaviors for women with the characteristics of new mothers as of 1990, which are then compared to job mobility of demographically similar samples of all women. We then explore the robustness of those comparisons. Finally, we use the system of logistic regressions to examine how job mobility varies between first and later births and with differences in education.

Job Continuity

Table 1 shows work status after childbirth (the columns) cross tabulated by work status prior to pregnancy. The estimates for new mothers in the left panel are obtained by using the logit regressions on NLS-Y described above to make predictions for women with the characteristics observed for new mothers in the CPS in 1990.

⁵Appendix Table B-3 compares the weighted NLS-Y data with the extrapolation to the weighted CPS population. Compared to the NLS-Y, the CPS has a smaller share of women who work neither before pregnancy nor after childbirth, a smaller share of women who work full time before pregnancy and then stop working, and a larger share of women who work full time before and after their pregnancy.

Table 1
Job Continuity for New Mothers and for Demographically Similar Non-Mothers

Work before pregnancy	Work Status After Childbirth (%)						% of Before Pregnancy State					
	None	Part Diff	Part Same	Full Diff	Full Same	Total	None	Part Diff	Part Same	Full Diff	Full Same	Total
New mothers — 12 months before birth to 6 months after birth (18 months interval)												
None	25.6	2.7	■	3.4	■	31.7	80.6	8.5	■	10.9	■	100.0
Part-time	14.4	4.6	1.5	6.0	0.6	27.0	53.2	16.9	5.5	22.1	2.3	100.0
Full-time	11.6	2.2	6.3	2.5	18.8	41.3	28.1	5.2	15.3	5.9	45.4	100.0
Total	51.5	9.4	7.8	11.9	19.4	100.0						
All women — interval of 18 months												
None	18.2	4.7	■	7.6	■	30.4	59.6	15.5	■	24.9	■	100.0
Part-time	3.4	3.7	4.0	7.8	3.7	22.6	15.0	16.5	17.8	34.2	16.4	100.0
Full-time	4.9	2.9	12.6	0.8	25.7	46.9	10.5	6.3	26.8	1.8	54.7	100.0
Total	26.5	11.4	16.6	16.2	29.4	100.0						

NOTE: Weighted tabulations from the June 1990 CPS using NLS-Y logistic regression model. Full-time work is 35 or more hours per week. Columns refer to employment twelve months before childbirth. Rows refer to employment six months after childbirth. N=5793

The first three rows of the table index whether a woman was not employed, employed part-time or employed full-time 12 months before giving birth. The first five columns represent employment status following delivery. The columns distinguish whether the woman was not employed, employed part-time with same (as pre-pregnancy) employer, employed part-time with a different employer, employed full-time with same employer, or employed full-time with a different employer.

The first panel of Table 1 relates to women who gave birth and shows that nearly one-third of women were not working at all before the birth of their child. These women are very unlikely to be labor force participants when their infant is 6 months old—only 19.4 percent are at work following delivery. However, the probability of working was higher for women who worked part-time before the birth (46.8 percent) and even higher for women who worked full-time before the birth (71.9 percent). Overall, about half of new mothers (48.5 percent) work when their infant is 6 months old.

Among women who worked in pregnancy, the high proportion who are working when their child is six months old suggests that many women return to the job they had prior to the pregnancy. To examine how job continuity differs by level of pre-pregnancy work status,

the five columns on the right show distributions of post delivery work status separately for women who worked full-time, part-time or not at all before pregnancy. Table 1 shows that among women who worked full-time before the birth, levels of job continuity are quite high. More than 60 percent of these women return to their pre-pregnancy employer, on a part-time or full-time basis. Part-time workers were much less likely to return to the job they held before becoming pregnant—fewer than 10 percent did so. More than half had not returned to work by the time their child was 6 months old. Among those who were working, the majority had changed employers.

How does this level of job mobility compare with the general experience of demographically similar women who did not give birth? To provide a comparison we used the NLS-Y data to estimate change in employment status and employer over an 18 month period (equivalent to the 12 months before pregnancy and 6 months after childbirth in the top panel of Table 1) for women. We then used this equation to make predictions for women with the characteristics of the new mothers observed in the CPS. Therefore, the second panel in Table 1 shows job continuity for women with identical demographic characteristics (race/ethnicity, age, education, parity before the current birth) who differ only in whether or not they had a child. The second panel shows that the control group women who work part-time also change jobs frequently. After an interval of 18 months, over half of part-time workers were working for a different employer. Job stability was much greater for women who work full-time. Over 80 percent ($26.8+54.7=81.5$) of young women who are working full-time at a point in time are still working for the same employer 18 months later.

There is considerable movement across the full-time/part-time boundary for both new mothers and others. About half (51.3 percent) of new mothers who worked full-time before pregnancy return to full-time work. Another 20 percent return to work on a part-time basis. Among the control group who did not give birth only slightly more (56.5%) maintained their full-time status over an 18 month period. Another 33 percent moved to part-time work, for the same or a new employer. Women working part-time before pregnancy were very unlikely to return to full-time work after childbirth. Among those who returned to work, the vast majority were working part-time six months following childbirth. In contrast, more than fifty percent of the part-time workers who did not give birth moved to full-time work, either at the same or a new job. Only 43 percent of these women were still working part-time 18 months later. Thus, women working part-time tend to move to full-time jobs, except if they give birth.

The data in Table 1 show that almost all (85%) new mothers who work full-time both before the birth and work after the birth of the child, return to the same employer, within 6 months on either a full-time or part-time basis. One interpretation of this finding is that FLA's guarantee of the right to return to the pre-leave job merely codifies existing practice. Even without the protection of the FLA, relatively few of the woman with this high labor market commitment (those who worked full-time before the birth of their child) did not return to their pre-pregnancy employers.⁶

However, another interpretation is possible. Our model emphasizes that new mothers often face a choice between taking a shorter leave than they would like, in order to return to their pregnancy employer, or a longer leave, but to return to a different job at lower wages. Perhaps our six-month cut-off is too short. Perhaps at that interval since the birth almost all of the women who return are returning to their old employer, while women choosing longer leaves than allowed by their pregnancy jobs, start new jobs after the six month cut-off. Since their wages on a new job will be lower, it is possible that time out of the labor force could be quite long.⁷

To consider this possibility, Table 2 reports the same information as Table 1, except that the cut-off is 18 months after the birth (so the total interval is 30 months). Again, at this longer interval, most women (79%) who were working full-time before the birth and who are working after the birth have the same employer. This is consistent with the results in Figure 2 showing that labor force participation does not rise much between six and eighteen months. The fact that few full-time workers returned to work for a new employer in the interval between 6 and 18 months post-partum suggests that few women who wanted to return to their pregnancy jobs were prevented from doing so because of lack of maternity leave.

It is possible that given that they could not take long leaves or were denied the right to any leave, women chose to stay away from the workplace for even longer than eighteen months. This however, does not seem to be a plausible argument. In terms of our model, the utility of staying home drops quite quickly over the twelve month interval. Most of the

⁶This not to say that they might not have preferred longer leaves. The argument of the model section was that limited (or non-existent) employer leave policies might have caused them to return to work earlier than they would have liked.

⁷In the language of the model, for many women 6 months is between e_0 and e_a .

women who are still not working at 18 months presumably have much higher utility of leisure.

The analysis presented above uses the Census definition of full-time work as 35 or more hours per week. However, the FLA covers women working 20 hours a week or more. Are there many women working 20-35 hours before pregnancy for whom the FLA will provide an option they do not currently have to return to their pre-pregnancy job? The second panel of Table 2 presents estimates of job continuity for women working more than and less than 20 hours a week. As was the case with the 35 hour per week cut-off, 60 percent of women working 20 or more hours per week return to their pre-pregnancy employer. Thus, the types of women who currently return in large numbers to their pre-pregnancy jobs would be formally protected by the FLA. Fewer than 10 percent of the working women who work less than 20 hours per week before pregnancy and therefore are not covered by the FLA, currently return to their old employer. Under this definition as well, most full-time workers return to full-time work after childbirth. Few women who worked part-time before pregnancy work full-time after childbirth and most non-workers do not work at all following delivery.

Table 2
Job Continuity for New Mothers 18 Months After
Childbirth and by Definition of Full-Time Work

Work Before Pregnancy	Work Status After Childbirth (%)						% of Before Pregnancy State					
	None	Part Diff	Part Same	Full Diff	Full Same	Total	None	Part Diff	Part Same	Full Diff	Full Same	Total
New Mothers —18 Months After Childbirth												
None	16.0	4.4	█	1.9	█	22.3	71.8	19.9	█	8.3	█	100.0
Part-time	5.0	11.3	1.7	7.5	0.0	25.5	19.6	44.4	6.7	29.3	0.0	100.0
Full-time	18.6	3.5	8.9	3.5	17.7	52.2	35.7	6.6	17.1	6.7	33.8	100.0
Total	39.6	19.2	10.7	12.9	17.7	100.0						
New Mothers —Full-Time=20+ hours/week												
None	25.6	2.7	█	3.4	█	31.7	25.6	2.7	█	3.4	█	31.7
Part-time	14.4	4.6	1.5	6.0	0.6	27.0	14.4	4.6	1.5	6.0	0.6	27.0
Full-time	11.6	2.2	6.3	2.5	18.8	41.3	11.6	2.2	6.3	2.5	18.8	41.3
Total	51.5	9.4	7.8	11.9	19.4	100.0	51.5	9.4	7.8	11.9	19.4	100.0

NOTE: Weighted tabulations from the June 1990 CPS using NLS-Y logistic regression model. Full-time work is 35 or more hours per week. Columns refer to employment twelve months before childbirth. Rows refer to employment six months after childbirth. N=5793

Job Continuity Differences by Parity and Educational Level

This section presents simulations of labor force behavior that highlight differences in participation rates by parity and by educational level. These simulations compare the behavior of mothers in one category (e.g., first births) with that of those in another category (e.g., second births). In each case, we allow all the characteristics of the women to change. Thus, for example, the results for women having their second birth also include the effects of all other differences between women at their first and women at their second births (e.g. greater age). Alternatively, one could examine partial effects by allowing only one covariate to change at a time. Results from those simulations are presented and discussed in Appendix C. Appendix Table A-2 contains the sample means for the sub-groups considered below.

Table 3 examines differences in labor force patterns surrounding the first and second births. The top panel presents work status following the first birth and the bottom panel presents work status following the second birth.

Table 3
Job Continuity for New Mothers, by Parity

Work Prior to Pregnancy	Work Status After Childbirth (%)						% of Before Pregnancy State					
	None	Part Diff	Part Same	Full Diff	Full Same	Total	None	Part Diff	Part Same	Full Diff	Full Same	Total
First Birth												
None	16.0	4.4		1.9		22.3	71.8	19.9		8.3		100.0
Part-time	5.0	11.3	1.7	7.5	0.0	25.5	19.6	44.4	6.7	29.3	0.0	100.0
Full-time	18.6	3.5	8.9	3.5	17.7	52.2	35.7	6.6	17.1	6.7	33.8	100.0
Total	39.6	19.2	10.7	12.9	17.7	100.0						
Second Birth												
None	25.3	2.4		4.2		31.9	79.3	7.4		13.3		100.0
Part-time	20.8	1.4	1.8	5.2	1.1	30.2	68.9	4.6	5.9	17.1	3.5	100.0
Full-time	8.5	1.6	5.6	2.6	19.8	38.0	22.3	4.1	14.7	6.7	52.1	100.0
Total	54.5	5.3	7.3	12.0	20.9	100.0						
Third Birth												
None	36.1	1.3		4.2		41.6	86.8	3.0		10.2		100.0
Part-time	17.2	0.9	0.9	5.3	0.8	25.0	68.7	3.6	3.8	21.0	3.0	100.0
Full-time	7.7	1.4	4.3	1.2	18.8	33.3	23.0	4.2	12.9	3.5	56.3	100.0
Total	61.0	3.6	5.3	10.7	19.5	100.0						

NOTE: Weighted tabulations from the June 1990 CPS using NLS-Y logistic regression model. Full-time work is 35 or more hours per week. Columns refer to employment twelve months before childbirth. Rows refer to employment six months after childbirth. N=5793

Before the birth of the first child, nearly 80 percent of all women work, and more than half of all women work full-time. But after the first child is born, only 60 percent of women work and only 31 percent are working full-time when the child is six months old. The pre-birth labor supply for the second birth is measured 12 months prior to the delivery date of the second child. Work rates increase in the interval between six months after the birth of the first child and our next measure 12 months prior to the second birth. Rates of non-work have declined about 8 percentage points, but rates of full-time work are still 14 percentage points lower than before the first birth.

Table 3 reveals considerable evidence of heterogeneity among women. Before the birth of their first child, more than three-quarters of all women ($77.7=25.5+52.2$) are working; before the birth of the second child, the figure is 10 percentage points lower ($68.2=30.2+38.0$). The contrasts are even stronger for full-time work before pregnancy, which declines from 52.2 percent to 38.0 percent. Among those who work full-time before their second pregnancy, however, job continuity is considerably higher (77.7 percent working and 66.8 percent for the same employer) than after the first birth (64.3 percent working and 50.9 percent for the same employer). Note also that part-time work, which grew from pre-pregnancy level of 25 percent before the first birth to a level of about 30 percent following the first birth, declines markedly after the second birth (from 30.2 percent to 12.6 percent).

The third panel of Table 3, relating to higher order births, finds additional evidence of heterogeneity. The percentage of women working and working full-time falls as the number of children increases, but the percentage of women who worked full-time returning to full-time work with the same employer increases with parity.

Table 4 presents similar comparisons across education groups. Both before and after the pregnancy, high school graduates are much more likely to work than high school drop-outs. Nearly half of high school drop-outs do not work before the birth, in contrast to only 21 percent of high school graduates. Furthermore, high school graduates are much more likely to continue working after the birth of a child. Six months after the birth, 73 percent of drop-outs, but only 47 percent of graduates are not working. Conditional on returning to full-time work, high school graduates are more likely to return to the same employer. If we associate more education with more on-the-job training, these findings are consistent with our expectations and with the findings of Desai and Waite (1990).

Table 4
Job Continuity of New Mothers, by Education

Work before pregnancy	Work After Childbirth(%)						% of Before Pregnancy State					
	None	Part Diff	Part Same	Full Diff	Full Same	Total	None	Part Diff	Part Same	Full Diff	Full Same	Total
High School Drop-outs												
None	48.1	2.1	██████	4.8	██████	55.0	87.5	3.7	██████	8.8	██████	100.0
Part-time	11.6	2.8	1.0	1.2	0.3	16.9	68.7	16.4	5.9	7.2	1.7	100.0
Full-time	12.9	1.2	3.8	0.7	9.6	28.2	45.9	4.3	13.3	2.5	34.0	100.0
Total	72.6	6.1	4.7	6.8	9.9	100.0						
High School Graduates												
None	21.0	2.8	██████	3.2	██████	27.0	77.8	10.5	██████	11.7	██████	100.0
Part-time	14.9	4.9	1.6	6.9	0.7	29.1	51.4	16.9	5.5	23.9	2.3	100.0
Full-time	11.4	2.3	6.8	2.8	20.6	43.9	25.9	5.3	15.5	6.4	46.9	100.0
Total	47.3	10.1	8.4	12.9	21.3	100.0						
College Graduates												
None	14.1	3.7		1.9		19.7	71.7	18.7		9.6		100.0
Part-time	17.2	4.4	1.5	11.8	0.9	35.8	48.1	12.3	4.2	32.9	2.5	100.0
Full-time	10.9	2.8	4.5	5.5	20.8	44.5	24.6	6.3	10.1	12.4	46.6	100.0
Total	42.3	10.9	6.0	19.2	21.7	100.0						

NOTE: Weighted tabulations from the June 1990 CPS using NLS-Y logistic regression model. Full-time work is 35 or more hours per week. Columns refer to employment twelve months before childbirth. Rows refer to employment six months after childbirth. N=5793

Similarly, compared with high school graduates, college graduates are as likely to be working full-time before the pregnancy. Conditional on full-time work status, their rates of return to work are similar to those of high school graduates. Compared to high school graduates, college graduates are somewhat more likely to be working part-time rather than not working. College graduates who work part-time before the pregnancy are somewhat more likely to switch to full-time work after childbirth than are high school women.

VI. COVERAGE OF THE FAMILY LEAVE ACT

In the previous section, we presented estimates of job continuity in the absence of maternity leave legislation. Those results suggested that, because most women who work full-time before and after the birth of a child are already returning to their pre-pregnancy employer, maternity leave legislation, and particularly the federal FLA, are unlikely to have

major effects on job continuity. In this section, we suggest another reason why maternity leave legislation, and in particular the federal FLA, is unlikely to have major effects on job continuity: The legislation's coverage is far from universal.

The FLA was deliberately crafted to cover only some employers. The list of exempted employers and employees was designed to build a coalition sufficiently strong to allow passage of the legislation. The FLA applies only to employers with 50 or more workers. Furthermore, to be covered by the Act's guarantees, an employee must have been continuously employed over the past year and must have worked more than 1250 hours within the previous 12 months. Finally, there is an exception for "highly compensated individuals": those who receive the top ten percent of earnings within this workplace. The General Accounting Office (cited in Lenhoff and Becker, 1989) estimated that a 50 employee threshold provides coverage for fewer than half of all workers. However, the GAO estimate did not account for the job tenure requirement.

In this section, we apply methods similar to those of the previous section to estimate the coverage of the FLA. These estimates consider the job tenure, firm size and hours per week thresholds. We determine the employment status a year before delivery for each woman over age 19 at the birth of the child. From that point we can identify if she was working and whether or not she was working full-time (here defined as 24 hours per week; 1250 hours per year/52 weeks). To incorporate the job tenure requirement, we compare the current employer to the employer 12 months earlier (24 months before the birth). Finally, in most years (but not 1981-1985), the NLS-Y asks about firm size for the employer as of the interview. We explore the minimum effects of the firm size exemption for the subset of cases for which we have firm size data.

To determine eligibility for the FLA, we estimate the system of logistic regressions corresponding to the decision tree shown in Figure 7. In the first level we estimate if the woman works 12 months before childbirth. In the next level we estimate if she worked a sufficient number of hours (24 or more hours per week). If she qualified on hours at the next level, we determine if she was at work 24 months before the birth. At the lowest level, we estimate if she worked for a firm with at least 50 workers.

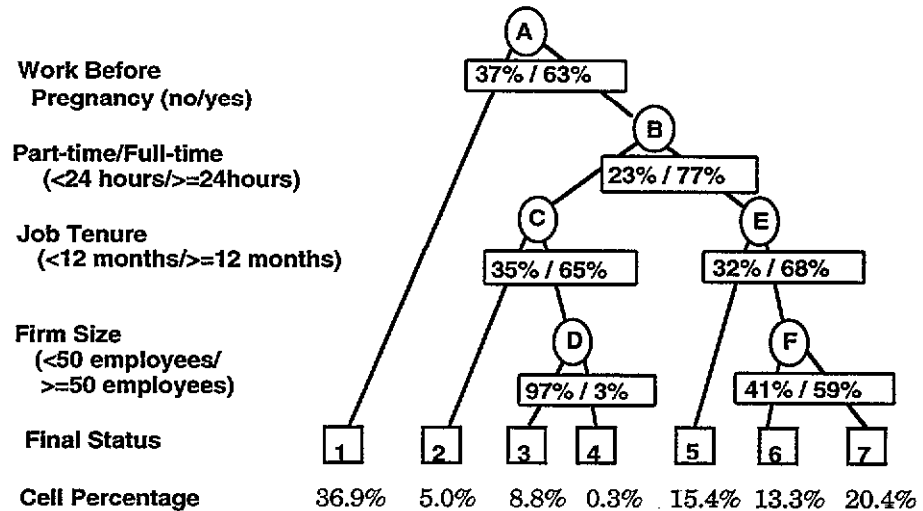


Fig. 7: Tree Representation of FLA Coverage Extrapolated to CPS Sample

Final Status

- 1 - No work before pregnancy (BP)
- 2 - Part-time work BP, job tenure less than 12 months
- 3 - Part-time work BP, job tenure greater than 12 months, firm size less than 50 employees
- 4 - Part-time work BP, job tenure greater than 12 months, firm size 50 or more employees
- 5 - Full-time work BP, job tenure less than 12 months
- 6 - Full-time work BP, job tenure greater than 12 months, firm size less than 50 employees
- 7 - Full-time work BP, job tenure greater than 12 months, firm size 50 or more employees

Decision Points

- A - Work at all before pregnancy (BP)
- B - Full-time or part-time work BP
- C - Among those working part-time BP, job tenure greater or less than 12 months
- D - Among those working part-time BP and with job tenure of 12 months or more, firm size greater or less than 50 employees
- E - Among those working full-time BP, job tenure greater or less than 12 months
- F - Among those working full-time BP and with job tenure of 12 months or more, firm size greater or less than 50 employees

Following a procedure similar to that of the previous section, we estimated weighted logistic regressions for each node of the tree (in Figure 7). We do not report the logistic regressions for the branches below part-time work because the sample sizes are small and because these women would not be covered by FLA due to the hours of work restriction.

Again, we drop any variable with a t-statistic below 1.28, except for a list of key variables (which for these analyses does not include time or time-squared). The logistic regressions are then used to simulate the population percentages for the representative CPS sample of women.⁸ These are shown in Figure 7. Complete logistic regression results are available upon request.

The extrapolations to the CPS data show that about 63 percent of new mothers are working a year before the birth of the child (Node A). Of those who work, 77 percent meet the hours per week requirement of 24 hours per week (Node B). Of those who work enough hours, only 68 percent meet the 12 months tenure requirement (Node E). Together, the hours and tenure requirements eliminate eligibility for nearly half of those who remain eligible. Only 59 percent meet the firm size requirement of 50 employees (Node F). Thus, only 20 percent of all women and 31 percent of all working women are covered by the legislation.

Each of the conditions contributes to this low coverage rate. Most working women meet the hours requirement, but even among full-time workers the coverage rate is only 40 percent (.68 x .59). Because part-time workers are only 23 percent of the total, the real constraints are the tenure and firm-size requirements. Among full-time workers, neither eliminates a majority of women, but together they eliminate coverage for 60 percent of women working full-time.

Tables 5 and 6 show the effects of covariates on coverage. Table 5 presents the percent of all women with given characteristics who meet the eligibility requirement at each node of the tree. Each column represents women with given characteristics. Among all working women, second births are more likely to be covered than first births, but third births are less likely to be covered. High school drop-outs are less likely to be covered than those with more education (22 percent vs. 33 percent for high school graduates, those with some college, and college graduates).

⁸Table B4 shows the percent of women at each branch of the tree. The first column shows the status of women observed in the NLS-Y. The second column compares the observed data with the predicted frequencies for the NLS-Y data. The model fits the NLS-Y data quite well, as the comparison and predicted values for the NLS-Y shown in Appendix Table B4 indicates. Figure B1 in the appendix shows the tree estimated on the raw NLS-Y data.

Table 5
Coverage Among All Women with Given Characteristics

Node	First Child	Second Child	Third or More Child	High School Drop-out	High School Grad	Some College	College Grad
A	81.48	58.88	48.23	39.28	67.92	72.57	76.05
B	87.17	74.21	69.32	80.25	76.38	71.90	67.57
C	51.78	55.92	57.37	41.14	57.76	64.79	71.56
D	0.20	7.56	7.79	0.58	6.09	5.45	4.59
E	58.69	75.19	69.80	49.74	71.63	74.39	79.02
F	58.97	65.78	52.36	56.15	59.93	62.08	62.14
Percent Covered Among							
All New Mothers	24.58	21.61	12.22	8.80	22.27	24.10	25.23
Workers	30.17	36.70	25.33	22.41	32.79	33.20	33.18
Full-time Workers	34.61	49.46	36.55	27.93	42.93	46.18	49.10

NOTE: All covariates vary from case to case. Subsamples are within June 1990 CPS sample of recent mothers.

Partial effects of varying one (or two) covariates at a time are presented in Table 6. Comparisons are made relative to the base case of a second birth to a 27-year-old, married white high school graduate. Table 6 shows that black women are considerably more likely to be covered by MLA than whites (56 percent vs. 39 percent). This is due to the fact that blacks are more likely to be working full-time (96 percent vs. 82 percent) and more likely to work for large firms (76 percent vs. 62 percent).

Table 6
Partial Effects on Coverage Under FLA

	Base Case	Black	Never Married	Not Married	Age 19 1st Birth	Age 32 1st Birth	Age 32 2nd Birth
A	59.65	60.10	47.37	59.65	71.80	89.57	68.75
B	81.83	95.77	81.83	90.51	75.53	91.72	78.04
C	54.92	64.91	54.92	34.88	16.89	84.06	80.94
D	11.92	56.85	11.92	11.92	0.00	0.00	0.69
E	76.92	77.72	67.39	64.57	27.22	85.32	92.90
F	61.92	75.71	61.92	61.92	55.00	58.80	63.33
Percent Covered							
All New Mothers	23.25	33.87	16.17	21.59	8.12	41.21	31.57
All Workers	38.97	56.35	34.15	36.19	11.31	46.01	45.91
Full-time Workers	47.63	58.84	41.73	39.98	14.97	50.17	58.83

NOTE: Base Case: second birth to a 27-year-old married white high school graduate.

Coverage is most likely for the currently married and least likely for those who are never married (39 percent for the currently married, 34 percent for the never married, 36 percent for widows and divorcees). Coverage is clearly lower for the very youngest mothers (19-year-olds) because they do not have enough job tenure. Conversely, older mothers (32-year-olds) almost always have the required tenure (one year). Again, first births are more likely to be covered due to the greater likelihood of full-time status.

In summary, coverage is not very sensitive to demographics. The major variation is that both blacks and older mothers are more likely to be covered. Effects of education are mostly due to the correlation of education with age at birth of a child.

VII. Conclusion

The last two decades have seen radical changes in the work patterns of new mothers. In the early seventies, work among new mothers was a rarity. Today nearly half of all mothers of one-month-old children are employed. Only about 10 percent of them are actually working. The difference is the large number of women on paid and unpaid leave. This unpaid leave tapers off quickly. By the time the child is three-months-old, work is nearly at its long-term level (i.e., it is nearly the same for mothers of children between 12 and 24 months). This use of paid and unpaid leave constitutes the de facto maternity leave policy of American employers.

Legislation at the federal and state level now requires employers to guarantee that women may return to their old jobs after a maternity leave of several months (three in the federal statute, one to four in the state legislation). Our analyses of work patterns of new mothers show high levels of job continuity with the same employer even prior to the FLA. Among those women who work full-time before their child is born, over 60 percent return to work for the same employer. This figure is roughly comparable with the figure for all women (whether or not they are mothers). The majority of full-time workers who do not drop out of the labor force are working for the same employer they had before delivery. Furthermore, the number of women returning to full-time work between the time their children are 6- and 18-months-old is small. Therefore, we conclude that for most new mothers the requirements of the FLA are already incorporated into current business practice: women take leave and then return to their original employers. This statement is not meant to imply that this is uniformly the case, but rather that the legislation merely codifies standard business practice facing most women.

Family leave legislation may affect other dimensions of women's labor market behavior. As we emphasized in our model, it is possible that, prior to the new laws, women would have liked to have taken longer leaves after the birth of their children, but that employers strictly limited the amount of leave. Given the "choice" of very short-leaves or quitting their job, women may "chose" the short-leave. Perhaps given the right under the new laws to longer job protected leaves, new mothers will take longer leaves. Only research that covers the period after the FLA was implemented can address this question.

We also examine the coverage of the federal Family Leave Act, which excludes part-time workers (less than 24 hours per week), those with short job tenure (under a year), and those working for small firms (fewer than 50 employees). We estimate that only about 20 percent of all new mothers or 30 percent of working women are covered by the legislation. If employers adjust their behavior to avoid the law, coverage could be even lower (e.g., hiring 49 workers, being reluctant to hire women of childbearing age; see Heabbe Saddkerm "Small Firms Try to Curb Impact of Leave Law," *Wall Street Journal*, August 5, 1993, B1). For example, Gruber's (1992) study of the effects for mandating coverage of maternity benefits in employer-sponsored health insurance plans, found evidence that employers increased hours and reduced employment among eligible women in order to avoid the legislative requirements.

Our computations suggest that the hours of work requirement is not very important in limiting coverage. Most part-time workers would not satisfy the tenure requirements and/or the firm size requirements. The binding constraints are the tenure requirement and the firm size requirement. We therefore conclude that the FLA codifies, to a large extent, existing labor force patterns for new mothers. The limitation of coverage to full-time workers with a year of tenure means that women with the greatest labor force commitment are covered by the FLA. These women are already quite likely to return to their pre-pregnancy jobs.

Appendix A

SAMPLE MEANS

Table A1

Sample Statistics for NLSY and CPS Samples and the Base Case

	NLSY			CPS		Base Case
	Unweighted Mean	Weighted Mean	Weighted Std. Dev.	Weighted Mean	Weighted Std. Dev.	
Black	0.2771	0.1686	0.3744	0.1458	0.3529	0
Hispanic	0.1958	0.0819	0.2742	0.1168	0.3212	0
Year	83.9450	84.0579	2.7099	90.0000	0	90
(Year) ²	7054.11	7073.07	454.5517	8100	0	8100
Unemployed	7.3038	7.2571	1.3252	5.40	0	5.4
Age	24.2575	24.5936	2.9997	27.7500	5.1018	27
(Age) ²	597.3804	613.8418	149.8643	796.0890	297.1577	189
HS Drop Out	0.3188	0.2406	0.4274	0.1670	0.3729	0
Some College	0.2456	0.2740	0.4460	0.4237	0.4941	0
College Graduate	0.0731	0.0876	0.2828	0.2040	0.4030	0
Not Married	0.0937	0.0848	0.2786	0.1033	0.3043	0
Never Married	0.2333	0.1531	0.3601	0.1343	0.3410	0
Previous Child 1	0.5614	0.5252	0.4994	0.6647	0.4721	1
Previous Child 2+	0.2072	0.1723	0.3776	0.3124	0.4635	0
First x Black	0.1054	0.0634	0.2437	0.0359	0.1861	0
First x Hispanic	0.0817	0.0338	0.1808	0.0322	0.1766	0
First x Year	36.5952	39.7081	41.8043	30.1777	42.4888	0
First x (Year) ²	3056.79	3324.34	3510.34	2716.00	3823.99	0
First x Unempl	3.2561	3.4936	3.7866	1.8107	2.5493	0
First x Age	10.3002	11.3251	12.0818	8.7790	12.6552	0
First x (Age) ²	245.6390	274.2268	305.0118	237.2243	366.6132	0
First x HS Dropout	0.0911	0.0748	0.2630	0.0341	0.1815	0
First x Some College	0.1417	0.1610	0.3675	0.1636	0.3699	0
First x College Graduate	0.0472	0.0568	0.2315	0.0859	0.2802	0
First x Not Married	0.0240	0.0265	0.1606	0.0268	0.1614	0
First x Never Married	0.4756	0.0815	0.2736	0.0582	0.2342	0

Table A2
Sample Means for CPS Subsamples

	First Child	Second Child	Third Child	HSDO	HSG	CG
Black	.1071	.1368	.1975	.2005	.1348	.0610
Hispanic	.0961	.1070	.1501	.3184	.0764	.0407
HSDO	.1017	.1453	.2614	1	0	0
SOCO	.4878	.4447	.3312	0	.5086	1
COGR	.2561	.2124	.1388	0	.2449	1
MarrSpP	.7465	.8065	.7297	.5561	.8037	.9293
MarrNot	.0798	.0859	.1481	.1618	.0916	.0382
MarrNev	.1737	.1076	.1222	.2821	.1047	.0325
Child2	0	1	1	.7958	.6384	.5792
Child3	0	0	1	.4893	.2770	.2126
Black1	.1071	0	0	.0215	.0388	.0182
Hisp 1	.0961	0	0	.0661	.0254	.0187
Year 1	90.0000	0	0	18.3780	32.5426	37.8704
Year Sgl	8100.0	0	0	1654.02	2928.84	3403.33
Unempl	5.4000	0	0	1.1027	1.9526	2.2722
Age 1	26.1818	0	0	4.8567	9.5651	12.2131
Age Sgl	707.4813	0	0	119.3250	260.8536	360.3183
HSDO 1	.1017	0	0	.2042	0	0
SOCO 1	.4878	0	0	0	.1964	.4208
COGR 1	.2561	0	0	0	.1031	.4208
MarrNot1	.0798	0	0	.0209	.0279	.0127
MarrNev1	.1737	0	0	.0773	.0544	.0239
Year	90.0000	90	90	90	90	90
YearSq	8100.00	8100	8100	8100	8100	8100
Unempl	5.4000	5.4	5.4	5.4	5.4	5.4
Age	26.1818	27.5361	29.5639	25.8679	28.1272	30.6514
AgeSq	707.4813	780.3974	908.8661	695.6780	816.2132	956.9756
N	1940	2052	1801	888	4905	1221

NOTE: Table presents the sample means for subsamples of recent births in the June 1990 CPS. Columns are

First Child - All first births

Second Child - All second births

Third Child - All third (or higher) order births

HS DO - All High School Drop-outs (12 or less years of schooling)

HSG - All those with exactly 12 years of completed education

CG - All those with 16 or more years of completed education

Most sample members are included in two columns (one for their parity, one for their education group; the exception is those with 13-15 years of completed schooling, who are not included in a schooling group).

SOCO - Some College

COGR - College Graduate

Appendix B

SUPPORTING TABLES

Table B1

NLS-Y Unweighted vs. Weighted

	Unweighted (%)	weighted (%)
Not working	63.3	60.5
Working < 35 hours, different employer	6.7	7.5
Work < 35 hours, Same Employer	6.1	6.3
Work ≥ 35 hours, different employer	9.3	10.4
Work ≥ 35 hours, Same Employer	14.6	15.3

NOTE: Weighted tabulations from the NLS-Y. Weights are 1979 sampling weights. Full-time work is 35 or more hours per week. Columns refer to employment six months before childbirth. Rows refer to employment six months after childbirth.

Table B2

Work Status Before and After Childbirth: Comparison of Actual and Predicted Frequencies

Work before pregnancy	Actual						Predicted					
	None	Part Diff	Part Same	Full Diff	Full Same	Total	None	Part Diff	Part Same	Full Diff	Full Same	Total
None	34.3	3.3	4.1	4.1	0.8	41.7	34.3	3.3	4.1	4.1	0.8	41.7
Part-time	8.7	1.8	1.7	4.1	0.8	17.1	8.7	1.8	1.7	4.2	0.8	17.1
Full-time	17.5	2.4	4.6	2.2	14.5	41.2	17.5	2.4	4.7	2.2	14.5	41.1
Total	60.5	7.5	6.3	10.4	15.3	100.0	60.5	7.5	6.3	10.4	15.3	100.0

NOTE: Weighted tabulations from the NLS-Y. Weights are 1979 sampling weights. Full-time work is 35 or more hours per week. Columns refer to employment six months before childbirth. Rows refer to employment six months after childbirth.

Table B3

Work Status Before and After Childbirth: Predicted
Frequencies for NLS-Y and CPS Samples

Work before pregnancy	NLS-Y Predictions Percent Working After Childbirth						1990 CPS Predictions (%) Percent Working After Childbirth					
	None	Part Diff	Part Same	Full Diff	Full Same	Total	None	Part Diff	Part Same	Full Diff	Full Same	Total
None	34.3	3.3	██████	4.1	██████	41.7	25.6	2.7	██████	3.4	██████	31.7
Part-time	8.7	1.8	1.7	4.1	0.8	17.1	14.4	4.6	1.5	6.0	0.6	27.0
Full-time	17.5	2.4	4.6	2.2	14.5	41.2	11.6	2.2	6.3	2.5	18.8	41.3
Total	60.5	7.5	6.3	10.4	15.3	100.0	51.5	9.4	7.8	11.9	19.4	100.0

NOTE: Weighted tabulations from the June 1990 CPS using NLS-Y logistic regression model. Full-time work is 35 or more hours per week. Columns refer to employment twelve months before childbirth. Rows refer to employment eighteen months after childbirth. N=5793

Table B4
Coverage of FLA (part-time defined as 24 hours)

	<u>NLS-Y Weighted</u>		<u>CPS Weighted</u>
	Observed	Predicted	Predicted
	% of women		
No work Before Pregnancy	40.36	40.38	36.87
Part-time Work Only	4.64	4.66	4.99
Part-time, LT 50 employees	2.68	2.19	8.82
Part-time, GT 50 employees	1.10	1.60	0.30
Full-time, LT 12 months	21.05	21.00	15.36
Full-time, GT 12 months, <50 employees	13.11	13.05	13.31
Full-time, GT 12 months, ≥ 50	17.06	17.12	20.35
	100.00	100.00	100.00
	% of women at each node		
A - working	59.64	59.52	63.13
B - if A, hours ≥ 24 hours	85.88	84.36	77.03
E - if B, have 12 month tenure	58.90	54.90	67.98
F - if E, firm size > 50	56.55	55.61	59.30

NOTE: 1-7 Percentage in Final State
A-D Percentage in Left Branch
(less likely to be covered by FLA)

Columns do not sum to exactly 100.0% because of rounding.

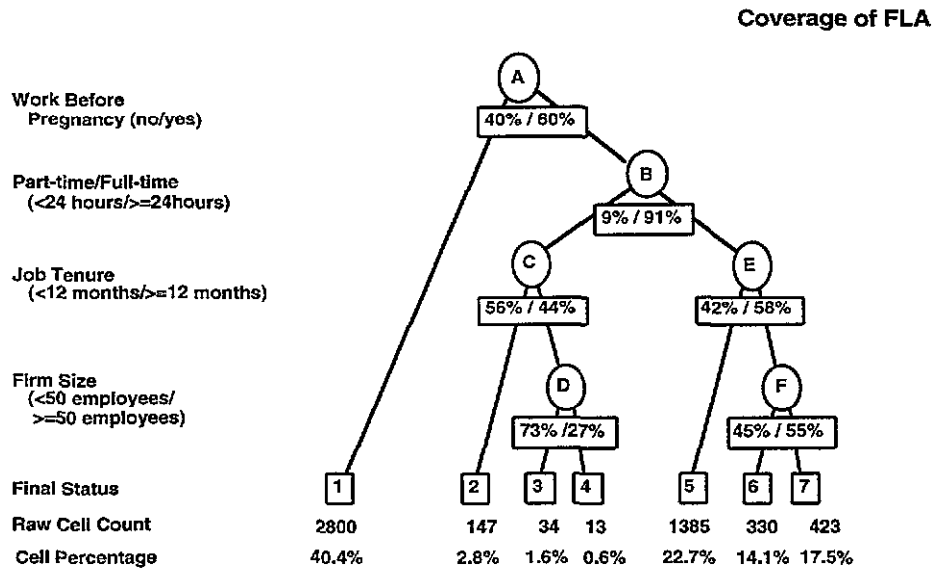


Fig. B-1: Tree Representation of FLA Coverage for Raw NLS-Y Data

Using the shorthand BP—Before Pregnancy and AC—After Childbirth. The final statuses and decisions are:

Final Status

- 1 - No work BP
- 2 - Part-time work BP, job tenure less than 12 months
- 3 - Part-time work BP, job tenure greater than 12 months, firm size less than 50 employees
- 4 - Part-time work BP, job tenure greater than 12 months, firm size 50 or more employees
- 5 - Full-time work BP, job tenure less than 12 months
- 6 - Full-time work BP, job tenure greater than 12 months, firm size less than 50 employees
- 7 - Full-time work BP, job tenure greater than 12 months, firm size 50 or more employees

Decision Points

- A - Work at all BP
- B - Full-time or part-time work BP
- C - Among those working part-time BP, job tenure greater or less than 12 months
- D - Among those working part-time BP and with job tenure of 12 months or more, firm size greater or less than 50 employees
- E - Among those working full-time BP, job tenure greater or less than 12 months
- F - Among those working full-time BP and with job tenure of 12 months or more, firm size greater or less than 50 employees

Appendix C
LOGISTIC REGRESSION PARAMETER ESTIMATES FOR JOB
CONTINUITY ANALYSIS

Table C1
Determinants of Work Before Pregnancy

Node	(Logit Coefficients and Standard Errors)			
	A	B	C	D
Decision Point	Any Work Prior	If No Work Prior, Work After?	If No Work Prior and Work After Full Time	If Work Prior, Full Time?
Intercept	-24.0 (46.6)	36.7 (47.4)	-17.0 (7.7)	-9.644 (2.280)
Black	-0.028 (0.067)	0.127 (0.086)	0.242 (0.194)	0.418 ^a (0.118)
Hispanic	-0.131 ^c (0.068)	-0.091 (0.106)	-0.042 (0.239)	0.203 ^c (0.106)
Year	-1.697 ^a (0.587)	1.067 (1.157)	0.068 ^b (0.034)	-0.046 ^a (0.014)
Year Squared	0.010 ^a (0.003)	-0.006 (0.007)	0.000 (0.000)	0.000 (0.000)
Unemployment Rate		-0.082 ^c (0.046)	0.000 (0.000)	0.000 (0.000)
Age	0.059 ^a (0.013)	-0.029 ^c (0.017)	-0.038 (0.034)	0.060 ^a (0.018)
Age Squared		0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
High School Drop out	-0.348 ^a (0.059)	-0.101 (0.082)	0.000 (0.000)	0.000 (0.000)
Some College Credit	0.173 ^a (0.065)	0.202 ^b (0.082)	0.000 (0.000)	-0.176 ^a (0.065)
College Graduate		0.000 (0.000)	0.000 (0.000)	-0.440 ^a (0.149)
Not Married		0.000 (0.000)	0.294 (0.204)	0.225 ^b (0.103)
Never Married	-0.288 ^a (0.059)	-0.510 ^a (0.119)	0.000 (0.000)	0.210 (0.158)
One Previous Child	93.72 ^c (52.68)	-8.128 ^b (3.268)	12.169 ^c (7.316)	12.318 ^a (2.189)
Two Previous Children	-0.335 ^a (0.055)	-0.218 ^a (0.079)	0.421 ^b (0.173)	-0.204 ^b (0.089)

Note: * a= p<0.01; b=p<.05; c=p<.10

Table C1 (continued)

(Logit Coefficients Work and Standard Errors
Determinants of Work Before Pregnancy)

Node	A	B	C	D
Decision Point	Any Work	If no Work Prior, Work After?	If No Work Prior and Work After, Full Time	If Work Prior, Full Time?
Black*1	-0.168 ^c (0.101)	0.000 (0.000)	0.635 ^c (0.372)	-0.538 ^a (0.164)
Hispanic*1		0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Year*1	2.041 (1.279)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Year Squared*1	-0.012 (0.008)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Unemployment Rate*1	-0.059 (0.037)	0.108 ^b (0.052)	0.000 (0.000)	0.000 (0.000)
Age*1	0.709 ^a (0.152)	-0.739 ^a (0.272)	1.105 ^c (0.622)	0.997 ^a (0.177)
Age Squared*1	-0.014 ^a (0.003)	0.015 ^a (0.006)	-0.025 ^c (0.013)	-0.019 ^a (0.004)
High School Drop- Out*1	-0.199 ^b (0.097)	-0.352 ^b (0.154)	0.000 (0.000)	0.000 (0.000)
Some College Credit*1	-0.210 ^b (0.094)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
College Graduate*1		0.000 (0.000)	0.000 (0.000)	0.456 ^b (0.180)
Divorced*1	-0.319 ^a (0.116)	0.301 (0.192)	0.000 (0.000)	0.000 (0.000)
Never Married*1		0.195 (0.170)	0.000 (0.000)	-0.313 (0.190)

Note: *1 indicates interaction with first birth indicator
a= p<0.01; b=p<.05; c=p<.10

Table C2

Determinants of Work After Childbirth for Those
Working Part-time Prior to Pregnancy

(Logit Coefficients and Standard Errors)

Node	E	F	G	H
Decision Point	Work After?	Return to Same Employer?	If Return to Different Employer, Work Part-time?	If Return to Same Employer, Work Part-time?
Intercept	267.3 ^b (108.0)	3.776 (2.568)	-36.0 (13.6)	-523.8 (324.5)
Black	0.465 (0.211)	-0.311 (0.221)	0.628 (0.390)	0.533 (0.330)
Hispanic	-0.126 ^b (0.201)	-0.123 ^b (0.330)	0.268 (0.474)	0.443 (0.505)
Year	5.299 ^b (2.278)	-0.087 (0.037)	0.110 (0.079)	0.114 (0.079)
Year Squared	-0.032 (0.014)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Unemployment Rate	-0.178 (0.095)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Age	0.099 ^a (0.032)	0.158 ^a (0.039)	-0.127 ^c (0.072)	-0.130 ^b (0.059)
Age Squared	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
High School Drop-Out	-0.255 ^b (0.128)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Some College Credit	0.000 (0.000)	-0.058 (0.201)	0.000 (0.000)	0.000 (0.000)
College Graduate	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Divorced	-0.717 ^a (0.208)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Never Married	0.000 (0.000)	0.553 (0.435)	0.000 (0.000)	0.000 (0.000)
One Previous Child	-489.1 ^a (143.6)	-0.093 (0.205)	29.63 ^b (13.47)	0.00 (0.00)
Two Previous Children	-0.190 (0.148)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)

Note: * a= p<0.01; b=p<.05; c=p<.10

Table C2
 Determinants of Work After Childbirth for Those
 Working Part-time Prior to Pregnancy

(Logit Coefficients and Standard Errors)

Node	E	F	G	H
Decision Point	Work After?	Return to Same Employer?	If Return to Different Employer Work Part-time?	If Return to Same Employer Work Part-time?
Black *1	-0.528 (0.279)	0.000 (0.000)	-0.678 (0.569)	0.000 (0.000)
Hispanic *1	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Year*1	-12.22 ^a (3.49)	0.000 (0.000)	0.000 (0.000)	12.592 (7.852)
Year Squared*1	0.074 (0.021)	0.000 (0.000)	-0.002 ^b (0.001)	-0.076 (0.047)
Unemployment*1	0.410 ^a (0.131)	0.000 (0.000)	-0.274 ^b (0.138)	-0.267 (0.251)
Age*1	1.293 (0.360)	0.000 (0.000)	3.852 (1.231)	0.000 (0.000)
Age Squared*1	-0.029 (0.007)	0.000 (0.000)	-0.076 ^a (0.026)	0.000 (0.000)
High School Drop-Out*1	0.000 (0.000)	-0.960 ^b (0.398)	0.000 (0.000)	0.000 (0.000)
Some College Credit*1	0.000 (0.000)	0.201 (0.312)	-0.968 ^b (0.409)	0.000 (0.000)
College Graduate*1	0.505 ^b (0.229)	-0.313 (0.322)	0.709 (0.623)	0.442 (0.458)
Divorced	0.000 (0.000)	-0.839 (0.842)	0.000 (0.000)	0.000 (0.000)
Never Married	0.000 (0.000)	-0.845 ^c (0.491)	0.000 (0.000)	0.000 (0.000)

Note: *1 indicates interaction with first birth indicator.
 a= p<0.01; b=p<.05; c=p<.10

Table C3

Determinants of Work After Childbirth for Those Working Full-Time Prior to Pregnancy

(Logit Coefficients and Standard Errors)

Node	I	J	K	L
Decision Point	I Work After?	Return to Same Employer?	If Return to Different Employer, Work Part-time?	If Return to Same Employer, Work Part-time
Intercept	-11.4 (2.6)	1.892 (1.422)	-3.170 (2.556)	14.313 (5.502)
Black	0.001 (0.129)	0.097 (0.118)	0.658 (0.232)	0.747 (0.220)
Hispanic	-0.040 (0.183)	0.107 (0.155)	0.404 (0.301)	0.260 (0.237)
Year	0.048 ^a (0.015)	-0.051 ^b (0.020)	0.059 (0.037)	-0.032 (0.037)
Year Squared	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Unemployment Rate	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Age	0.034 (0.022)	0.138 ^a (0.028)	-0.057 (0.037)	-0.811 ^b (0.381)
Age Squared	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.016 ^b (0.007)
High School Drop-Out	-0.463 ^a (0.093)	0.000 (0.000)	-0.585 ^c (0.318)	0.000 (0.000)
Some College Credit	0.431 ^a (0.127)	0.000 (0.000)	-0.383 ^b (0.161)	0.000 (0.000)
College Graduate	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.945 ^a (0.271)
Divorced	-0.257 (0.147)	-0.686 ^a (0.197)	0.000 (0.000)	-0.488 (0.337)
Never Married	-0.175 ^c (0.103)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
One Previous Child	6.820 ^a (2.534)	-0.507 (0.409)	0.236 (0.170)	-0.079 (0.514)
Two Previous Children	0.000 (0.000)	-0.260 (0.153)	0.000 (0.000)	0.000 (0.000)

Note: * a= p<0.01; b=p<.05; c=p<.10

Table C3 (Continued)

Determinants of Work After Childbirth for Those Working Full-Time Prior to Pregnancy

(Logit Coefficients and Standard Errors)

Node	I	J	K	L
Decision Point	Work After?	Return to Same Employer?	If Return to Different Employer Work Part-time?	If Return to Same Employer, Work Part-time?
Black*1	0.448 ^b (0.178)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Hispanic*1	0.401 (0.235)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Year*1	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Year Square*1	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Unemployment Rate*1	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.036 (0.068)
Age*1	0.562 ^a (0.201)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Age Square*1	-0.012 ^a (0.004)	-0.001 (0.001)	0.000 (0.000)	0.000 (0.000)
High School Drop-Out*1	0.000 (0.000)	0.000 (0.000)	0.632 (0.465)	0.000 (0.000)
Some College Credit*1	-0.386 ^a (0.149)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
College Graduate*1	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.454 (0.320)
Divorced*1	0.571 ^b (0.225)	0.355 (0.285)	0.000 ^c (0.000)	0.888 (0.555)
Never Married*1	0.000 (0.000)	0.319 (0.173)	0.000 ^c (0.000)	0.000 (0.000)

Note: *1 indicates interaction with first birth indicator
a= p<0.01; b=p<.05; c=p<.10

APPENDIX D

SIMULATIONS FOR PARTIAL EFFECTS

Tables D1 through D6 provide an alternative analysis of demographic effects. Tables 1 through 4 in the body of the paper provided total effects. They considered the characteristics of all mothers in the CPS with the relevant characteristic (parity or education), allowing all of the covariates to change between the subsets. Tables D1 through D6 compute a partial effect, only the single variable's changed, the women are otherwise identical. They correspond to interpreting individual regression coefficients in a standard single regression equation model.

We begin with a base case: A white, 27-year-old high school graduate having her second child. This is approximately the median woman in the June CPS population sample of mothers. We then vary one (or sometimes two) of these characteristics and discuss the effects on the joint labor force statuses. When interpreting these tables it is important to note that (at least before the one-step pruning of the system of logistic regressions) these effects were included at each node of the tree, so these tables represent changes in (at least) 12 parameters. In addition, for the parity effects of the original specification (up to a relatively mild data-driven step-wise procedure), the system of logistic regressions was completely interacted with first birth.

Table D1 considers the partial effect of race. The top panel is the base case (whites). The bottom panel is for (otherwise identical) blacks. Pre-pregnancy rates of work in the two samples are similar, though blacks are more likely to work full-time (49.2 percent vs. 39.2 percent). After pregnancy, whites are much more likely to not work (56.4 vs. 47.3) and slightly less likely to return to their pre-pregnancy employer conditional on returning to full-time work (84.9 vs. 96.3).

Table D1
Job Continuity for White Mothers and Black Mothers: Partial Effects

Work before pregnancy	Work Status After Childbirth(%)						% of Before Pregnancy State					
	None	Part Diff	Part Same	Full Diff	Full Same	Total	None	Part Diff	Part Same	Full Diff	Full Same	Total
White High School Graduate, Age 27, Second Child												
None	24.6	2.5	3.8	3.8	3.8	30.8	79.6	8.1	12.2	12.2	4.1	100.0
Part-time	21.7	1.7	2.1	3.2	1.2	29.9	72.6	5.7	6.9	10.7	4.1	100.0
Full-time	10.1	1.6	6.7	3.1	17.7	39.2	25.8	4.2	17.0	8.0	45.1	100.0
Total	56.4	5.9	8.7	10.1	18.9	100.0						
Black High School Graduate, Age 27, Second Child												
None	24.2	2.4	5.3	5.3	5.3	31.8	75.9	7.5	16.7	16.7	8.9	100.0
Part-time	10.5	1.1	3.8	1.8	1.7	19.0	55.4	5.9	20.1	9.7	8.9	100.0
Full-time	12.7	0.6	8.6	1.0	26.3	49.2	25.7	1.2	17.6	2.1	53.4	100.0
Total	47.3	4.1	12.5	8.2	28.0	100.0						

NOTE: Weighted tabulations from the June 1990 CPS using NLS-Y logistic regression model. Full-time work is 35 or more hours per week. N=5793

Table D2 considers the partial effect of education. The top panel refers to high school drop-outs. The middle panel is for (otherwise identical) high school graduates. The bottom panel relates to college graduates. High school drop-outs are more likely to be working part-time before pregnancy, slightly less likely to be working and much less likely (nearly 15 percentage points) to be working full-time. Post-childbirth labor force statuses are, however, quite similar. The difference is that high school drop-outs are both more likely to begin working after childbirth and more likely to continue working full-time after childbirth. However, conditional on staying with full-time employment, more educated women are much more likely to remain with the pre-pregnancy employer (84.9 vs. 53.5 percent). This is consistent with Desai and Waite (1991).

The bottom panel shows that, compared with high school graduates, college graduates are less likely to be working, but more likely to be working full-time both before and after the pregnancy. Conditional on pre-pregnancy employment status, nonworkers and full-time workers look quite similar; part-time college graduates are more likely to stop working. Again consistent with Desai and Waite, the rates of return to the same employer are higher for college graduates. When total effects were examined above, more education was associated with lower rates of return to the same employer. This appears to be due to differences across individuals in other covariates that counteract the pure education effect.

Table D2
Job Continuity for High School Graduates and High School Drop-outs: Partial Effects

Work before pregnancy	Work After Childbirth(%)						% of Before Pregnancy State					
	None	Part Diff	Part Same	Full Diff	Full Same	Total	None	Part Diff	Part Same	Full Diff	Full Same	Total
High School Drop-out, Age 27, White												
None	18.4	2.7	████	4.0	████	25.0	73.5	10.6	████	15.9	████	100.0
Part-time	36.6	3.0	3.7	5.2	2.0	50.4	72.6	6.0	7.3	10.2	3.9	100.0
Full-time	3.4	1.9	4.1	7.0	8.1	24.6	14.0	7.8	16.7	28.6	32.9	100.0
Total	58.4	7.6	7.8	16.2	10.1	100.0						
High School Graduate, Age 27, White												
None	24.6	2.5	████	3.8	████	30.8	79.6	8.1	████	12.2	████	100.0
Part-time	21.7	1.7	2.1	3.2	1.2	29.9	72.6	5.7	6.9	10.7	4.1	100.0
Full-time	10.1	1.6	6.7	3.1	17.7	39.2	25.8	4.2	17.0	8.0	45.1	100.0
Total	56.4	5.9	8.7	10.1	18.9	100.0						
College Graduate, Age 27, White												
None	30.5	2.0	████	10.5	████	42.9	71.0	4.6	████	24.4	████	100.0
Part-time	4.4	0.3	1.3	3.4	0.7	10.1	43.7	2.7	12.7	33.8	7.1	100.0
Full-time	12.4	3.4	16.6	0.6	13.9	46.9	26.4	7.1	35.4	1.4	29.6	100.0
Total	47.3	5.6	17.9	14.5	14.6	100.0						

NOTE: Weighted tabulations from the June 1990 CPS using NLS-Y logistic regression model. N=5793

Table D3 considers the partial effect of marital status. The top panel is the base case (currently married). The bottom panel is for (otherwise identical) never married women. Compared with the currently married, never married women are more likely to not be working both before and after the pregnancy (41.6 vs. 30.8). Furthermore, full-time never married women are more likely to stop working after the birth of a child (31.7 vs. 25.8). Conditional on return to work, rates of return to the same employer are similar.

Table D3
Job Continuity by Marital Status: Partial Effects

Work before pregnancy	Work After Childbirth(%)						% of Before Pregnancy State					
	None	Part Diff	Part Same	Full Diff	Full Same	Total	None	Part Diff	Part Same	Full Diff	Full Same	Total
Married Woman, Age 27, White												
None	24.6	2.5	████	3.8	████	30.8	79.6	8.1	████	12.2	████	100.0
Part-time	21.7	1.7	2.1	3.2	1.2	29.9	72.6	5.7	6.9	10.7	4.1	100.0
Full-time	10.1	1.6	6.7	3.1	17.7	39.2	25.8	4.2	17.0	8.0	45.1	100.0
Total	56.4	5.9	8.7	10.1	18.9	100.0						
Never Married Woman, Age 27, White												
None	37.8	1.5	████	2.3	████	41.6	91.0	3.6	████	5.4	████	100.0
Part-time	14.9	0.7	0.8	3.0	1.2	20.6	72.6	3.2	3.9	14.7	5.7	100.0
Full-time	12.0	1.5	5.9	2.8	15.7	37.8	31.7	3.8	15.6	7.4	41.4	100.0
Total	64.8	3.6	6.7	8.1	16.9	100.0						

NOTE: Weighted tabulations from the June 1990 CPS using NLS-Y logistic regression model. N=5793

Table D4 considers the partial effect of age. The top panel is for a (otherwise identical) 19-year-old. The middle panel is the base case (a 27-year-old). The bottom panel is for a 32-year-old mother. Both before and after the pregnancy the younger mothers are much less likely to be working (48.9 vs. 30.8 before pregnancy; 71.4 vs. 56.4 after pregnancy). The difference is clear in both part-time and full-time work pre-pregnancy where the younger women are less likely to stop working (for part-time work 91.9 vs. 72.6; for full-time work 35.3 vs. 25.8). However, conditional on return to work, the younger workers are more likely to return to the pre-pregnancy employer. Note that this is inconsistent with Desai and Waite; younger workers should have fewer job specific skills.

Compared to a 32-year-old mother, a 27-year-old mother is much less likely to be working (30.8 vs. 21.3 before pregnancy; 56.4 vs. 42.4 after pregnancy). Both before and after pregnancy the younger women are slightly more likely to be working part-time, but the older women are much more likely to be working full-time (53.5 vs. 39.2 before, 49.4 vs. 29.0 after). Conditional on returning to full-time work, return to the same employer is more common among older workers (unlike the 18 to 27 comparison, this is consistent with expectations about job-specific skills).

Table D4
Job Continuity by Maternal Age: Partial Effects

Work before pregnancy	Work After Childbirth(%)						% of Before Pregnancy State					
	None	Part Diff	Part Same	Full Diff	Full Same	Total	None	Part Diff	Part Same	Full Diff	Full Same	Total
Age 19, White, High School Graduate												
None	35.4	3.9	██████	9.6	██████	48.9	72.4	7.9	██████	19.7	██████	100.0
Part-time	29.1	0.3	2.0	0.1	0.2	31.7	91.9	0.9	6.2	0.3	0.7	100.0
Full-time	6.9	0.8	8.0	0.2	3.5	19.4	35.3	4.3	41.3	0.9	18.2	100.0
Total	71.4	5.0	10.0	9.9	3.7	100.0						
Age 27, White, High School Graduate												
None	24.6	2.5	██████	3.8	██████	30.8	79.6	8.1	██████	12.2	██████	100.0
Part-time	21.7	1.7	2.1	3.2	1.2	29.9	72.6	5.7	6.9	10.7	4.1	100.0
Full-time	10.1	1.6	6.7	3.1	17.7	39.2	25.8	4.2	17.0	8.0	45.1	100.0
Total	56.4	5.9	8.7	10.1	18.9	100.0						
Age 32, White, High School Graduate												
None	17.8	1.7	██████	1.8	██████	21.3	83.5	7.8	██████	8.6	██████	100.0
Part-time	13.6	1.5	0.7	8.4	1.0	25.2	54.1	5.9	2.6	33.3	4.0	100.0
Full-time	11.0	1.3	3.2	1.8	36.2	53.5	20.6	2.4	5.9	3.4	67.7	100.0
Total	42.4	4.4	3.8	12.1	37.3	100.0						

NOTE: Weighted tabulations from the June 1990 CPS using NLS-Y logistic regression model. N=5793

Table D5 considers the partial effect of parity for young mothers. Here both panels (differing from the base case) refer to 19-year-olds. The top panel is for a first child; the bottom panel for a second child. As in the comparison across all ages, women with more children are more likely to not work both before and after childbirth (before 48.9 vs. 33.3; after 71.4 vs. 40.4). The difference is mostly the fifty percent drop in part-time work by mothers of two children compared with a drop of only a quarter among mothers of one child. Almost all young mothers of two children who worked part-time, stop working, mothers of one child are more likely to continue working.

Table D5
Job Continuity by Parity for Young Mothers: Partial Effects

Work before pregnancy	Work After Childbirth(%)						% of Before Pregnancy State					
	None	Part Diff	Part Same	Full Diff	Full Same	Total	None	Part Diff	Part Same	Full Diff	Full Same	Total
First Child, 19 Year-old Mother												
None	23.3	3.2		6.9		33.3	69.7	9.5		20.8		100.0
Part-time	7.3	34.0	0.1	5.6	0.0	47.1	15.6	72.2	0.3	11.9	0.0	100.0
Full-time	9.8	0.9	5.4	0.2	3.3	19.5	50.0	4.6	27.5	1.1	16.8	100.0
Total	40.4	38.1	5.5	12.8	3.3	100.0						
Second Child, 19 Year-old Mother												
None	35.4	3.9		9.6		48.9	72.4	7.9		19.7		100.0
Part-time	29.1	0.3	2.0	0.1	0.2	31.7	91.9	0.9	6.2	0.3	0.7	100.0
Full-time	6.9	0.8	8.0	0.2	3.5	19.4	35.3	4.3	41.3	0.9	18.2	100.0
Total	71.4	5.0	10.0	9.9	3.7	100.0						

NOTE: Weighted tabulations from the June 1990 CPS using NLS-Y logistic regression model. N=5793

Table D6 considers the partial effect of parity for older mothers, aged 32. The top panel is for a first child; the middle panel for a second child. The bottom panel is for a third child. Here the differences are strikingly different from the younger women. As expected, before the birth women with no children are more likely to be working full-time (60.0 vs. 53.3) than women who already have one child. However, after the birth, these relations reverse, so that while 49.4 percent of those who have just had their second child work full-time after the birth; only 32.3 percent of those women having their first births do. The same differences are clear in the conditional responses. 67.7 percent of those women who worked full-time before the birth of their second child continue to work full-time and at their pre-pregnancy employer. For first births, only 36.5 percent of the full-time workers continue to work full-time. The difference is that more of the single parity mothers simply stop working (51.1 vs. 20.6). Perhaps, being older they have the savings to be able to afford to spend time exclusively with the child.

Table D6
Job Continuity by Parity for Older Mothers: Partial Effects

Work before pregnancy	Work After Childbirth(%)						% of Before Pregnancy State					
	None	Part Diff	Part Same	Full Diff	Full Same	Total	None	Part Diff	Part Same	Full Diff	Full Same	Total
First Child, 32 Year-old Mother												
None	12.0	4.5	█	0.1	█	16.6	72.2	27.2	█	0.6	█	100.0
Part-time	12.8	1.7	0.0	8.9	0.0	23.4	54.7	7.3	0.0	38.0	0.0	100.0
Full-time	30.6	2.2	3.8	1.4	21.9	60.0	51.1	3.7	6.3	2.4	36.5	100.0
Total	55.4	8.5	3.8	10.4	21.9	100.0						
Second Child, 32 Year-old Mother												
None	17.8	1.7	█	1.8	█	21.3	83.5	7.8	█	8.6	█	100.0
Part-time	13.6	1.5	0.7	8.4	1.0	25.2	54.1	5.9	2.6	33.3	4.0	100.0
Full-time	11.0	1.3	3.2	1.8	36.2	53.5	20.6	2.4	5.9	3.4	67.7	100.0
Total	42.2	4.4	3.8	12.1	37.3	100.0						
Third Child, 32 Year-old Mother												
None	28.5	1.2	█	2.6	█	32.2	88.4	3.7	█	8.0	█	100.0
Part-time	16.5	1.3	0.6	7.5	0.9	26.9	61.5	5.0	2.2	27.9	3.4	100.0
Full-time	8.4	1.5	3.7	1.3	26.0	40.9	20.6	3.6	9.0	3.2	63.6	100.0
Total	53.4	4.0	4.3	11.4	26.9	100.0						

NOTE: Weighted tabulations from the June 1990 CPS using NLS-Y logistic regression model. Full-time work is 35 or more hours per week. N=5793

The bottom panel relates to third births for older mothers (32-year-olds). Before their third birth, mothers are less likely to be working full-time (40.9 vs. 53.5) and more likely to not be working (21.3 vs. 32.2) than women having a second child. After the birth, those with more children are less likely to work full-time, although the conditional rates are quite similar.

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