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ENTRY INTO EMPLOYMENT AFTER FIRST BIRTH; A REEXAMINATION OF THE TRANSITIONS TO FULL-TIME AND PART-TIME EMPLOYMENT AMONG SWEDISH MOTHERS

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Abstract

In this paper we analyze transitions into employment made by mothers after the birth of their first child, making separate analyses for the entries into full-time and part-time work. The data we have used have been drawn from the Swedish Fertility Survey of 1981.

Some significant changes have been made from previous analyses of these transitions by Bernhardt. These changes, which relate to the definition of the sample, the choice of the starting point for the analyses, and the selection of covariates included, produce some interesting new results. First, a new conclusion is that the process of taking up full-time work is distinct from that of taking up part-time work. Second, while we find that entry into part-time employment increases with increasing labor force experience, we also find the converse for the entry into full-time employment. Third, these analyses suggest that the causes for any changes in the propensity to enter into full-time employment should be searched for among factors that are extraneous to individual women rather than in changes in women's preferences.

Contents

1. Introduction

Over the course of a lifetime decisions are made that with hindsight, or even at the time, stand out as watersheds for the further development of the individual's life. An example that immediately comes to mind is decisions concerning education, both about what kind of education to get and about how long to remain in school, and the effect these decisions have on the individual's career opportunities. Another example of such a watershed is a woman's decision on whether to (re)enter the labor market after the birth of her first child, and, if so, when and to what kind of job. The decisions made at this juncture have been found to be strong predictors of subsequent work activity (Mott and Shapiro 1983), further childbearing (B. Hoem 1987a), and they are also an aspect of the relationship between female employment and fertility that have changed considerably over the last decades.

Studies on the employment patterns of mothers immediately after the first birth exist for Great Britain (Joshi and Hinde 1987, Martin 1986) and for the USA (McLaughlin 1982). These studies suggest that when examining the work patterns of women following first birth it is important to look at variables such as education, labor force experience, birth cohort, and age at first birth. Within the project of which this report is an outcome, Bernhardt (1986, 1987a, 1987b, and 1987c) have carried out a number of studies of the entry into employment after the first birth in Sweden. Her studies have pointed to education, calendar period of the birth, labor force withdrawal before entry into motherhood, and civil status as being the most important determinants of the extent and the speed with which women enter the labor market following their first birth. This report builds upon Bernhardt's studies, but differs from them in several significant aspects.

Bernhardt analyzed transitions to employment (full-time and/or part-time) beginning one year after first birth. However,

with the general changes in maternal leave that have taken place since the 1960s, starting a study of all mothers 12 months after the first birth means that we begin to look at them at very different stages in relation to the time when they choose whether to take up employment or continue to stay at home. For the women who had their first child in the late 1970s the legal maternal leave period had just ended, while for the women who bore their first child two or three decades earlier the maternal leave had been completed long ago. It may therefore be more appropriate to begin observation of the mothers at a time when they more realistically could be regarded as being in the same situation in relation to the choice between going to work or staying at home; that is, at the end of their general maternal leave period.

In addition, we made two changes in the choice of variables included in the analyses. The first of these concerned the approach to measuring variations over time. Bernhardt's studies all included a covariate called "calendar period of the first birth" (a trichotomous variable partitioned in relation to changes in the spread and legal status of various forms of contraception). In principle, but not always in practice, a period variable is designed to catch changes in extraneous factors causing variations in behavior among individuals who otherwise would behave similarly, while a cohort variable is intended to measure changes over time in behavior between members of different cohorts irrespective of "outside" changes. We were interested in the outcome of a switch from calendar period to birth cohort. More specifically, we were interested in whether we could draw any new conclusions regarding the source of the changes observed over time by looking at any divergences between the results received by Bernhardt and by us. The other change was to include labor force experience as a new factor. The studies mentioned above had found it to be an important predictor of employment entries for both Great Britain and the US, and it is a variable central to economic theory.

These changes, together with our different definition of the sample, produce some interesting new results. First, separate

analyses of the transitions to full-time and part-time employment lead to models that are quite different in character, which indicates that the process of taking up full-time work is distinct from that of taking up part-time work. Second, while we find that entry into part-time employment increases with increasing labor force experience, the converse turns out to be true for the entry into full-time employment. Women who decide to take a job after the birth of their first child are more likely to take a part-time job the more labor force experience they have. Third, a comparison of our results with Bernhardt's concerning our different approaches to modeling time changes suggests that one should seek the causes of any changes in rates of entry into full-time employment among factors that are exogenous to individual women rather than in changes in women's own preferences.

These analyses also offer further evidence for some of Bernhardt's findings; viz., the increase that has taken place over time in the rate of entry into part-time work, the positive effect on both transition rates of education, and the negative effect of cohabiting (as opposed to being married).

Another aspect of modeling these transitions is how one should view the alternatives the mothers face. Bernhardt estimated separate models for the two transitions, implying that women only consider one of the employment alternatives at a time. Since women really have a <u>three</u>-way choice (that is, between staying at home, or entering full-time employment, or entering part-time employment) the use of intensity regression methods invites estimating the employment alternatives as competing risks, something that had not been attempted before. Nevertheless, we thought there would be some heuristic value in beginning our analysis by estimating separate models for the two transitions. When this gave us two models of vastly different character, we changed our mind and decided not to estimate a competing risks model. Estimating the transitions as competing risks under these circumstances would not contribute anything new to the analyses.

By way of summary, our intention with this paper is to take one more look at the patterns of entry into full-time and part-time employment among women who have just had their first child, implementing the alterations discussed above. Section 2 contains a presentation of the data and a discussion of the methods employed. In Section 3 we present and discuss the results for the two transitions, and offer some ex post explanations for them. The report ends with Section 4 in which we summarize and discuss our conclusions.

2. Data and methods

2.1. The Swedish Fertility Survey and our subsample

The data we have used for these analyses has been drawn from the Swedish Fertility Survey of 1981 (World Fertility Survey 1984) in which 4300 women were interviewed about their family, work, and education. The survey covers the period between September of the year the respondent reached the age of 16 and up to the time of interview, and contains retrospective month-by-month data on the women's family situation as well as on their activity status (where full-time employment, part-time employment, housework, and studies are the main categories). The detailed information on the timing of events makes the data well suited for analyses of the intricate relationship between female employment and fertility.

The data for 43 of the respondents was incomplete, and we have consequently excluded them. We have then selected a subsample for these analyses and included women who (i) were born between 1936 and 1955[1], and (ii) had not begun to stay at home until less

[1] Originally, we also included women born between 1956 and 1960 in our analyses. The initial analyses indicated that this group deviated markedly from the older women in behavior, and we streamlined the sample by eliminating this last cohort.

than three months remained to the birth[2], and (iii) were living in a conjugal union at the time of the birth, and (iv) had stayed at home after the birth until their maternal leave ended[3]. Of the women in the survey, 1559 met these criteria.

We have limited our analyses to women who were living in a conjugal union, since we feel that there is a significant difference in the economic alternatives facing mothers living with a partner and mothers living alone. For economic reasons, single mothers do not have the same possibility to remain at home. Furthermore, it should be noted that the selection was based on the legal general maternal leave period current at the time of the first birth, and that as a result of this the time that passes between the birth and the start of our analyses varies. The legal general maternal leave was three months up to January 1963, then six months up to January 1975, seven months up to July 1980, and twelve months thereafter (SCB 1983)[4]. Thus a woman who left home three months after having entered motherhood in 1960 has been included in the subsample, while a woman giving first birth in

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[2] In the early stages of analysis, the subsample also included women who had begun to stay at home three months or more before the birth. An additional fixed covariate called "early withdrawal" was then used in the estimations. When this covariate turned out to be involved in many significant interactions we decided to eliminate this group from the analyses. If a covariate is involved in multiple interactions it is an indication that there are substantial differences between subgroups of the sample designated by the covariate, and for analytical clarity it is therefore often best to split the sample.

[3] Among the women who fulfilled the other three selection criteria, over 80% stayed at home until their maternal leave ended. Table A1 in the Appendix shows the distribution by starting status for each educational level. Note how remarkably similar the distribution is for the different educational levels.

[4] From 1974 the regulations governing leave in connection with childbirth also apply to men. Strictly speaking we therefore have a parental leave, but since very few men have taken advantage of this possibility, we will refer to these regulations as maternal leave throughout this paper.

1970 had to stay at home twice as long to be included. Again, this is to improve the comparability of the women's labor market situation. We have wanted to study women who have opted to stay at home after any outside incentives for doing so were gone.

2.2. Model specification and our covariates

Our interest has been in the transitions from the state "at home" to the state "employed full-time", and from "at home" to "employed part-time", respectively[5]. We have picked up the women at the end of the general maternal leave period and have censored them, if the transitions in question did not take place, either (i) when they became pregnant for the second time (that is, we have censored them at the time of the second birth minus nine months), or (ii) when they left the conjugal union that they had been living in at the time when the first child was born, or (iii) when they began full-time studies, or (iv) at the end of the three year waiting period we have designated for this study[6]. The state space in Figure 1 provides an illustration of our model, with the solid arrows indicating the transitions of interest and the broken arrows indicating censoring.

To analyze the impact of a set of background factors on the transition intensities we have used intensity regression. In intensity regression the "dependent" variable is the hazard rate, which in turn is the infinitesimal probability of the relevant event, say the transition from "at home" to "employed full-time", taking place at some exact time t. We can express the relation

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[5] It seems probable that for many women, the transition from at home to employment following a maternal leave is a return to a job they had before the confinement. It also seems likely that the extent to which this is the case will affect the transitions rates, but since the data does not contain any information on the jobs beyond hours worked we have no way of controlling for this.

[6] We decided to censor the individuals after three years since after that very few of the first post-birth transitions that took place were into the labor force.

between the hazard rate and the explanatory covariates as;

$$\ln h(t) = a(t) + bX,$$

where h(t) is the hazard rate, X is a vector of covariates (where some or all of the covariates may depend on t), b is a vector of parameters to be estimated, and a(t) is a function specifying how the hazard rate depends upon time spent in the state from which the transition takes place when X = 0 (the baseline duration dependence specification).

Our choice of a functional form of a(t) is dictated by the fact that the program requires a piecewise constant baseline hazard, i.e. the hazard rate is taken to be constant within selected time segments but may vary in any way from one segment to the next. Although this is a fairly flexible specification, such an intensity model is normally an approximation to the true intensity, and how good (or bad) an approximation it is will depend on how the time segments are specified. We have partitioned the three year period into seven intervals, namely months 1-3, 4-6, 7-9, 10-12, 13-18, 19-24, and 25-36, all counted from the end of the general maternal leave period. By varying the length of the intervals in this manner we allow for the fact that in our sample the transition intensities change more quickly shortly after the starting date, and we at the same time keep the number of intervals down.

We have worked with the following covariates; age, social background, educational level, civil status, birth cohort, and labor force experience. The women have been grouped into four quinquennial birth cohorts beginning with Cohort 1 born between 1936 and 1940, and ending with Cohort 4 born between 1950 and 1955. Age has been the woman's age at the time of entry into motherhood, and it has been partitioned into 16-20 years, 21-25, 26-30, and above 30 years of age. Social background is the socio-economic group membership of the main breadwinner in the parental household (normally the father). This covariate has been grouped

as follows; unskilled blue-collar workers, skilled blue-collar workers and lower level white-collar workers, middle and higher level white-collar workers, and farmers and self-employed. Labor force experience has been calculated as the number of months employed since September of the calendar year in which the respondent became 16 years old. A month of part-time employment (defined as less than 35 hours of work per week) has been counted as half a month of employment. Here the partitioning has been; 0-11 months of employment, 12-47 months, 48-83 months, and 84 months or more. Educational level does not pertain directly to the different levels of the Swedish educational system, but is a composite variable based on the number of months of schooling and the level of the educational system that had been reached. The factor has been grouped into three levels; low (10 months or less of formal education exceeding current compulsory school), medium (more than 10 months but no more than 40 months, or more than 40 months but nothing at the university level), and high (more than 40 months and at least a semester at the university level). All of the above factors are fixed covariates, whose values were determined at entry into motherhood or before. The only time-varying factor included has been civil status, which encompasses the statuses married and cohabiting (in a consensual union).

In modeling the transitions we have used a step-by-step procedure. Our approach has been to build up the models by successively adding the main covariates one by one and testing to see whether a new covariate contributes significantly to the fit of the model. We have then tested for significant pairwise interactions among the main factors, including and testing the interactions one by one. The final model then consists of all the interactions that were found significant and the corresponding main effects, plus all the significant main factors that have not entered into any of those interactions. We have used the likelihood ratio test and a significance level of 5 percent throughout.

3. Empirical results

3.1. The transition to full-time employment

Besides the duration variable, our final model for the transition to full-time employment turned out to include only two of our covariates, namely educational level and labor force experience in an interaction with each other. The relative risks for the model are shown in Table 1 and the baseline intensity in Figure 2 (in addition, Table A2 in the Appendix gives the distribution of occurrences and exposure time by selected factors). In Table 1, first note that women with a high level of education and less that 1 year of labor force experience before first birth deviate from a fairly clear overall pattern. We suspect that this is a very select group (they get their first child shortly after leaving college) and we will therefore disregard it in our discussion of the general pattern.

With this caveat, two things are immediately evident in Table 1. First, if we read across the rows, the rate at which women take up full-time employment following a confinement increases with increasing level of education. This holds true at all levels of labor force experience. Second, given the educational level, there seems to be an overall trend for the rates of entry into full-time employment to decrease with increasing labor force experience.

Table 1. The transition to full-time employment. Relative intensities for the final model.

Labor force experience	Educational level		
	Low	Medium	High
0-11 months	0.90	1.47	0.80
12-47 "	0.67	1*	2.50
48-83 "	0.49	0.99	1.89
84+ "	0.53	1.11	1.59

Notes:
Significant at the 5 % level.
* = baseline category.

The positive gradient for educational level is what human capital theory would lead us to expect. In the present application, the theory would tells us that the greater the expected earnings are the higher is the rate of entry into employment. If educational level is regarded as a proxy for expected earnings, the positive relationship would obtain.

Conversely, the negative effect of increased labor force experience is contrary to what the same theory would predict. As with education, labor force experience can be regarded as a proxy for expected earnings, and a positive relationship would therefore be hypothesized. This negative effect also seems to be contradictory to the notion of a basic orientation among women, referring to different women's different expectations and attitudes regarding their future life course. A job-oriented woman has thus been described as regarding "gainful employment as a life goal and marriage and children as possibilities" while the corresponding description of a family-oriented woman is one who regards "paid work as something transitory and marriage and family as indispensable" (Bernhardt 1987a, 7). The longer a woman has worked prior to having her first child, the stronger her job-orientation would seem to be and, correspondingly, the higher we would expect the rate of transition to full-time employment to be.

As we will see in Section 3.2.2, the rate of transition to part-time employment increases with increasing labor force experience. It would thus seem as if increasing labor force experience has converse effects on transitions to full-time and part-time jobs. However, this apparent effect could be caused by the transition patterns differring between women with different levels of education, rather than being differences in the effects of labor force experience per se. If women with higher levels of education, and therefore lower levels of labor force experience, have higher rates of entry into full-time than into part-time employment, effects like the ones observed could obtain. That this is not the case is evident from Figure 3 and Table A3. Figure 3 shows us that the rate of entry into employment (the sum of the

rate of entry into full-time and part-time employment) increases as labor force experience increases, even when we control for educational level. Furthermore, in Table A3 we see that as the length of labor force experience increases, an increasing proportion of the rate of transition into employment is due to the rate of transition into part-time work (although the proportion remains stable at levels above 48 months of labor force experience), and that this holds true when we control for educational level. This indicates that given that the mother decides to get a job after the first confinement, the probability that she will enter a part-time job increases with increasing labor force experience. With mothers taking the main responsibility for the care of the child (a situation that still is prevalent), a part-time job would seem appealing since it enables women to purse a "middle-of-the-road" alternative that Bernhardt (1987c, 9) has dubbed the "combination strategy" (in relation to the employment-housework dichotomy described above). Labor force experience (possibly through its relation to tenure) may be important for the possibility of landing a part-time job when a woman enters the labor market. The explanation for the negative gradient just noted may therefore lie in the way internal labor markets function.

Our intensity model not only tells us what affects the transition intensity, it also tells us what does not. Thus, we see that the transition to full-time employment is not significantly affected by age, birth cohort, civil status, or social background. Despite their non-significance, the relative intensities for the latter two factors display interesting patterns when they are added, separately, to the final model of Table 1. Married women are somewhat less likely to take up full-time employment than cohabiting women (with relative risks of 0.88 and 1, respectively). Bernhardt (1987a, 17) suggested orientational differences as an explanation for an identical result, the idea being that in comparison to home-oriented women job-oriented women would be less likely to formalize a relationship. While this seems plausible, it

is also possible that marriage could enhance what could be called the income effect of a union. In general, an income effect on female labor supply is the effect ascribed to variations in income not pertaining to the job itself, say from assets such as bonds, or a husband's income. For some reason, perhaps the existence of a formal bond, married women might be more apt to consider the income of the partner as an asset in connection with employment decisions.

We also find a weak gradient over the first three social groups in Table 2. This indicates that daughters of the upper and middle classes are somewhat more likely to take up full-time employment than daughters of the lower class. Social background is a covariate for which we did not have any a priori expectations. Once education is accounted for, there is no obvious reason for social background to affect transitions to full-time employment in any particular way. If anything, it seems most plausible to argue for something along the lines of an income effect. That is, it could be argued that daughters of the upper and middle class are more likely to marry men with well-paying jobs, and that they therefore would be less likely to take up full-time employment. Apparently this is not the case.

Table 2. The transition to full-time employment. Relative intensities for the non-significant covariate social background.

Social background	Unskilled blue-collar worker	0.83
	Skilled blue-collar worker or lower level white-collar worker	1*
	Middle or higher level white-collar worker	1.06
	Farmer or self-employed	0.88

Notes:
Estimated by adding this covariate alone to the final model.
Not significant at the 5 % level.
* = baseline category.

Our final intensity model for the transition to full-time employment is simpler than the one Bernhardt (1987a) estimated for the same transition. Her model included the factors educational

level, civil status, calendar period, and early labor force withdrawal. Upon closer examination, however, the similarities between the two models become apparent. Thus, the fitted models indicate identical effects of educational level and civil status (although our civil status factor is non-significant). Furthermore, the effects of the covariate "early withdrawal" in our initial analyses was in the same direction as the "early labor force withdrawal" covariate used by Bernhardt[7], but it was so strong and entered in such a complicated manner that we decided to split the dataset (cf. footnote 2).

The main difference between Bernhardt's results and ours, apart from the inclusion of the labor force experience covariate, concerns the existence of a period effect, i.e. an increase over calendar time in the rate of entry into full-time employment. Bernhardt found such a trend, with a strong positive gradient for the covariate "calendar period". Our cohort factor has not produced the same result. Given that the earlier study really measured a period effect (i.e. assuming that it in practice was not just a somewhat differently partitioned cohort variable), an interpretation of the lack of a cohort effect in our model would be that there has been no change in the behavior of women from one cohort to the next. Rather, the observed changes would be ascribed to some extraneous factor, in this case presumably institutional changes. While this is mostly a tentative suggestion, both since the covariates were estimated in separate analyses and because of the other differences between the models, it does point out an area where further research would be interesting.

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[7] Bernhardt defined the "early labor force withdrawal" covariate as leaving employment three months or more before delivery. We have defined "early withdrawal" as leaving any activity outside of the home (the most common one besides employment being education) three months or more before the birth, cf. footnote 2.

3.2. The transition to part-time employment

3.2.1. Problems of identification

As will be seen below, the analysis of the transition into part-time employment presents a problem that we did not encounter in our analysis of entry into full-time employment, namely the problem of identification. Such a problem arises when there is a linear, or approximately linear, relationship among two or more of the independent variables eligible for inclusion in the analysis. The existence of such a linearity would make us unable to separate the influence of one variable from that of the next. That this is a serious problem is clear; if we can not identify the effects pertaining to the different variables, estimation becomes a pointless exercise.

In our case, the potential linearity involves the covariates "age", "labor force experience", and the basic time count on which the factor "educational level" has been based. The relationship between the corresponding exact time counts can be expressed as:

$$c \equiv a - e - x,$$

where c is a constant, a is age at first birth, e is time spent in education, and x is employment experience. These three covariates have all been included in our final intensity model for the transition to part-time work at the end of our step-by-step procedure. Rather than abandoning the whole analysis, we have forged ahead. This decision has been based mainly on the fact that we work with grouped covariates and thus have weakened the direct connection between the factors. There have also been some indirect evidence that the linear link has been sufficiently weakened for it to be worthwhile to carry out the analysis. The changes in the intensity parameters that have taken place when we have added any one of the covariates to the model in our stepwise procedure have not been apparently random, but have rather been in accordance with what we could expect. Also, in an earlier study (B. Hoem

1987b) of a different identification problem on this dataset (in connection with the factors age, birth cohort, and period), the computer program had trouble converging. No such problem has been evident here.

3.2.2. The final model

The final intensity model for the transition to part-time employment, presented in Table 3, is more complex than the one for the transition to full-time employment. It consists of the main effects of the factors educational level, age, and birth cohort, as well as an interaction between labor force experience and civil status[8]. The baseline intensity for the model is shown in Figure 2 (the distribution of occurrences and exposure time for various covariates is shown in Table A4).

As was the case with the transition to full-time employment, there is a positive gradient in the coefficients for the covariate educational level. Once more, an interpretation of human capital theory offers an explanation in terms of expected earnings. In addition, there is a clear age effect: the rate of entry into part-time employment increases with increasing age. We did not have an a priori theory concerning the effects of this covariate, and it is not clear to us why this gradient obtains. Gordon (1987, 125) estimated similar effect of age on the rate of transition to part-time work and full-time work (positive and non-significant, respectively)[9]. She suggested, i.a., that this was the result of the greater positive effect age had on wages in part-time jobs compared to full-time jobs. This might also be what causes the effect we observe here.

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[8] When we tested the interactions between age and duration, and between cohort and duration, we found both to be significant at the 5% level. They did not display any clear and interpretable patterns, however, so we only report the main effects here.

[9] Gordon estimated transitions among young American women from the state "not working" to the states "full-time work" and "part-time work".

Also, there is a strong positive trend over the cohorts in Table 3. Women in Cohort 4 have three times as high rates as the corresponding members of Cohort 1[10]. An increasing trend could be expected, given the growth in part-time employment that has taken place over the last decade (Sundstrom 1987).

Table 3. The transition to part-time employment. Relative intensities for the final model.

Educational level	Low	0.75
	Medium	1*
	High	1.64
Age	16-20	0.52
	21-25	1*
	26-30	1.32
	31+	1.56
Cohort	1936-40	0.62
	1941-45	1*
	1946-50	1.67
	1951-55	2.09

Labor force experience	Civil status: Cohabiting	Married
0-11 months	0.24	0.77
12-47 "	1*	1.06
48-83 "	2.35	1.40
84+ "	2.38	1.51

Notes:
Significant at the 5% level.
* = baseline category.

Turning to the bottom panel in Table 3 and the interaction between labor force experience and civil status, we note that the intensity of transition into part-time employment increases with increasing labor force experience, although it increases at a decreasing rate. As was the case with the transition to full-time employment, this is what human capital theory would lead us to

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[10] In initial modelling that included our fifth cohort (not shown here), we found a virtual explosion in the incidence of part-time employment, with relative intensities three to four times higher for women belonging to Cohort 5 than for the women of previous cohorts.

expect; women with longer labor force experience should be more likely to enter any kind of employment, everything else equal. It would also fit the independent explanation in terms of job-orientation. Job-oriented women would tend to accumulate more labor force experience and would be more the likely to take up part-time work than to stay at home. In addition, this would support our explanation of the negative relation between labor force experience and the rates of entry into full-time employment. A woman who wants to take up employment following entry into motherhood seems to be likely to take up part-time work if she has the opportunity of doing so.

The effect of civil status is more complex. We see that among women with little or no labor force experience, married women are the more likely to take a part-time job[11]. This relation changes as labor force experience increases. Women with a couple of years of experience have the same propensity to become employed part-time for both civil statuses, while cohabiting women have the highest intensities among women who have been employed 4 years or more. On the whole, married women again seem less inclined to enter employment than cohabiting women. This is something that has been evident in all of our analyses: being married is associated with a lower incidence of entry into any kind of employment.

In comparison with Bernhardt's model for the same transition, we have a more complex one. Her final model included the covariates "educational level", "early labor force withdrawal" and "calendar period" (in interaction with duration since childbearing). Again, there are similarities between the models. The estimated effects are the same for educational level, early with-

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[11] But note that there are only two transitions and less exposure time among cohabiting women at this level of employment experience, so random effects may be strong. Cf. Table A4 in the Appendix.

drawal[12], and the different time covariates. Her estimates also showed that cohabiting women were slightly more inclined to take up part-time employment than married women. Thus, the differences this time lie in the effects we have estimated for the covariates age and labor force experience, neither of which were included in Bernhardt's analysis. While it remains unclear to us what the interpretation should be of our result for the age covariate, the results and discussion of the labor force experience covariate makes its relevance for analyses of employment transitions manifest.

4. Summary and conclusions

We have analyzed the behavior of Swedish mothers in their transition from being at home following their first birth to full-time employment and part-time employment, respectively. When we fit models separately for the two transitions, we find a strong cohort effect on part-time employment, but none for the entry into full-time employment. It is not surprising that our results show a strong increase over time in the rate of entry into part-time employment, considering the explosive growth in part-time jobs over later decades. Neither is it surprising, in the light of Bernhardt's earlier results and of the documented relation between education and female labor force supply in general, that the rate of entry into both types of employment increases sharply with increasing educational level.

We would also have expected a similar positive relation between the length of labor force experience and the entry into part-time as well as full-time jobs. While the results for the transition to part-time employment do show increasing entry with increasing experience, the converse is true for the transition to full-time jobs. This may be the combined result of a desire among

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[12] The effect of early withdrawal recorded in our initial analyses accord well with the effect of early labor force withdrawal in Bernhardt's case.

women to combine family responsibilities and employment on the one hand, and their opportunities for doing so on the other. Labor force experience is probably important for the possibility of landing a part-time job or of getting a reduction in hours worked in an existing (full-time) job. Increased employment experience therefore gives women a better opportunity to realize what has been called the combination strategy.

The association of marriage with a decreased entry into employment is again substantiated here. We also find that age is positively related to entry into full-time employment, while social background does not have any effect on any of the transitions.

This paper set out to reexamine the two relevant transitions, and we originally intended to do so by introducing some modifications of Bernhardt's earlier analyses. One of the planned modifications was never implemented, however, and the reason for this is also one of our conclusions. Our initial intention was to model the transitions to full-time and to part-time employment as competing risks. However, when we found such large differences between the models in the separate analyses for each transition, we decided not to[13]. For a competing risk model to contribute anything new to the analyses, the intensities for the competing transitions cannot differ to the extent they do here. It has turned out that the choice of full-time employment and the choice of part-time employment are two very different processes. Contrary to what is often assumed in economic reasoning, the decision of whether to work part-time or full-time is not simply one of how many hours to work per week. It is one that also involves significant qualitative differences for those who make the choice.

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[13] This came as something of a surprise to us, considering that Bernhardt's (1987a, 32) analyses resulted "in fairly similar models for the two transitions."

Acknowledgments

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Appendix.

Table A1. **Distribution of women[1] by starting status[2] for each educational level. Percent. Numbers of women in parentheses.**

Starting status	Educational level			
	Low	Medium	High	Total
At home	**83** (739)	**81** (535)	**82** (285)	**82** (1559)
Working part-time	**6** (52)	**6** (37)	**5** (19)	**6** (108)
Working full-time	**9** (78)	**9** (62)	**10** (33)	**9** (173)
Other	**2** (23)	**4** (27)	**3** (10)	**3** (60)
Sum	**100** (892)	**100** (661)	**100** (347)	**100** (1900)

Notes:
[1] Women born between 1936 and 1955 who were not housewifes before their first birth, and who lived in a conjugal union at the time of that birth.
[2] Starting status is the activity status recorded at the end of the general maternal leave period at the time of the first birth.

Table A2. **Entries into full-time employment. Occurrences (boldface) and exposures (in months) by educational level and labor force experience, and by months since the end of general maternal leave.**

Labor force exp.	Educ. level	Months since the end of general maternal leave 1-3	4-6	7-9	10-12	13-18	19-24	25-36
0-11 months	Low	**4** 101.0	**0** 75.5	**2** 73.0	**1** 64.0	**2** 82.0	**1** 45.0	**1** 44.5
	Med.	**7** 106.0	**4** 67.5	**1** 54.5	**3** 46.0	**1** 66.5	**1** 45.5	**0** 50.5
	High	**2** 91.0	**3** 51.5	**0** 42.0	**2** 29.5	**0** 34.0	**0** 29.0	**0** 15.0
12-47 months	Low	**24** 708.5	**11** 503.0	**7** 420.5	**3** 362.0	**4** 569.5	**3** 399.0	**4** 427.5
	Med.	**25** 466.0	**8** 281.0	**4** 225.0	**4** 192.0	**4** 308.5	**2** 202.0	**3** 230.0
	High	**45** 332.0	**9** 130.5	**6** 67.5	**1** 44.0	**1** 29.5	**1** 22.5	**0** 10.5
48-83 months	Low	**26** 751.5	**5** 504.0	**3** 421.5	**2** 371.5	**2** 610.0	**2** 412.5	**3** 434.5
	Med.	**30** 561.5	**13** 300.0	**5** 215.5	**1** 166.0	**1** 246.5	**1** 162.0	**2** 155.0
	High	**23** 215.0	**4** 93.5	**3** 52.5	**0** 34.5	**1** 24.0	**0** 12.0	**1** 11.5
84+ months	Low	**26** 724.0	**6** 462.5	**5** 372.0	**1** 321.5	**3** 519.5	**2** 374.5	**0** 442.5
	Med.	**26** 427.5	**14** 217.5	**1** 139.0	**0** 113.0	**1** 184.5	**0** 112.0	**2** 132.0
	High	**6** 121.5	**4** 48.5	**3** 20.0	**0** 9.0	**1** 1.5	**0** 0.0	**0** 0.0

Table A3. Percent of the rate of entry into employment (full-time or part-time) pertaining to the rate of entry into part-time employment. By educational level and by labor force experience (in months), and by months since the end of general maternal leave.

Educ. level	Labor force exp.	Months since the end of general maternal leave						
		1-3	4-6	7-9	10-12	13-18	19-24	25-36
Low	0-11	8	14	13	21	10	18	9
	12-47	33	50	44	60	42	54	42
	48-83	61	76	71	82	70	76	69
	84+	59	74	70	80	70	76	65
Med.	0-11	7	12	10	17	12	12	6
	12-47	30	47	39	54	41	47	35
	48-83	50	67	61	73	60	70	56
	84+	48	65	60	72	62	66	56
High	0-11	17	32	25	38	27	33	18
	12-47	22	37	30	49	30	38	26
	48-83	47	64	58	71	57	66	53
	84+	51	68	62	75	62	70	57

Table A4. **Entries into part-time employment. Occurrences (boldface) and exposures (in months) by labor force experience and civil status, and by months since the end of general maternal leave.**

Labor force exp.	Civil status	Months since the end of general maternal leave 1-3	4-6	7-9	10-12	13-18	19-24	25-36
0-11 months	Cohab.	**1**	**0**	**0**	**1**	**0**	**0**	**0**
		123.5	82.0	72.5	56.5	56.5	24.5	11.5
	Marr.	**6**	**2**	**0**	**2**	**0**	**1**	**1**
		174.5	112.5	97.0	83.0	126.0	95.0	98.5
12-47 months	Cohab.	**15**	**6**	**5**	**3**	**0**	**1**	**1**
		412.0	247.5	191.0	151.5	219.5	152.5	180.0
	Marr.	**36**	**19**	**12**	**5**	**4**	**4**	**6**
		1094.5	667.0	522.0	446.5	688.0	471.0	488.0
48-83 months	Cohab.	**26**	**14**	**3**	**3**	**4**	**2**	**0**
		285.0	145.5	93.0	70.0	105.0	65.5	59.0
	Marr.	**64**	**33**	**15**	**12**	**9**	**6**	**4**
		1243.0	752.0	596.5	502.0	775.5	521.0	542.0
84+ months	Cohab.	**21**	**16**	**2**	**1**	**2**	**0**	**1**
		245.5	100.0	52.0	38.0	50.5	29.0	23.5
	Marr.	**43**	**45**	**11**	**11**	**4**	**7**	**2**
		1027.5	628.5	479.0	405.5	655.0	457.5	551.0

Figures

Figure 1. States and transitions in the analyses.

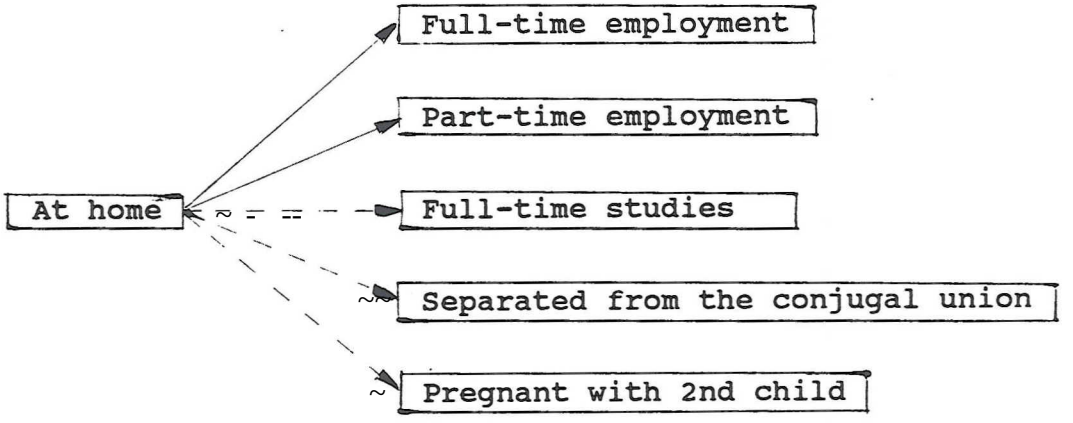
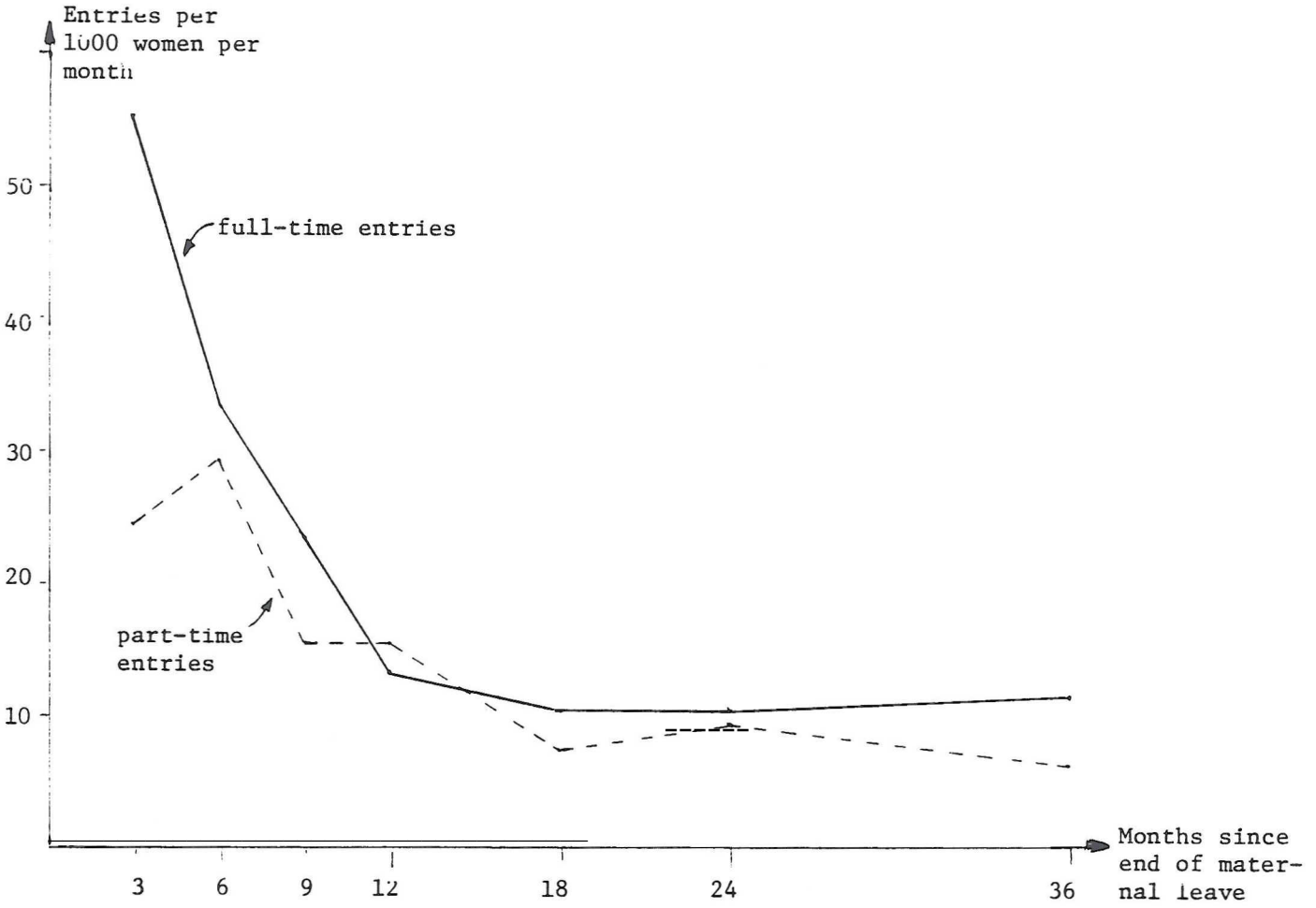


Figure 2. Rates of entry into full-time[1] and part-time[2] employment.



Notes

1 Baseline group: Women with a medium level of education and 12-35 months of labor force experience.

2 Baseline group: 20-25 year old cohabiting women with a medium level of education, 12-35 months of labor force experience, and born between 1940 and 1945.

Figure 3. Rates of entry into employment (full-time or part-time). By selected levels of labor force experience and by educational level.