

The timing of mothers' employment after childbirth

According to data from a new nationally representative study of women who gave birth in 2001, the speed of a woman's return to work after the birth of a child was influenced by many factors, including family structure, education, age, birth history, and race/ethnicity, but the strongest factor was whether or not the woman had been working prior to the birth

Wen-Jui Han,
Christopher J. Ruhm,
Jane Waldfogel, and
Elizabeth Washbrook

One of the most striking changes in American society in recent decades has been the dramatic rise in the labor force participation of women with children and, in particular, mothers of infants. In 1968, for instance, just 21 percent of women with a child younger than 1 year old were in the labor force.¹ By 1986, this figure exceeded 50 percent and, although the increase has slowed since that time and appears to have stabilized since 2000, more than half of mothers of infants have participated in the labor force in every year since.² There are important distinctions, however, among labor force participation, employment, and actually being “at work.” Current data indicate that a majority of mothers of infants are both in the labor force and “at work” by the end of the first year postbirth. (See chart 1.)³ Thus, a mother working during the first year of her child's life has become normative in the United States, in sharp contrast to the situation in the 1960s.

Yet, the statistic that more than half of mothers are at work within the first year after their child's birth masks considerable variation in the timing of postbirth employment. This article focuses on that variation. In particular, the article examines how the timing of mothers' work post-childbirth varies by their race or ethnicity, family structure, education level,

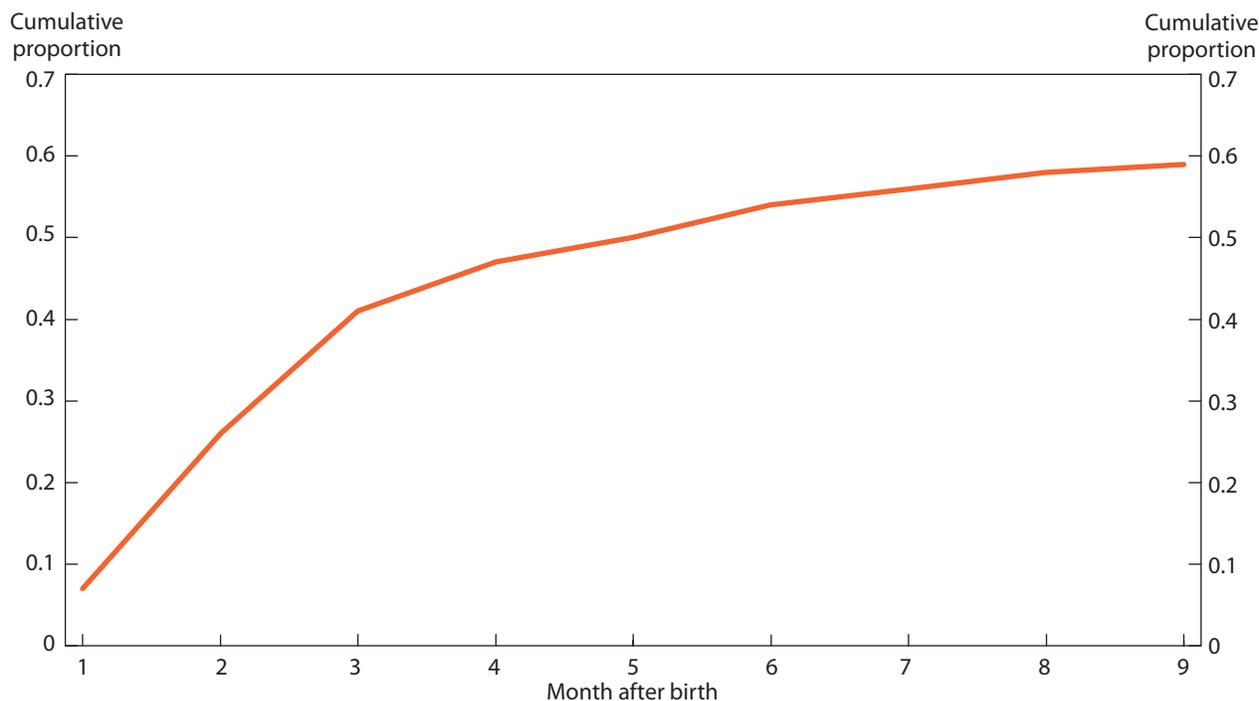
age, and prior birth history. The article also considers how the timing of mothers' work varies depending on whether or not they were employed immediately prior to the birth.

This article addresses these issues using data from a new national birth cohort study—the Early Childhood Longitudinal Study–Birth Cohort (known by the acronym ECLS-B).⁴ The ECLS-B used vital statistics records to select a sample of more than 10,000 children born in 2001. The sample was designed to be representative of all U.S. births in that calendar year; it also included oversamples of Asian and Pacific Islander children, American Indian and Alaska Native children, Chinese children, twins, and low and very low birth weight children.⁵

Baseline parent interviews and child assessments were done when each child was approximately 9 months old (there were also interviews with parents when their child was 24 months old, at pre-school entry, and in kindergarten, but these were not used for the purposes of this analysis). The baseline interview when a child was 9 months old consisted of a computer-assisted personal interview (CAPI) administered to the parent respondent (the biological mother in 99 percent of the cases) as well as direct assessments of the child's development, direct assessments of

Wen-Jui Han is an associate professor of social work at Columbia University. Christopher J. Ruhm is the Jefferson-Pilot Excellence Professor of Economics at the University of North Carolina–Greensboro. Jane Waldfogel is a professor of social work and public affairs, and Elizabeth Washbrook is a post-doctoral fellow, both at Columbia University. E-mail: wh41@columbia.edu, chrisruh@uncg.edu, jw205@columbia.edu, liz.washbrook@bristol.ac.uk

Chart 1. Proportion of mothers at work after giving birth in 2001



SOURCE: Authors' calculations using data from the Early Childhood Longitudinal Study–Birth Cohort of 2001, 9-month–Preschool Restricted-Use Data File, U.S. Department of Education, National Center for Education Statistics.

caregiver–child interaction patterns, and a self-administered questionnaire for the resident father or male guardian. For cases in which there was a nonresident father, a questionnaire was also sent to him provided that the mother gave her consent and that the nonresident father was able to be located.⁶

The 9-month personal interview provided rich information on current maternal and paternal employment characteristics, including hours of work, earnings, occupation, and employer benefits (for those employed only).⁷ However, information on employment in the immediate pre- and postbirth periods is more limited. Mothers were asked if they had worked at all in the 12 months prior to the birth and, if so, how many months they had worked and how many hours per week they had been working in that job. With regard to the postbirth period, mothers were asked about the number of weeks of paid and unpaid leave they had taken and about the age of the child, in months, when they first began to work.

This article focuses on the latter of these two sources of postbirth employment information for several reasons. First, the maternity leave data is only relevant for women who were employed at the time of the birth. Yet, of those mothers who had begun work by 9 months (59 percent of all mothers), 11 percent had not worked at all in the year

prior to the birth, and 14 percent had separated from their employer prior to the birth. Second, even among mothers who were employed at the time of the birth, length of maternity leave did not always coincide with length of time away from work because some mothers quit their jobs after taking official leave.⁸ Data on the actual dates on which mothers started work are therefore defined for the entire sample, not just for those who returned to work with their prebirth employer. The aim here is to compare the time spent at home with a newborn for a nationally representative group of mothers, and hence no distinction is made between mothers who were employed but on leave and those who were not employed.

The aim of this article is to describe the variation in the timing of mothers' work postbirth as a function of several key characteristics identified as important by theory and prior research.⁹ Multivariate models have been estimated in order to shed light on which of these characteristics are most influential. Table 1 shows the composition of the sample in terms of these selected demographic characteristics.¹⁰

A number of potentially interesting characteristics were excluded from the analysis. It was not possible to address the role of factors such as employer characteristics, type of occupation, or household income. Prior to the

Table 1. Sample sizes and population proportions of demographic groups

Category	N	Weighted proportion
All.....	10,465	1.00
White non-Hispanic.....	4,800	.57
Black non-Hispanic.....	1,700	.14
Hispanic.....	1,850	.23
Asian.....	1,350	.03
Other.....	750	.03
Married.....	6,750	.65
Cohabiting.....	1,450	.14
Single mother.....	2,200	.20
Other family type.....	100	.01
Less than high school.....	2,750	.27
High school.....	2,250	.22
Some college.....	2,700	.26
Bachelor's degree.....	1,650	.15
More than bachelor's degree.....	1,100	.09
Age less than 20.....	800	.07
Age 20–24.....	2,600	.24
Age 25–29.....	2,500	.26
Age 30–34.....	2,650	.25
Age 35 or older.....	1,950	.17
First-born.....	3,850	.41
Second-born.....	3,600	.34
Third-born or more.....	3,050	.26
Not employed at birth.....	5,250	.49
Employed at birth.....	5,250	.51

NOTE: In accordance with Early Childhood Longitudinal Study–Birth Cohort policy, numbers are rounded to the nearest 50.

SOURCE: Authors' calculations using data from the Early Childhood Longitudinal Study–Birth Cohort of 2001, 9-month–Preschool Restricted-Use Data File, U.S. Department of Education, National Center for Education Statistics.

pregnancy, these factors may have exerted a substantial influence on family labor market decisions, but they cannot be observed in the data. Although information of this kind is available at 9 months, these data can not be used in this analysis because employment information is missing for those who had not started work and also because the data reflect outcomes of decisions important for this analysis, rather than influences upon those decisions. For example, because maternal occupation is only defined for those employed at 9 months, it is not possible to compare the employed and unemployed proportions for a given occupation. Furthermore, mothers may change their occupations following a birth—a decision made jointly with when and how much to work.

In addition, the focus has been restricted to maternal characteristics, despite the fact that rich information is available on the current employment and personal characteristics of resident fathers at 9 months. This is because maternal and paternal characteristics are often strongly positively related within families, and so the inclusion of

both in this analysis could confound interpretation. Paternal employment decisions are likely to be made jointly with those of the mother, and so are subject to the problem described earlier of being outcomes rather than influences on the data recorded at 9 months. Moreover, because one-fifth of the children born in this cohort have no resident father, a focus on maternal characteristics alone allows this study to make statements that apply to the entire population, rather than to a subset.

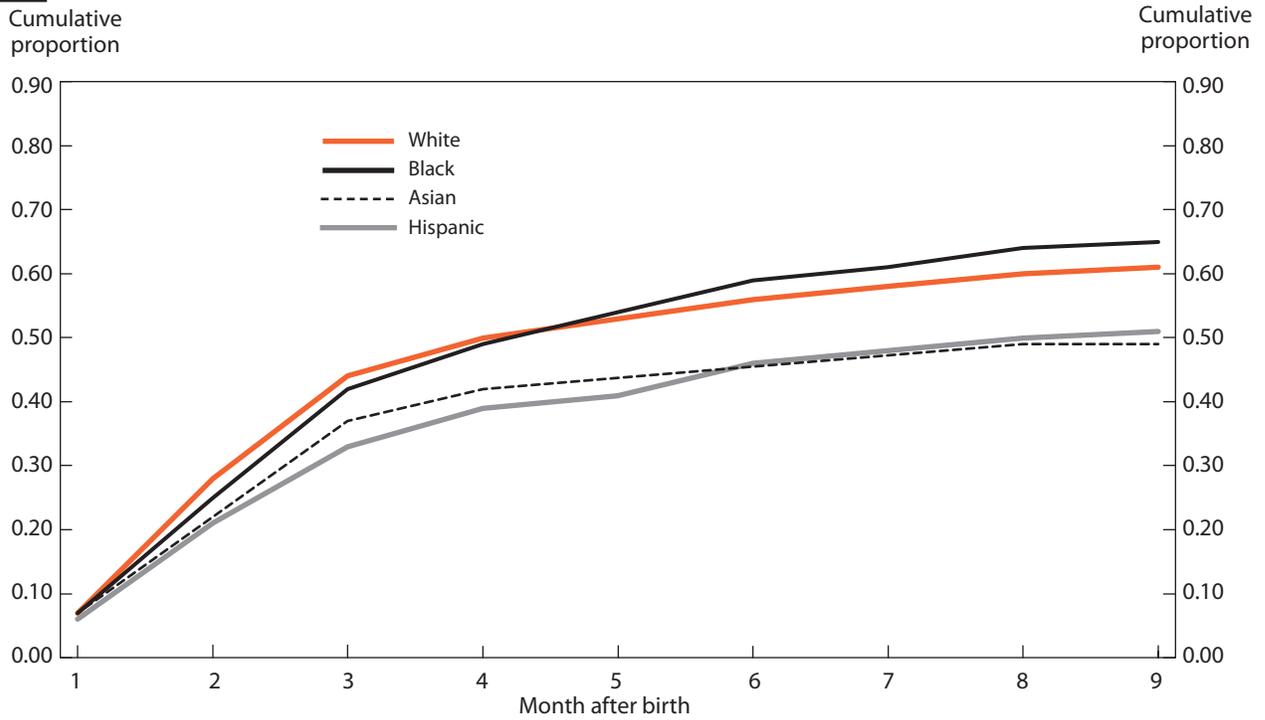
The timing of mothers' work

Chart 1 shows the proportion of mothers at work in 2001 over the first 9 months postbirth. Although relatively few mothers (only 7 percent) were working 1 month after the birth, 26 percent were working after 2 months and 41 percent by 3 months. A decreasing proportion of women started work in subsequent months, but by 9 months post-birth, almost 60 percent of all mothers in the study were working. Results not shown (but available on request) indicate that the majority of these working mothers (37 percent) were employed full time by this date, and a minority (22 percent) were employed part time.

Demographic comparisons. How does the timing of work vary across different groups of mothers? Chart 2 displays the results for subsamples stratified by race and ethnicity. Although the timing of work is similar across groups in the first 2 months, gaps open by the third month and widen thereafter. Black and white mothers have the highest proportion working at 9 months, 65 percent and 61 percent respectively, compared with around 50 percent of Hispanic and Asian women. (Detailed data are provided in appendix table A–1). The high work rates of black and white mothers and low rates for Hispanic and Asian mothers are consistent with racial and ethnic differences in employment for women as a whole.¹¹ Such disparities may reflect cultural norms and attitudes or differences in other characteristics that are correlated with race and ethnicity. The multivariate analysis section of this article will explore the role of the latter.

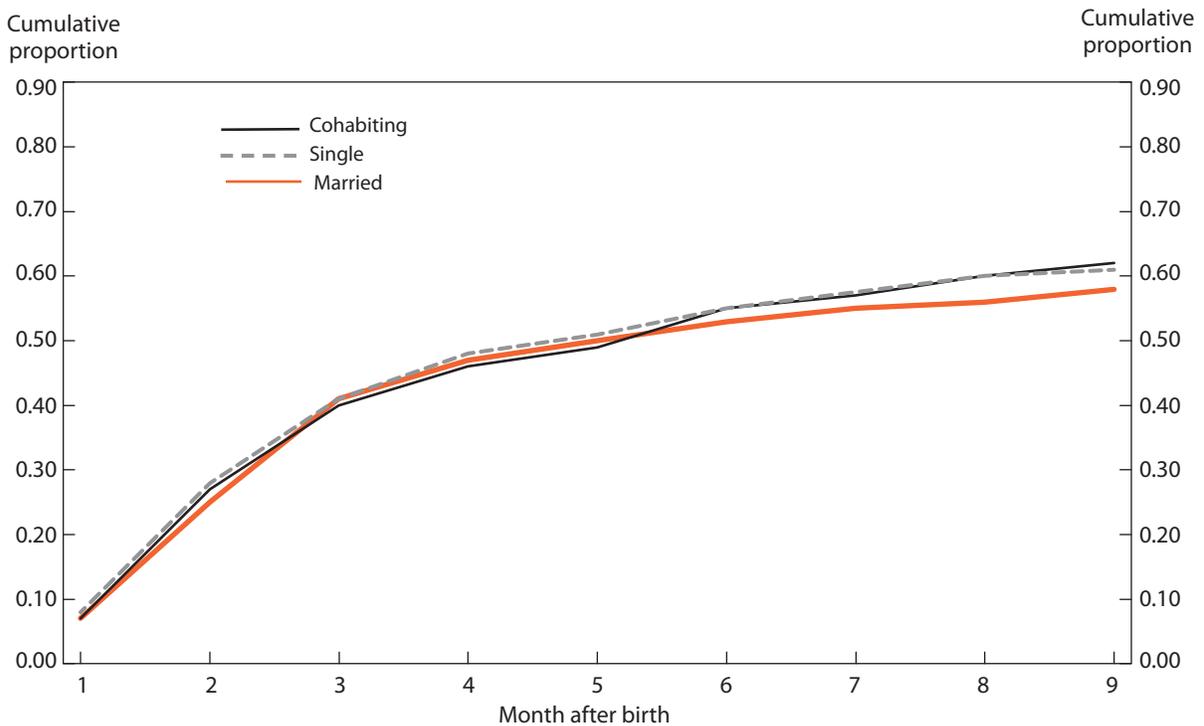
Family structure. Single mothers may feel more financial pressure to work than do their married counterparts, because they cannot rely on a husband's earnings. Women cohabiting with a partner may also have more incentive to work if they are less certain of support from their non-marital partners. Nevertheless, the descriptive analysis, summarized in chart 3, reveals few differences until the later months. At that point, a slight gap opens up, with

Chart 2. Proportion of mothers at work after giving birth in 2001, by race/ethnicity



SOURCE: Authors' calculations using data from the Early Childhood Longitudinal Study–Birth Cohort of 2001, 9-month–Preschool Restricted-Use Data File, U.S. Department of Education, National Center for Education Statistics.

Chart 3. Proportion of mothers at work after giving birth in 2001, by family type



SOURCE: Authors' calculations using data from the Early Childhood Longitudinal Study–Birth Cohort of 2001, 9-month–Preschool Restricted-Use Data File, U.S. Department of Education, National Center for Education Statistics.

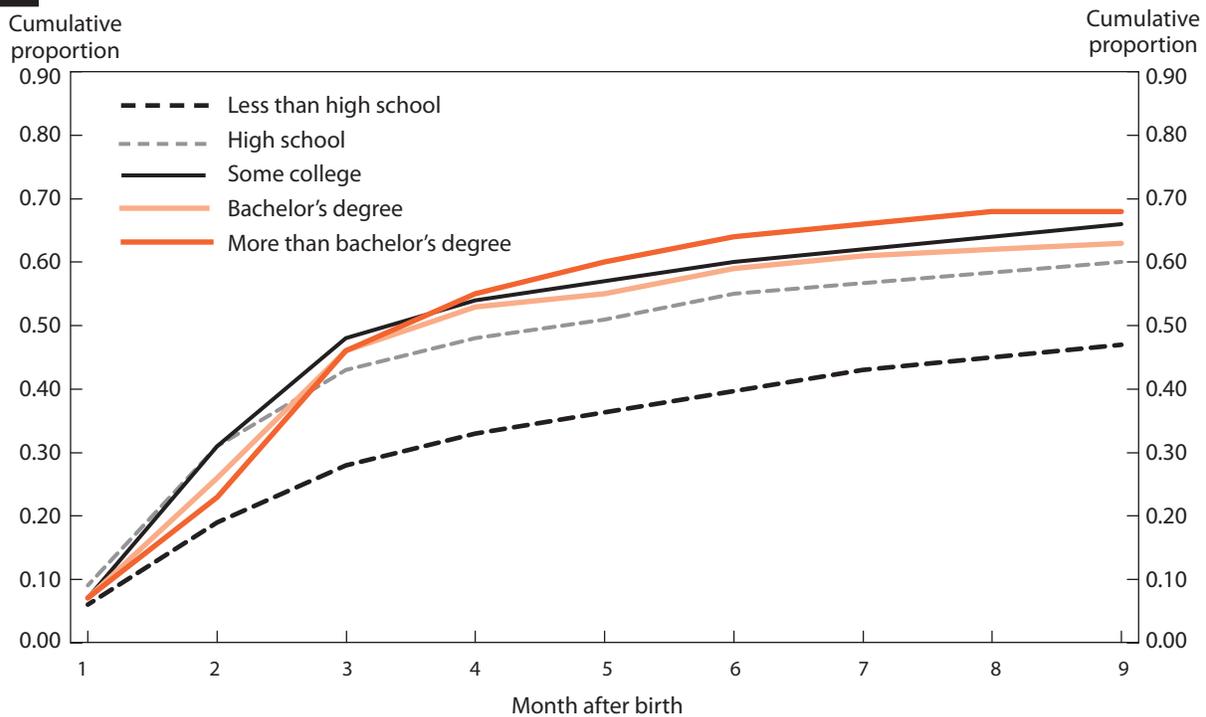
cohabiting and single mothers somewhat more likely to be working than married mothers by 9 months postbirth. (See appendix table A-2 for details.) The lower proportion of married mothers at work probably reflects their higher family incomes.¹²

Years of schooling. Education matters too. On the one hand, highly educated women are likely to have invested more in preparation for careers and earn a higher reward in the labor market, so one might expect them to have higher rates of postbirth work. On the other hand, these mothers are also most likely to be eligible for maternity leave, which may delay their return to work.¹³ Chart 4 indicates that postbirth work rates do generally increase with education, with sharply lower rates observed for the least educated (mothers who have not completed high school). By 9 months postbirth, 68 percent of mothers with more than a bachelor's degree were working, compared with 60 percent of mothers with a high school degree and 47 percent of mothers with less than a high school diploma. (See detailed data in appendix table A-3.) However, in the first 2 months postbirth, mothers with more than a bachelor's degree were less likely than those with only a high school degree to be at work, probably reflecting differences in access to or use of maternity leave.

Age. The expected association between mothers' age, the fourth characteristic examined, and work timing is not clear. Older mothers may have more financial resources and thus be able to stay out of the labor force for a longer period of time, and they are also more likely to have access to maternity leave.¹⁴ However, older mothers also tend to be more educated than younger mothers and therefore have an incentive to return to work more quickly, as just discussed. Chart 5 suggests few differences in the timing of work by maternal age, except that mothers aged 19 or younger take longer to go back to work. (Appendix table A-4 provides details.)

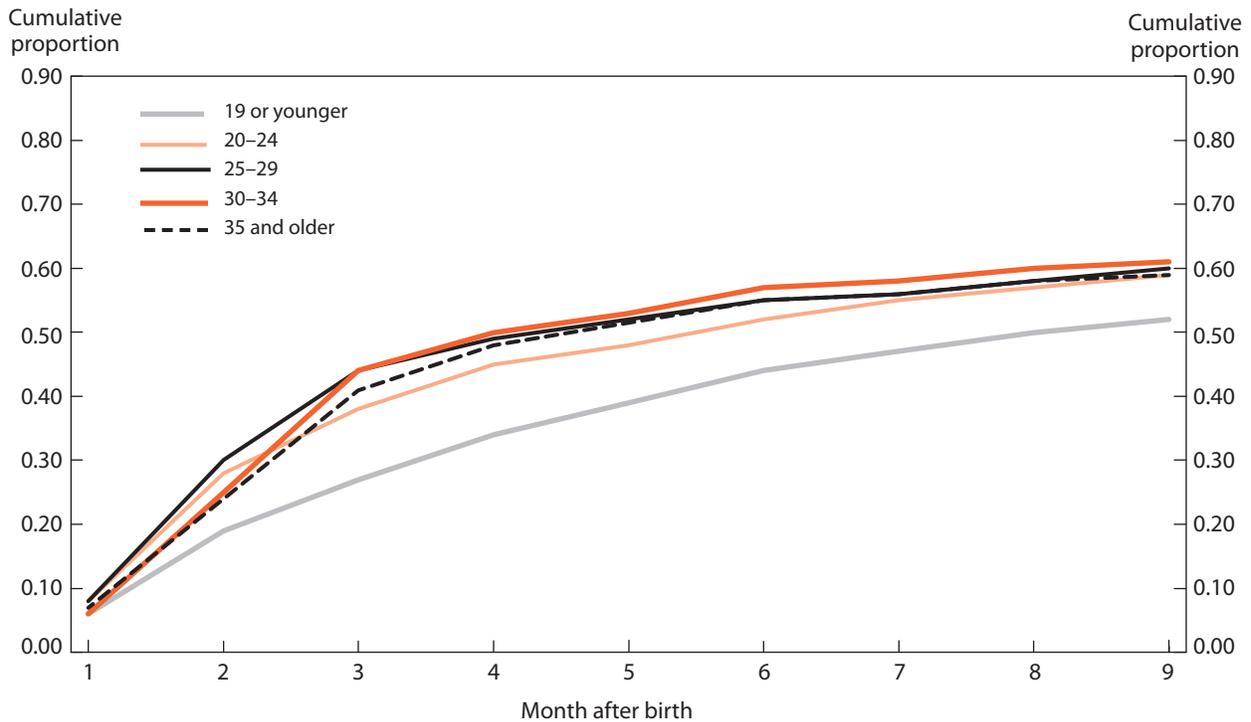
Childbirth order. The birth order of the child in question may also have a bearing on a particular mother's decision to stay at home or go back to work. In particular, women with three or more children may be especially likely to stay at home. The data in chart 6 confirm this. Rates of work following first and second births were notably higher than rates after third and later births. By 9 months postbirth, 64 percent of mothers with a first-born child and 60 percent of mothers with a second-born child were working, whereas 50 percent of women with a third-born child were working. (Details are in appendix table A-5.)

Chart 4. Proportion of mothers at work after giving birth in 2001, by maternal education



SOURCE: Authors' calculations using data from the Early Childhood Longitudinal Study–Birth Cohort of 2001, 9-month–Preschool Restricted-Use Data File, U.S. Department of Education, National Center for Education Statistics.

Chart 5. Proportion of mothers at work after giving birth in 2001, by mothers' age at birth of child



SOURCE: Authors' calculations using data from the Early Childhood Longitudinal Study–Birth Cohort of 2001, 9-month–Preschool Restricted-Use Data File, U.S. Department of Education, National Center for Education Statistics.

Prebirth employment. Many of the aforementioned factors are likely to affect women's employment before as well as after the birth. Prior research consistently has found that prebirth employment is the single strongest predictor of postbirth employment.¹⁵ This is true in the ECLS-B data as well. As shown in chart 7, two-thirds of women who were employed prebirth were back at work by 3 months, and nearly all (87 percent) were back at work by 9 months. In contrast, only 19 percent of women who were not employed at the time of the birth were working by 3 months and 41 percent, by 9 months.

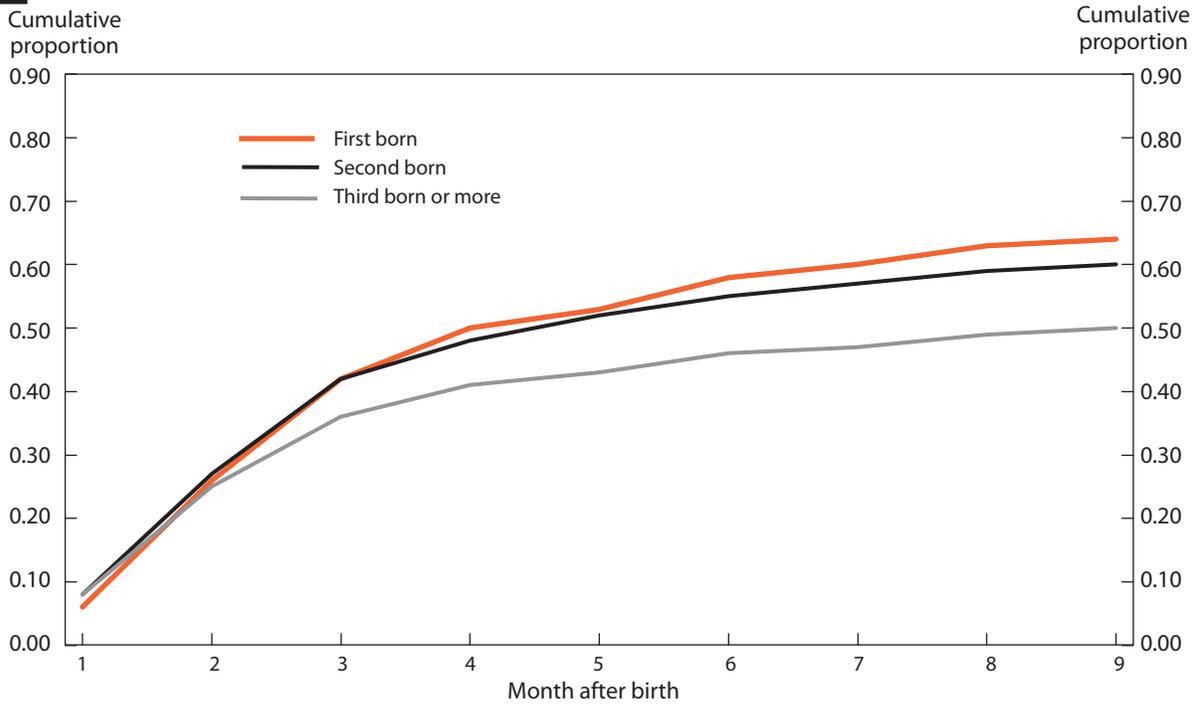
The strong link between employment before and after giving birth raises the question of the extent to which the differences summarized in charts 1-6 may be due to differences in employment rates prebirth. Specifically, do the groups less likely to be at work postbirth also have low probabilities of prebirth employment? As shown in chart 8, for the most part, the answer is yes. For instance, Hispanic, Asian, cohabiting, and single mothers all have relatively low rates of prebirth employment, and there are also sharp differences by maternal education and age. Differences in prebirth employment by number of children are also evident, but these are fairly small.

Multivariate analysis

To shed light on how various factors are related to the timing of mothers' work post-birth, two multivariate regression models were estimated, controlling for all of the factors—race and ethnicity, family structure, education, age, birth history, and prebirth employment status. The dependent variable in the first model indicated whether the mother was working by 2 months post-birth, and the dependent variable in the second model whether she was working by 9 months after the birth. Both models were estimated using probit regressions, because the outcome variable—whether a woman was working by a given time point—is dichotomous (taking the value of one for women who were working and zero for those who were not). From the probit estimates, marginal effects of changes in particular variables were calculated. Specifically, the percentage point change in work associated with being in one category rather than another was computed. The probit standard errors were used to determine whether the estimates were statistically significant.

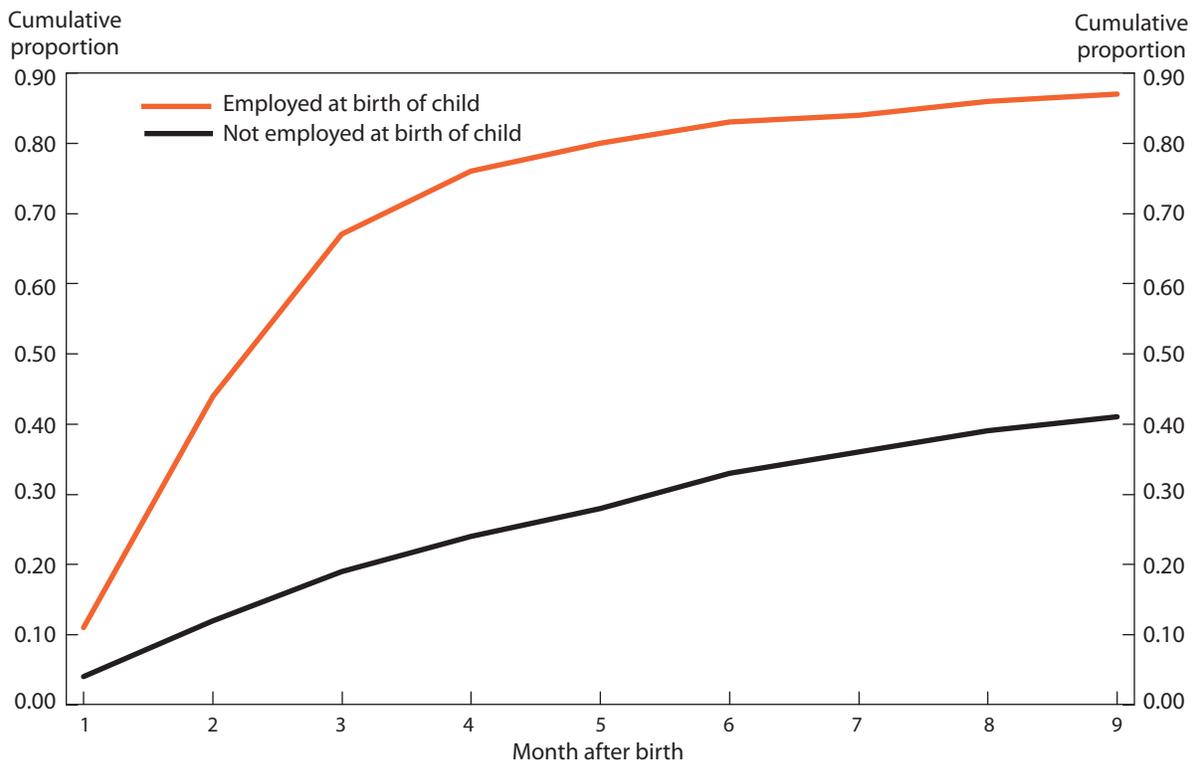
Table 2 summarizes results of the multivariate estimates. Results in column 1 are for the outcome variable

Chart 6. Proportion of mothers at work after giving birth in 2001, by child birth order



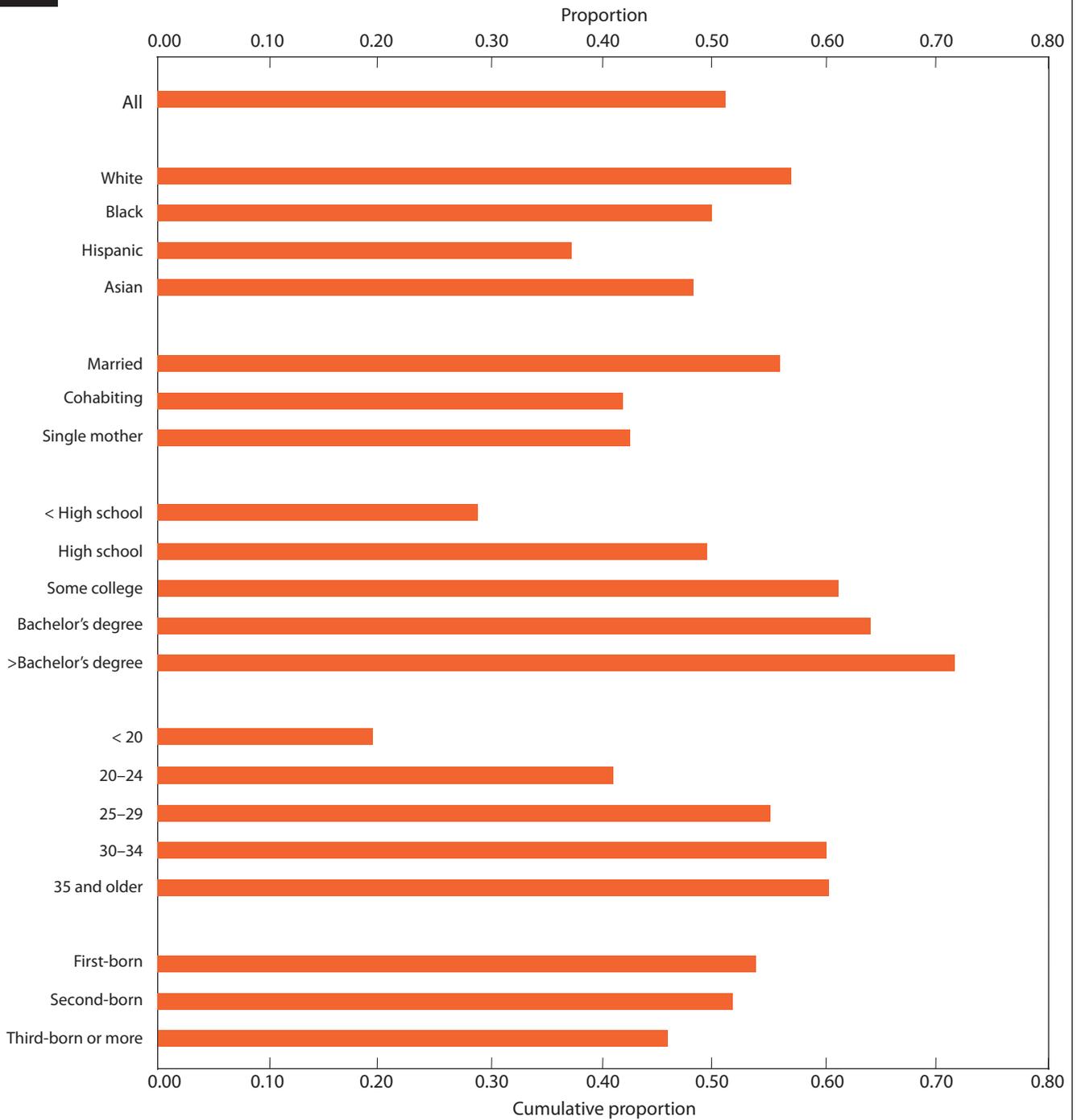
SOURCE: Authors' calculations using data from the Early Childhood Longitudinal Study–Birth Cohort of 2001, 9-month–Preschool Restricted-Use Data File, U.S. Department of Education, National Center for Education Statistics.

Chart 7. Proportion of mothers at work after giving birth in 2001, by employment status at birth of child



SOURCE: Authors' calculations using data from the Early Childhood Longitudinal Study–Birth Cohort of 2001, 9-month–Preschool Restricted-Use Data File, U.S. Department of Education, National Center for Education Statistics.

Chart 8. Proportion of women in employment at time of giving birth, by demographic characteristics



SOURCE: Authors' calculations using data from the Early Childhood Longitudinal Study–Birth Cohort of 2001, 9-month–Preschool Restricted-Use Data File, U.S. Department of Education, National Center for Education Statistics.

indicating how likely a mother was to be working by 2 months, and results in column 2 are for the outcome variable indicating how likely a mother was to be working by 9 months. The probit estimates indicate that black mothers were 4 percentage points more likely than white mothers

to be working by 9 months, confirming the pattern shown in chart 2. However, black women were 6 percentage points less likely to be working by 2 months, indicating a slower initial return to work. This may have occurred because black women are more likely than white women

Table 2. Probit models of the timing of work following a birth

Category	Marginal effect on probability of work by:	
	End of month 2	End of month 9
Black non-Hispanic	-0.06 ¹ (.02)	0.04 ² (.02)
Hispanic	-.02 (.02)	0.00 (.02)
Asian.....	0.00 (.02)	-.08 ¹ (.02)
Cohabiting .....	.06 ¹ (.02)	.14 ¹ (.02)
Single mother .....	.08 ¹ (.02)	.11 ¹ (.02)
Less than high school	-.02 (.02)	-.08 ¹ (.02)
High school.....	.03 ³ (.02)	-.03 (.02)
Bachelor's degree	-.03 (.02)	-.02 (.02)
More than bachelor's degree	-.06 ¹ (.02)	.01 (.03)
Age less than 20.....	.04 (.04)	.07 ³ (.03)
Age 20-24 .....	.03 (.02)	.04 ² (.02)
Age 30-34	-.05 ¹ (.01)	-.01 (.02)
Age 35 or older.....	-.06 ¹ (.02)	-.05 ³ (.02)
Second-born .....	.04 ¹ (.01)	0.00 (.02)
Third-born or more .....	.05 ¹ (.02)	-.07 ¹ (.02)
Employed at birth .....	.39 ¹ (.01)	.58 ¹ (.01)
Mean of outcome.....	.26	.59

¹ Significance at the 1-percent level.
² Significance at the 10-percent level.
³ Significance at the 5-percent level.

NOTE: Omitted categories are: white non-Hispanic, married, some college, age 25-29, first-born. Estimated marginal effects in each column are derived from a separate probit model (N=10,465). Standard errors are in parentheses. All estimates weighted to adjust for complex survey design.

SOURCE: Authors' calculations using data from the Early Childhood Longitudinal Study-Birth Cohort of 2001, 9-month-Preschool Restricted-Use Data File, U.S. Department of Education, National Center for Education Statistics.

to have maternity leave rights covering the first months after giving birth.¹⁶

Chart 2 also suggested a lower likelihood of work for Hispanic and Asian women. With the additional controls, however, Hispanic women were no less likely than their white counterparts to be working by either 2 or 9 months. Conversely, Asian mothers had an 8- percentage point lower work rate by 9 months (but with no difference by 2 months) with all other variables controlled.

Chart 3 suggested that cohabiting and single mothers were slightly more likely to be working by 9 months than married mothers. After controlling for other factors, these differences become more pronounced, with cohabiting women 6 percentage points more likely to be working by 2 months and 14 percentage points more likely to be working by 9 months in comparison with their married peers. Compared with married mothers, single mothers were 8 percentage points more likely to be working by 2 months and 11 percentage points more likely to be working by 9 months.¹⁷ These sizable differences may reflect the fact that cohabiting and single mothers generally face more financial pressure to work than married women. Indeed, in results not shown (but available on request), when the models included controls for fathers' earnings, the effects of being a single mother or cohabiting mother were slightly attenuated: as expected, mothers in families with low paternal earnings waited less time to start working after the birth of a child, whereas those in families with high paternal earnings waited longer. Moreover, in additional analyses that examined whether mothers went to work full time or part time (results not shown but available on request), both cohabiting and single mothers were found to be significantly more likely than married mothers to work full time after the birth of a child, again indicating the role that financial pressures likely play.

Although the raw correlations in chart 4 indicated a positive relationship between education and the timing of work, the probit results in table 2 tell a more nuanced story. The least-educated mothers were substantially (8 percentage points) less likely than mothers with some college education (but no degree) to be working by 9 months.¹⁸ In contrast, college graduates worked less often than their counterparts with only some college by 2 months, but the disparity was not present 9 months after the birth. This result suggests that most highly educated women wait at least 3 months to start working after childbirth, which makes sense given their high likelihood of receiving maternity leave and also of having savings to draw upon to fund a period of unpaid leave.¹⁹ Similar reasoning may explain why women who had been to college but not received a degree were slightly less likely to work by 2 months than were high school graduates who did not attend college.

The probit estimates also reveal interesting differences in the relationship between maternal age and postbirth work timing. By 9 months, women younger than 20 or 20 to 24 years of age were significantly more likely to be working than were 25- to 29-year-old mothers, whereas those aged 35 or older were significantly less likely to be

working. Mothers aged 30–34 and 35 years or older were also significantly less likely to work by 2 months post-birth, again possibly reflecting greater access to maternity leave and savings.

Consistent with other studies, the regression findings indicate that women are significantly more likely to be working by 2 months after second or later births than after the birth of their first child.²⁰ These estimates control for other characteristics, including prebirth employment, raising the possibility that mothers who work after a first birth are especially committed to the labor force and the possibility that this also translates into higher participation after later births.²¹ However, this is unlikely to provide the entire explanation, because mothers with a second or later birth are no more likely to work by 9 months than are women with only one child (and those with a third or later child are significantly less likely to do so). The more rapid initial return to work may occur because women who already have children may adjust more easily to the newborn and may have childcare arrangements in place.

The final row of table 2 confirms the strong positive relationship between prebirth and postbirth employment. Holding other characteristics constant, women who were employed at the time of the birth of their child were 39 percentage points more likely to be working by 2 months and 58 percentage points more likely to be working by 9 months than women who were not employed.

THIS INVESTIGATION OF A NEW LARGE AND NATIONALLY REPRESENTATIVE STUDY, the Early Childhood Longitudinal Study–Birth Cohort of children born in 2001, confirms that more than half (59 percent) of U.S. mothers were working by 9 months after their children's births.

However, the analysis also reveals considerable variation in mothers' work timing across groups stratified by race and ethnicity, family structure, education, age, birth history, and prior employment. Among these, the single strongest factor predicting the return to work is whether the mother was working at the time of the birth.

One striking result is that women with greater resources—those who were married, had more than a bachelor's degree, and were age 30 or older—were generally less likely to be working by 2 months after a birth. These same groups are particularly likely to have access to maternity leave and savings to draw upon, suggesting that both factors played a role in permitting these women to remain home in the first few months after a birth. Black women also had relatively high probabilities of remaining at home for the first 2 months postbirth. This may similarly reflect greater availability of maternity leave, as they are more

likely than whites to work in large firms; Federal, State, and local government offices; and unionized workplaces and also more likely to work full time.

By 9 months postbirth, other factors may come into play. Consistent with patterns seen for women with older children, black women with infants had relatively high probabilities of working by 9 months; the corresponding rate for Asian women, on the other hand, was relatively low. Young, cohabiting, and single mothers were more likely than their older, married counterparts to work following births, possibly because these groups had limited resources available to finance periods away from jobs. Women with three or more children were less likely to work than those with one or two. So too were women with less than a high school education, who presumably would gain the least from working because of their low skill levels. Of course, these proposed explanations for these patterns should be viewed as speculative at this point, pending a further and more detailed analysis of the sources of the observed differences.

Mothers with the lowest levels of resources are the most likely to work during the first or second month after a birth. For example, only 23 percent of mothers with more than a bachelor's degree were working by 2 months, compared with 31 percent of mothers with a high school degree or some college. The higher early employment rate of mothers with lower levels of resources is of concern given the possibility of adverse health or developmental effects for children whose mothers work in this early period. It is plausible that if maternity leave rights were extended and women were provided paid leave, more women would stay home for at least the first 2 months, and the discrepancies found here in the timing of work by family structure, age, and education might diminish.

It is less clear what factors explain the differences in work by 9 months after birth. Some groups with relatively low rates of employment (for example, Asians, older, married, and those with three or more children) may have relatively strong preferences for being at home and may have chosen not to work for that reason. However, other groups, such as women with less than a high school education, may have been interested in working, but unable to obtain jobs, or may have found the payoff for working to be too low, relative to the associated costs.²²

Finally, it is worth noting that the share of mothers working by 9 months was notably higher in the United States than in peer industrialized countries. The U.S. neighbor to the north, Canada, recently extended its paid maternity leave benefits to cover a full year postbirth. Under the previous Canadian policy, which offered 6 months

paid leave, 53 percent of mothers were at work by 9 months, a figure comparable to that of the United States. However, when leave rights were extended to 1 year, the share of mothers working by 9 months fell to only 20 percent, because mothers delayed returning to jobs.²³ Even this extension did not make Canada's maternity leave provisions unusually generous by international standards.

Across the advanced industrialized nations that constitute the Organization for Economic Cooperation and Development (OECD), the average length of job-protected (and mostly paid) maternity leave is 14 months. Most women take the full amount of leave to which they are entitled and then return to their prebirth jobs. □

Notes

ACKNOWLEDGEMENT: The authors are grateful for funding support from the National Institute of Child Health and Development, National Institutes of Health, Bethesda, MD; the Leverhulme Trust; the Economic and Social Research Council; and the Social Science Research Council.

¹ The labor force participation rate for 1968 is from the U.S. Census Bureau, "Fertility Tables 2000," 2001, on the Internet at www.census.gov (visited Sept. 12, 2007). For an excellent overview of trends in maternity leave and employment from 1961 to 1995, see Kristin Smith, Barbara Downs, and Martin O'Connell, *Maternity leave and employment patterns: 1961–1995*, *Current Population Reports* (U.S. Census Bureau, 2001), pp. 70–79.

² See Jane Lawler Dye, "Fertility of American Women: June 2004," *Current Population Reports*, 2005, pp. 20–555, on the Internet at www.census.gov/prod/2005pubs/p20-555.pdf (visited Dec. 12, 2007); and Sharon Cohany and Emy Sok, 2007, "Trends in labor force participation of married mothers of infants," *Monthly Labor Review*, February 2007, pp. 9–16.

³ See Jacob Alex Klerman and Arleen Leibowitz, 1994, "The work-employment distinction among new mothers," *Journal of Human Resources*, vol. 24, no. 2, pp. 277–303, for a useful discussion of the distinction between labor force participation, employment, and being at work among new mothers.

⁴ The Early Childhood Longitudinal Study–Birth Cohort, known by the acronym ECLS-B, is sponsored by the Demographic and Behavioral Sciences (DBS) Branch, Center for Population Research, NICHD; and the National Center for Education Statistics, U.S. Department of Education. Additional information about the study is available online at <http://nces.ed.gov/ECLS/birth.asp> (visited June 20, 2008).

⁵ The ECLS-B target population consists of all children born in the year 2001 in the United States except the following: children born to mothers less than 15 years of age, children who died before the 9-month assessment, and children who were adopted prior to the 9-month assessment.

⁶ For a detailed description of the ECLS-B study design, see Bethel, Green, Kalton, and Nord, *Early Childhood Longitudinal Study, Birth Cohort (ECLS-B), Methodology Report for the Nine-Month Data Collection (2001–02), Volume 2: Sampling*, NCES 2005–147 (U.S. Department of Education, National Center for Education Statistics, Washington, DC, 2005).

⁷ Henceforth, "9-month", "at 9 months", and "by 9 months" refer to 9 months after the birth of a child.

⁸ Information on the identity of employers is not available.

⁹ Prior empirical studies of postbirth employment include: Sonalde Desai and Linda Waite, "Women's employment during pregnancy and after the first birth: Occupational characteristics and work commitment," *American Sociological Review*, 1991, vol. 56 no. 4, pp. 551–66; Arleen Leibowitz,

Jacob Alex Klerman, and Linda Waite, "Employment of new mothers and child care choice," *Journal of Human Resources*, 1992, vol. 27, no. 1, pp. 112–33; Klerman and Leibowitz, "The work-employment distinction among new mothers," 1994; Smith, Downs, and O'Connell, *Maternity leave and employment patterns*, 2001; and Lawrence Berger and Jane Waldfogel, 2004, "Maternity leave and the employment of new mothers in the United States," *Journal of Population Economics*, vol. 17, pp. 331–49. See also the literature review by Kristin Smith and Amara Bachu, "Women's labor force attachment patterns and maternity leave: A review of the literature," *Working Paper No. 32*, U.S. Census Bureau, Population Division, U.S. Census Bureau, Washington, DC, 1999).

¹⁰ All proportions and estimates in this article are adjusted to account for oversampling of minority groups and complex survey design.

¹¹ See, for example, Abraham Mosisa and Steven Hipple, 2006, "Trends in labor force participation in the United States," *Monthly Labor Review*, October 2006, pp. 35–57.

¹² Results not shown (but available on request) indicated that mothers' work timing varied by the level of fathers' earnings and, as expected, that mothers' work rates were higher when fathers' earnings were lower.

¹³ Previous research has found consistently that eligibility for maternity leave increases with the level of maternal education. See, for example, David Cantor, Jane Waldfogel, Jeffrey Kerwin, Mareena McKinley Wright, Kerry Levin, John Rauch, Tracey Hagerty, and Martha Stapleton Kudela, *Balancing the Need of Families and Employers: Family and Medical Leave Surveys, 2000 Update* (Rockville, MD, Westat, 2000). See also Klerman and Leibowitz, "The work-employment distinction among new mothers," 1994; and Smith, Downs, and O'Connell, *Maternity leave and employment patterns*, 2001.

¹⁴ See, for example, Klerman and Leibowitz, "The work-employment distinction among new mothers," 1994; and Smith, Downs, and O'Connell, *Maternity leave and employment patterns*, 2001.

¹⁵ See, for example, Berger and Waldfogel, "Maternity leave and the employment of new mothers," 2004; using data for 1988 to 1996 from the National Longitudinal Survey of Youth, they find that 80 percent of women who were employed prebirth were working by 9 months, compared with just half of those who were not employed before giving birth. See also Smith, Downs, and O'Connell, *Maternity leave and employment patterns*, 2001.

¹⁶ Cantor and others, in *Balancing the Need of Families and Employers*, 2000, find that black women have higher rates of leave coverage than white women. This probably reflects the fact that black women are more likely than white women to work in large firms, be covered by a union, work for the Federal, State, or local government, and work full time; all of which would make them more likely to be covered by maternity leave policies (authors' analyses of the 2000 and 2001 Current Population Survey; detailed results available on request). Berger

and Waldfogel, "Maternity leave and the employment of new mothers," 2004, using data from the NLSY, show that women with maternity leave rights are more likely to work in the first year but less likely to work during the first few months after a birth.

¹⁷The regression models also control for "other family type," a small category that includes households in which the mother is not married, cohabiting, or single. This study does not report the results for this category because the cell size is very small (approximately 100).

¹⁸A similar finding was reported by Jacob Alex Klerman and Arleen Leibowitz, "Job continuity among new mothers," *Demography*, 1999, vol. 36, no. 2, pp. 145–55, in their analyses of women in 1990 from the NLSY and the June Current Population Survey. See also Smith, Downs, and O'Connell, *Maternity leave and employment patterns*, 2001; and Berger and Waldfogel, "Maternity leave and the employment of new mothers," 2004.

¹⁹See Cantor and others, *Balancing the Need of Families and Employers*, 2000.

²⁰See, for example, Berger and Waldfogel, "Maternity leave and the employment of new mothers," 2004, who find that women bearing a second or later child generally return to work more quickly than those bearing their first child.

²¹Klerman and Leibowitz, "Job continuity among new mothers," 1999, suggest that after the birth of their first child, when women choose either to continue working or not to continue working, those who choose to go back to work are more likely to work after subsequent births as well.

²²On the importance of childcare in women's employment decisions postbirth, see Jacob Alex Klerman and Arleen Leibowitz, "Child care and women's return to work after childbirth," *American Economic Review Papers and Proceedings*, 1999, vol. 80, no. 2, pp. 284–92; and Leibowitz, Klerman, and Waite, "Employment of new mothers and child care choice," 1992.

²³See Michael Baker and Kevin Milligan, 2007, "Maternal employment, breastfeeding, and health: Evidence from maternity leave mandates," *NBER Working Paper No. 13188*, on the Internet at www.nber.org.

APPENDIX: Proportion of mothers working in first 9 months after childbirth by selected characteristics¹

A-1. Proportion of mothers working in first 9 months after childbirth, by race and ethnicity

Months after birth	All	White	Black	Hispanic	Asian
1.....	0.07	0.07	0.07	0.06	0.07
2.....	.26	.28	.25	.21	.22
3.....	.41	.44	.42	.33	.37
4.....	.47	.50	.49	.39	.42
5.....	.50	.53	.54	.41	.44
6.....	.54	.56	.59	.46	.46
7.....	.56	.58	.61	.48	.47
8.....	.58	.60	.64	.50	.49
9.....	.59	.61	.65	.51	.49

A-2. Proportion of mothers working in first 9 months after childbirth, by family type

Months after birth	All	Married	Cohabiting	Single mother
1.....	0.07	0.07	0.07	0.08
2.....	.26	.25	.27	.28
3.....	.41	.41	.40	.41
4.....	.47	.47	.46	.48
5.....	.50	.50	.49	.51
6.....	.54	.53	.55	.55
7.....	.56	.55	.57	.58
8.....	.58	.56	.60	.60
9.....	.59	.58	.62	.61

A-3. Proportion of mothers working in first 9 months after childbirth, by maternal education

Months after birth	All	Less than high school	High school	Some college	Bachelor's degree	More than bachelor's degree
1.....	0.07	0.06	0.09	0.07	0.07	0.07
2.....	.26	.19	.31	.31	.26	.23
3.....	.41	.28	.43	.48	.46	.46
4.....	.47	.33	.48	.54	.53	.55
5.....	.50	.36	.51	.57	.55	.60
6.....	.54	.40	.55	.60	.59	.64
7.....	.56	.43	.56	.62	.61	.66
8.....	.58	.45	.58	.64	.62	.68

A-4. Proportion of mothers working in first 9 months after childbirth, by maternal age at birth

Months after birth	All	19 or younger	20-24	25-29	30-34	35 or older
1.....	0.07	0.06	0.08	0.08	0.06	0.07
2.....	.26	.19	.28	.30	.25	.24
3.....	.41	.27	.38	.44	.44	.41
4.....	.47	.34	.45	.49	.50	.48
5.....	.50	.39	.48	.52	.53	.52
6.....	.54	.44	.52	.55	.57	.55
7.....	.56	.47	.55	.56	.58	.56
8.....	.58	.50	.57	.58	.60	.58
9.....	.59	.52	.59	.60	.61	.59

A-5. Proportion of mothers working in first 9 months after childbirth, by child birth order

Months after birth	All	First-born	Second-born	Third-born or more
1.....	0.07	0.06	0.08	0.08
2.....	.26	.26	.27	.25
3.....	.41	.42	.42	.36
4.....	.47	.50	.48	.41
5.....	.50	.53	.52	.43
6.....	.54	.58	.55	.46
7.....	.56	.60	.57	.47
8.....	.58	.63	.59	.49
9.....	.59	.64	.60	.50

Note to the appendix

¹ These tables were created using the authors' calculations of data derived from the Early Childhood Longitudinal Study–Birth Cohort of 2001, 9-month–Preschool Restricted-Use Data File, U.S. Department of Education, National Center for Education Statistics.