3 Swings in population cause problems in planning for schools, universities, housing, and public and private pension systems. In the context of Figure 7.2 in this paper, population booms and busts create swings in the price of market goods across generations, changing the slope of the market transfer line and leading to losses of well-being.

4 Note that here the endowed difference, $a_{01} > a_{02}$, is fully offset so long as $a_{11} = a_{12}$.

5 Recent tests of altruism in the transfer of *income* among extended family members suggest a weak role for reciprocal altruism (Altonji, Hayashi and Kotlikoff 1992). However, parental resources for young children are a very different and more important matter in our opinion. Parents may transfer resources at a generous rate until at some point the children are "on their own."

6 The actual effectiveness of one's own time versus market inputs is of major significance. If a parent's (mother's) own time is valuable over a wide interval, then the market work by the mother would be lower. If the market wage of women rises and market-purchased or other non-family inputs are seen as productive of child development, then extensive market careers with on-the-job training of mothers become more efficient for altruistic families.

7 There may be a strong parental and social concern about the *form* of the child's capital. Simply transferring non-human wealth may not be seen as equitable. It may be that substantial weight is placed on human capital, as illustrated by the strong effort by parents of children with Down's Syndrome to achieve some level of personal functioning of the child. Societies appear to differ substantially in this regard, with disability programs in the US placing greater relative weight on *total* transfer rather than on the form of the transfer.

8 As noted in a somewhat different context, the cost of delivering equity in an insurance setting has a greater deadweight cost when outcomes depend on productive behavior and effort rather than on luck (Varian, 1980).

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8

THE CHOICE BETWEEN FULL-TIME AND PART-TIME WORK FOR NORWEGIAN AND SWEDISH MOTHERS

Marit Rønsen and Marianne Sundström

INTRODUCTION

In the last decades employment for mothers of young children has risen in most western countries. This rise has perhaps been most pronounced in the Scandinavian countries, and comprised primarily part-time employment. For example, in 1988 the labor force participation rate among mothers of preschool children was 86 percent in Sweden and 72 percent in Norway, while it was only about 40 percent in West Germany and 47 percent in the UK (Eurostat 1992). The Scandinavian countries also have relatively high rates for part-time work among women. In 1988 Sweden had a part-time rate of 43 percent and Norway of about 50 percent, which was higher than in West Germany and France (31 and 24 percent, respectively), but in the same range as in the UK (44 percent) and lower than in The Netherlands (57 percent) (Eurostat 1995).

The Scandinavian countries are renowned for their extensive social policies: policies such as separate taxation, subsidized childcare, generous parental leave and economic support to families with children are likely to have facilitated and encouraged the gainful employment of mothers of young children (see, e.g. Sundström and Stafford 1992). Less is known, however, about how these policies affect the mothers' choice between full-time and part-time work.

This paper analyzes the impact of public policies and other factors on women's re-entry rates into full-time and part-time work after the birth of their first child in Norway and Sweden. The two countries are very well-suited for a comparative analysis of policy effects since they are culturally very similar and have the same set of public policies, but with country-specific variations. We also used two data-sets which are extremely similar in design, namely the 1988 Norwegian Family and Occupation Survey and the 1992 Swedish Family Survey.

The study is organized as follows: the next section sets out our theoretical and methodological framework, followed by a brief overview of the major family policy programs of the countries and a presentation of the data and variables used in the analysis. The subsequent section contains descriptive statistics of our samples as well as a comparison of full-time and part-time work by Norwegian and Swedish women in general. Next, we report our findings, finally ending with a summary and discussion.

THEORY AND METHODS

The analysis is based on a standard intertemporal labor supply model in which the fertility decisions have already been made. The mother maximizes the discounted expected family utility, and returns to work when her full wage exceeds her reservation wage. The full wage reflects her forgone earnings from not returning and consists of the current market wage as well as the present value of the reduction in future earnings associated with depreciation and non-accumulation of human capital. The reservation wage is the lowest wage rate for which the woman is willing to work. It reflects the utility of her time spent at home and varies with individual preferences and the family situation. The birth of a child will raise the reservation wage by increasing the demand for the mother's time in childcare, but also lowers it by increasing the demand for market inputs in home production (see e.g. Hotz and Miller 1988). Since the time component is more important when the child is small, the presence of a newborn child will raise the reservation wage, but as children grow older they become less time intensive and more goods intensive. Hence, the reservation wage is hypothesized to decrease with time since childbirth.

The timing of the return to work will thus depend on changes in the reservation wage as well as in the full wage. When modeling these dynamics, the hazard rate is a useful concept. It is a representation of the (unobserved) rate with which an event occurs within a certain short time interval, given that it has not occurred before. In our case, the career break may end by a return to either full-time or part-time work. We then have a so-called "competing-risk" model, and the event-specific hazard function can be written as

$$h_j(t) = \lim_{\Delta t \to 0+} [P_j(t \leq T < t + \Delta t \mid T \geq t)] / \Delta t; j = 1,2 \qquad (8.1)$$

Here $h_j(t)$ is the hazard rate associated with event j and $P_j(.)$ is the probability that event j occurs in the time interval Δt, given that no event happened before that time. Individuals experiencing an event other than j are censored at the time of the other event. Since the two events are mutually exclusive, it follows from straightforward probability calculus that the overall hazard function $h(t)$ – the hazard of employment entry regardless of working hours – is the sum of the full-time and part-time hazards.

There is little *a priori* knowledge of the functional form of the hazard rate of employment – be it full time or part time – after having a child. A rising full wage and a falling reservation wage imply a rising hazard rate, while a falling full wage and a rising reservation wage imply a falling hazard rate. If the full wage and the reservation wage move in the same direction, the direction of the resulting hazard is ambiguous. We chose the Cox proportional hazards model for our analyses as it makes no assumptions about the functional form of the baseline hazard.

Besides depending on time, the hazard rate will vary with individual characteristics. In the competing risk case it can be written

$$h_j(t; X) = h_{0j}(t) \exp[X(t)\beta_j], \qquad (8.2)$$

where h_{0j} is the unknown baseline hazard rate of event j, X is a vector of covariates which may or may not depend on time and βj is a vector of parameters associated with event j. The estimates of the hazards for full-time and part-time work are obtained by maximum likelihood estimation. It can be shown that the overall likelihood function for the event of employment can be split into a separate likelihood function for each of the full-time and part-time events (see e.g. Petersen 1995). Estimation can be done simultaneously for both events or separately for each event. As long as there are no restrictions on the parameters across the event-specific rates and no unobserved variables common to, or correlated across, the rates, these procedures yield identical results. We base our analysis on these assumptions, and estimate the model with a simultaneous maximum likelihood procedure available in the software package TDA (see Blossfeld and Rohwer 1995).

The women are followed for 36 months or until they make their first transition to full-time or part-time work, which is defined as 10-34 hours per week in the Norwegian survey and as 16-34 hours in the Swedish survey. Censoring occurs 36 months after the first child is born (our period of observation), when the second is born, at interview (Norway) or at the end of 1988 (Sweden), whichever comes first.

NORWEGIAN AND SWEDISH FAMILY POLICIES

Although Norway and Sweden do not have any specific pro-natalistic policies, the measures intended to foster gender equality and secure the economic well-being of children and their families have, no doubt, had a strong impact on women's ability to combine family and work. Two of the main components of these policies are maternal and parental leave and subsidized childcare.

In 1968, the first year of our study, employed mothers in both countries were entitled to maternity benefits, but the eligibility period was much longer in Sweden: six months, as compared to 12 weeks in Norway. The benefits were not taxable and income compensation was relatively low. Swedish

mothers received a compensation of about 65 percent of prior earnings, while Norwegian mothers received a flat rate of NOK 4 per day plus 0.1 percent of prior earnings.

In 1974 there were two major extensions of the Swedish system: fathers became entitled to share the six-month leave, and the replacement rate was raised to 90 percent of prior earnings. At the same time benefits were made taxable and pensionable. Between 1974 and 1988 the Swedish entitlement period was extended several times. In 1975 it was prolonged to seven months, in 1978 to nine months, and in 1980 to 12 months, the latter three at a flat rate equal for all (from 1987 SEK 60 per day). Since 1989 the leave period has been 15 months. The replacement rate was reduced to 80 percent in 1995.

In Norway there were no extensions in the maternity leave program until 1977, when the benefit period was prolonged to 18 weeks and fathers became entitled to share the leave, except for the first six weeks which were still reserved for the mother. In 1978 the benefits were raised substantially to cover 100 percent of former income for most working women and were made taxable and pensionable. Thereafter, no further changes were made until 1987, when the entitlement was prolonged to 20 weeks, and in 1988, the last year of our study, another two weeks were added. Since 1993, maternity benefits are granted for a period of 42 weeks with full pay or 52 weeks with 80 percent compensation.

The maternal or parental benefits are based on prior earnings in both countries. In Sweden, the amount depends on the earnings record 240 days prior to birth. Mothers with no previous earnings receive only the low, flat-rate payment, i.e. SEK 60 per day in 1988 or SEK 21,600 for the 12 months (taxable). To be entitled to leave with job security, Swedish parents must have been employed either for a minimum of the last six months before delivery or for at least 12 of the last 24 months prior to birth. Before 1977, Norwegian mothers had to have been employed for eight of the last ten months before birth to be eligible for benefits. In 1977 this requirement was reduced to six months' employment during the last ten months. Mothers who did not fulfill this criterion were granted a one-time, tax-free cash payment at birth which in 1988 equalled NOK 4730. Clearly, the programs give young women in both countries a strong incentive to be employed full time prior to having children and even to postpone pregnancies until earnings are sufficiently high.

In both countries parents are entitled to unpaid leave subsequent to the standard parental leave – in Sweden until the child is 18 months old (from 1978) and in Norway until the child is one year old (from 1977). In addition, Swedish parents employed full time in all sectors of the economy have (since 1979) had the right to reduce their working hours to 75 percent of full-time employment until the child is eight years old (see Sundström 1991 for further details). In Norway, there is no general statutory right to reduced working hours, except for nursing mothers who are allowed two hours off per day with full pay in the public sector and one hour off without pay in the private

sector. In fact, in both countries public employees have long had more favorable working conditions in connection with childbirth and childcare than employees in the private sector, e.g. higher income compensation and more extensive rights to unpaid leave and reduced hours.

A major difference between the programs in the two countries lies in the degree of flexibility. As of 1974 the Swedish benefits can be used full time or part time (one-quarter, one-half, three-quarters of full time) or saved and used any time before the child is eight years old. Parents are free to interrupt the leave any time to go back to work and resume the leave at a later date. During the period studied this was not the case in Norway: benefits could neither be used part time, nor saved for later usage. Parents had to use up all their eligibility in one go: if not, the remaining benefit days would be forfeited. For this reason we expect exit patterns to look very different in the two countries.

Also unique to the Swedish system is a feature which encourages a closer spacing of children (Hoem 1993). Since 1980 the mother has been able to maintain the same benefit level as with the previous child without returning to work if the next child is born within 24 months of the last. In 1986 this limit was extended to 30 months. Before 1980 the maternity benefits with a subsequent child were based on the earnings record between births, as it is in Norway.

Another important component of Norwegian and Swedish family policies related to the employment of mothers is the provision of subsidized, high-quality childcare. Public childcare in the form of day-care centers, family day care (childminders) and after-school centers are provided by the municipalities with the support of large government subsidies. Norway has always lagged behind Sweden in the provision of public childcare, however. In 1973 about 5 percent of Norwegian preschool children were provided with public day care, while the Swedish coverage rate was double, 11 percent. During the 1970s and 1980s public childcare expanded rapidly to include 25 percent of Norwegian and 38 percent of Swedish preschoolers by 1983. In 1988, our last year of observation, 32 percent of Norwegian preschool children had a place in public childcare as compared to 49 percent of Swedish children. Enrollment rates are lower for children aged 0–2 years than for those aged 3–6 in both countries (for Sweden: Statistics Sweden 1992; Gustafsson and Kjulin 1993; for Norway: Rønsen 1995a). Compulsory school starts at age seven in both Norway and Sweden.

Parents' fees, which are set by the municipalities, cover only a fraction of the running costs. Generally, the fees increase with family income and decrease with the number of siblings in care. Swedish parents usually pay lower fees, but unlike Norwegian parents, they cannot deduct any of the costs from their taxable income. Single parents pay a reduced rate. Since there is a greater demand for childcare than there are places, spaces are rationed and as a rule the waiting time reflects the age of the child. The excess demand has been met by several forms of private childcare arrangements: for example,

relatives, private baby sitters, au pair girls or private day-care centers. This type of childcare has been more common in Norway.

DATA AND VARIABLES

Recently Statistics Norway and Statistics Sweden have carried out family surveys with almost identical designs: the Norwegian Family and Occupation Survey of 1988 and the Swedish Family Survey of 1992. Both surveys are national probability sample surveys of selected cohorts, containing complete retrospective life histories on childbearing, cohabitation and marriage, educational activities and employment. Interviews were obtained from a total of 4019 Norwegian women born between 1945 and 1968 and 3314 Swedish women born between 1949 and 1969.

Since the hazard model does not include a random term, it is important to keep the sample as homogeneous as possible. We therefore restricted our analysis to women who were married or cohabiting and at least 19 years old when giving birth for the first time. Single mothers were excluded since their budget sets differ from those living with a partner, and very young mothers were left out because, in keeping with our framework, they most probably did not have the time or opportunity to work before birth. Further, we excluded women whose first birth was a multiple birth, those whose child died shortly after birth and those who lived abroad at the time of birth or shortly afterwards, as well as some cases of inconsistent or incomplete information. In the Swedish sample, women with no registered work interruption were excluded. In the Norwegian sample this was not possible due to missing reports on maternity leave among employed women. As remaining benefits are lost in Norway if mothers go back to work before the leave expires, it is very unlikely that they would do so. We therefore set the length of the employment break equal to the statutory leave in those cases where women were eligible for leave but reported no leave or too short a leave (about 200 cases). Altogether this left us with a Norwegian sample of 1749 women and a Swedish sample of 1416 women.

Difference in preferences is another important source of heterogeneity, but one which is not easily observable. One indicator that has proven useful in several studies of demographic behavior is religious activity. In recent studies from Nordic countries religiously active women are found to be more likely to marry and less likely to enter into unmarried cohabitation (Blom 1994), less likely to divorce (Hoem and Hoem 1992) and more likely to have a third child (Kravdal 1992). We expect religiously active women also to be more committed to the home and thus more disinclined to resume employment after birth, particularly full-time work. *Religious activity* is measured by church attendance in the year prior to interview with *high* being defined as attending church at least three times per year. As religious attitudes are probably fairly stable throughout one's life, the timing of the measurement should not invalidate its usefulness for our purposes.

Previous demographic research has also established a clear negative association between cohabitation and traditional family values (see e.g. Lesthaege and Moors 1995). In line with these findings we expect *marital status* to reflect something of a woman's attitudes toward family and work. Since we know the partnership histories, we are able to distinguish between married women who cohabited with their husband prior to marriage and those who followed the traditional pattern of marrying directly. The marital status variable is thus divided into three categories – *directly married*, *married after cohabitation* and *cohabiting* (see Table 8.1). Based on previous findings (Rønsen 1995b;

Table 8.1 Descriptive statistics for the variables used in the analyses

	Sweden	*Norway*
Age at first delivery, years	24.5	24.1
Marital status at first birth:		
Cohabiting	22.9	18.6
Married after cohabiting	64.5	33.2
Directly married	12.6	48.2
Religious activity:		
High	10.1	21.6
Low	89.9	78.4
Separated during observ. period	3.1	2.4
Work experience before childbirth, years	4.9	4.5
Home-time prior to childbirth, months	1.3	3.0
Education attained by first childbirth:		
Compulsory schooling only	23.3	15.6
Compulsory schooling plus one year	38.0	41.0
2–3 years of secondary school	11.3	22.4
Post-secondary school education	27.4	21.0
Reported status after birth:		
On maternity leave	80.5	68.8
Managing the household	19.5	32.2
Sector of employment before birth:		
Public sector	55.3	40.9
Other	44.7	59.1
Period of first childbirth:		
1968–73	18.4	24.9
1974–6	15.0	15.4
1977–9	14.6	12.9
1980–84	26.9	24.6
1985–8	25.1	22.3
Duration: all[a](months)	15.6	16.2
Full time	12.8	8.5
Part time	14.5	11.2
Number of transitions	1067 (75.4%)	1115 (64.9%)
of which to full time	418 (39.2%)	634 (56.9%)
part time	649 (61.8%)	481 (43.1%)
Number of women	1416	1749

Note: [a] Including censored cases

Rönsen and Sundström 1996), we expect in particular women who married directly to have more traditional values and lower re-entry rates after birth, especially to full-time work.

To account for changes in the budget set that may occur after birth, we include a time-varying covariate which equals one if the woman gets *separated* or *divorces* while she is still under risk of going back to work, and zero otherwise. It may be argued that a separation or divorce produces such a fundamental change in the budget set that women who go through it should be censored at the time of separation. We have also experimented with such models, but as the results were very similar to those obtained from models without censoring at separation, we have not adopted this procedure here. In the Swedish policy setting, a separation is likely to induce women to go back to work because of the loss of family income. By contrast, a separation or divorce may weaken the work incentives among Norwegian women since they receive a temporary and income-related economic support in case of separation which is partly or fully reduced if they work. Because of the reductions in benefits the effective marginal tax rate is normally higher on part-time earnings than on full-time earnings, which are more likely to be above the limit where benefits are lost completely and where there are no more reductions. Part-time work may, therefore, seem less attractive for single mothers in Norway.

As previously argued, we expect a negative relationship between the reservation wage and the age of the child. The mother's reservation wage will be highest close to birth when the demand for the mother's time at home is high and the market substitutes are few and costly, and then decline as the child grows older. This variation in the reservation wage will be picked up by the duration variable itself.

Also in accordance with our theoretical model, we include the mother's *age at first delivery* and other human capital variables. Age at delivery is hypothesized to have a negative effect on the entry into employment since younger women will have longer work horizons and thereby lose more from a work interruption. In the same manner, women who have made larger human capital investments in education and work experience may have more to lose by an employment break. *Education* is the highest level attained when the first child is born, and is divided into four categories: compulsory schooling only (9 years), compulsory schooling plus one year, 2–3 years of high school, and post-secondary school education. *Work experience* is constructed from the employment histories, and is the full-time equivalent number of years worked up to the time of the first delivery, accumulated from the year of the mother's 17th birthday. In several US studies, work during pregnancy has been found to be a strong predictor of after-birth employment (see e.g. Even 1987; Joesch 1994; Shapiro and Mott 1994). Recently, this result has also been confirmed for Norway and Sweden (Rönsen and Sundström 1996). By working late into pregnancy, women not only maintain a high level

of on-the-job training, but also show a higher degree of work commitment. Further, they qualify more often for paid maternity leave. Because of the strong correlation between work during pregnancy and maternity leave, especially in Norway, we use a different indicator of recent work behavior in the present study, labeled *prior home-time*, and this is the number of months without any employment or educational activity counting backwards from the time of birth.

When modeling the return to work in countries with a statutory and universal parental leave system, the program in itself will be an important determinant. As a first approach, and to pick up the effects of increases in the generosity of the programs, we include *period of first delivery*, divided into 1968–73, 1974–6, 1977–9, 1980–84 and 1985–8. Generally, the exit intensity is expected to decrease over periods due to the extensions in the leave program. However, this effect may be counteracted by the increase over time in the availability of public childcare. Further, the period factor will reflect other trends such as business cycle effects. In particular, we would expect re-entry rates to be lower during downturns in the business cycle such as the 1980–84 period and higher during upturns such as in 1985–8.

In addition to this general approach, our data allow the study of the importance of maternity leave more specifically, as we have information on whether the mother had a paid *maternity leave* or not. For Sweden this indicator is based on the respondents' own reports, while for Norway it has been constructed on the basis of the eligibility criteria and the pre-birth employment records. Previously we found that having maternity leave greatly speeds up the return to work in both countries, but more so in Sweden than in Norway (Rønsen and Sundström 1996). The question we wish to address now is whether full-time and part-time work are affected equally strongly, and to what extent there are country differences in this respect.

Finally, we are able to examine the role of *public sector employment* (central or local government). Previous US studies suggest, for example, that the degree of an occupation's or sector's work convenience helps to retain mothers after the child is born (Desai and Waite 1991). The public sector has a long tradition of offering part-time jobs and other flexible working schedules as well as improved maternity leave arrangements. We therefore expect that those employed in the public sector will return to work, and especially to part-time work, earlier because of the wider opportunities for combining work and motherhood there.

FULL-TIME AND PART-TIME WORK

During the period we are studying, 1968–88, gainful employment among mothers of young children increased strongly in both Norway and Sweden. As early as 1972, 48 percent of Swedish women with children 0–2 years old were a part of the labor force as compared to only 29 percent among

Norwegian mothers, according to the countries' Labor Force Surveys. Throughout the 1970s activity rates among mothers of young children grew continuously so that by 1980 Sweden had reached a rate of 75 percent while Norway's was 48 percent. During the 1980s the rise in Norwegian rates continued but the rise in Swedish rates slowed down, resulting in participation rates of 83 percent among Swedish mothers and 68 percent among Norwegian mothers of children under three in 1988.

In Scandinavia the rise in employment among mothers of young children mainly concerns part-time work. In Sweden the proportion of all employed mothers with children under three who worked part time exceeded 50 percent in all years of our study, and even exceeded 60 percent from the late 1970s until the mid-1980s (Swedish Labor Force Surveys). In Norway similar figures from the Labor Force Surveys have been published only since 1989, when 57 percent of Norwegian married and employed mothers with children under three worked part time, which is very similar to the Swedish rate at the time. Other Norwegian surveys indicate that the proportion of part-time women workers may have been higher in the late 1970s and early 1980s (Ellingsaeter 1989). All in all, the Norwegian and Swedish rates among this group of employed mothers may have been rather similar for most of the period studied.

Let us now turn to the full-time and part-time re-entry rates after the birth of the first child that we observe in our study. In Table 8.1 we saw that the overall proportion of mothers who return to work within 36 months after delivery is higher for Sweden, 75 percent as compared to 65 percent for Norway (for an analysis of these re-entry rates, see Rønsen and Sundström 1996). Also, the proportion of re-entrants who take up part-time work is larger for Sweden, 62 percent as compared to only 43 percent for Norway. The reason for the seeming contradiction with the percentages in the previous paragraph is that our study covers only first-time mothers, while mothers with children under three also include mothers of more than one child. The latter group of mothers work part time to a greater extent than the former in both countries, but the difference is larger in Norway (Ellingsaeter and Rønsen 1996).

There is, however, one more paradox to explain. As pointed out in the introduction, the proportion of part-time workers among all employed women was higher in Norway than in Sweden in 1988 (and during the whole period studied). Why then do we find higher rates of part-time entry for mothers in Sweden? One reason has already been mentioned: in Norway mothers of more than one child have higher rates of part-time work than the corresponding group of mothers in Sweden. A second reason is that while in Sweden a substantial proportion of mothmrs shift from part-time to full-time employment when the children start school (Sundström 1993), this is not the case in Norway. On the contrary, the proportion working part time is higher among working mothers of children aged 7–10 than among those of children

under three. Ellingsaeter and Rønsen (1996) suggest that this is because school-days are short at that age and it is difficult to find childcare outside school hours, but it probably also reflects higher part-time rates among older cohorts. The higher part-time rates among employed mothers of children aged 11-15 years is another indication in this direction. This cannot be established with certainty from the Labor Force Surveys, however, since they are cross-sectional.

We have summarized the descriptive statistics of our model covariates for our two samples in Table 8.1. The Swedish and Norwegian women in our sample are very similar in many respects: the mean age when the first child is born is almost equal and so is the rate of second pregnancy. The mean duration of the career break is quite similar –15.6 months in Sweden and 16.2 months in Norway – but the Norwegian women who return to work do so much sooner, on the average, especially if they return to full time, than do Swedish women. On the other hand, Swedish women worked more before birth while Norwegian women spent more time at home. Consequently, a higher percentage of Swedish women had maternity leave after birth. Also, Swedish women were employed to a larger extent in the public sector. Further, the educational profile is different: the Swedish sample has a higher frequency both of women with low education (only compulsory schooling) and of those with education beyond gymnasium. It is possible that the latter difference is due to the fact that the Swedish cohorts are younger and therefore more educated when the first child is born.

Lastly, we see surprisingly large differences in values and attitudes of our Norwegian and Swedish women. Norwegian women are more religious and more often follow the traditional pattern of marrying directly. Almost half of the Norwegian mothers had done so, but very few in Sweden, where two-thirds of women had cohabited with their partner prior to marriage.

FINDINGS

We start by estimating a model which includes covariates that reflect differences in preferences, budget sets and human capital accumulated at birth. The results show that some of the effects of the covariates on full-time and part-time re-entry rates do indeed differ between the two countries (see Table 8.2). First, we see that while the effect of high religious activity in Sweden is to reduce women's overall risk of returning to work, in Norway the effect is to discourage full-time work in particular. Second, in both countries mothers who cohabit without marriage are more likely to choose full-time work but the effect is more pronounced for Norway. Norwegian women who married directly without prior cohabitation are less inclined to return to work at all. Clearly, Norwegian mothers differ more in marital status than Swedish women and the differences in preferences (traditional *v.* non-traditional) that this covariate mirrors have a larger impact on their labor

market choices. Third, women who separate from their partner have a higher rate of employment re-entry, especially to full time, in Sweden, while in Norway a separation seems to discourage full-time work and encourage part-time work. For Sweden this result is as expected since single mothers are encouraged to work by being charged lower fees and being given priority to public day care. But for Norway the result, although not significant, may seem at odds with the previously found higher risk of full-time return and lower risk of part-time return for single mothers (Rønsen 1995b). Being single when the child is born or separating or divorcing afterwards may not be quite comparable, however. Single mothers have had time to adjust to single parenthood, probably know their rights and will receive benefits from the time of birth. Returning to a part-time job will be unattractive because of the very high marginal tax rates (tax rates plus reduction in benefits) that they normally would incur in these income intervals (see the section on Data and variables). Becoming a single parent through separation after the child is born may be quite a different experience. Certainly, these mothers also have to adjust to a smaller budget, but all the same they may be better off than

Table 8.2 Relative risks of entry into full-time and part-time employment after first childbirth among Swedish and Norwegian women. Model with preferences and human capital variables

	Sweden		*Norway*	
	Full-time	*Part-time*	*Full-time*	*Part-time*
Religious activity:				
High	0.91	0.84	0.80**	0.98
Low	1.	1.	1.	1.
Marital status at birth:				
Cohabiting	1.10	0.95	1.34***	0.96
Married after cohabit.	1.	1.	1.	1.
Directly married	1.04	1.03	0.89	0.89
Marital status change:				
Separated	1.62	1.22	0.53	1.62
In the same union	1.	1.	1.	1.
Age at delivery	0.97	1.03	0.99	1.06**
Work experience	1.01	0.99	1.04	0.96
Prior home-time	0.96**	0.91***	0.83***	0.89***
Education:				
Compulsory schooling only	1.	1.	1.	1.
Compulsory schooling plus 1 year	0.93	1.47***	1.25	1.63***
2–3 years of secondary school	1.14	0.98	1.45**	2.10***
Post-secondary school educ.	1.49**	1.12	2.27***	2.64***
Log likelihood		−6916.9		−7584.0
No. of parameters		20		20

Notes: For categorical variables risks are given relative to that of the base group, indicated by the value 1. For continuous variables a value lower than 1 indicates a negative gradient, higher than 1, a positive one.
*** significant at the 1 % level, ** at 5 %, * at 10 %

mothers who have been single the whole time and may have greater possibilities for not working full time. In addition, they may not yet be confronted with high marginal tax rates since it takes some time to get acquainted with and registered in the benefit system. Therefore, a part-time job may be a sensible choice.

Turning to the effects of differences in accumulated human capital, we find that mothers who were older when having children tend to choose part-time work when they return to a higher extent than those who were younger: the effect is significant only for Norway. There are no significant effects of work experience. Further, in line with previous research and prior expectations, months spent at home prior to giving birth are found to exert a strong negative influence on re-entry rates of mothers in both countries. As pointed out above, mothers who stay at home prior to birth are likely to be less work committed than those who work throughout pregnancy and, in addition, they may have greater difficulties in finding a job afterwards. Possibly Swedish mothers, including those who "happened" not to work during the whole pregnancy, have a more uniform pattern of high work commitment and close ties with the labor market than Norwegian women have, resulting in larger negative effects of prior home-time for Norway. Moreover, there are clear differences in the impact of education on the return to full-time and part-time work between the two countries. For Norwegian women the effect of more education is to increase both full-time and part-time re-entry rates: the part-time re-entry rates being higher than the full-time rates at each educational level. By contrast, the impact of higher education among Swedish mothers is mainly to speed up the return to full-time work: part-time re-entry rates are highest for those with lower levels of education. This country difference might be due to the fact that maternity leave was considerably shorter in Norway than in Sweden during the period studied and also that highly educated women preferred part-time work as a combination strategy when the child was just a few months old.

In the next step we test for possible effects of public policy (see Table 8.3). The results indicate that the public sector has been more important for continuous employment of mothers in Norway than in Sweden, where only the part-time rates are affected and not significantly. Further, there are clear country differences in the effects of calendar period of birth on full-time and part-time re-entry rates: in Sweden the full-time return rates were at their highest for women who had their child in 1968-73 and then declined continuously, while the part-time re-entry rates exhibit almost an inverse u-shape with a peak in the late 1970s. In contrast, the Norwegian full-time return rates were not as high in any period, nor did they fall as much, while the part-time re-entry rates were initially extremely low but increased dramatically over periods. The low return rates for women who had a child in 1980-84 in both countries can probably be explained by the economic downturn and high unemployment at the time. Furthermore, we find that the

Table 8.3 Relative risks of entry into full-time and part-time employment after first childbirth among Swedish and Norwegian women. Model with policy variables

	Sweden		*Norway*	
	Full-time	*Part-time*	*Full-time*	*Part-time*
Religious activity:				
High	0.91	0.84	0.78**	0.97
Low	1.	1.	1.	1.
Marital status at birth:				
Cohabiting	1.16	0.95	1.34***	0.87
Married after cohabit.	1.	1.	1.	1.
Directly married	0.95	1.08	0.85	1.10
Marital status change:				
Separated	1.51	1.09	0.52	1.50
In the same union	1.	1.	1.	1.
Age at delivery	1.00	1.03	1.00	1.04
Work experience	0.98	0.97	1.03	0.95
Prior home-time	0.99	0.95***	0.86***	0.92***
Education:				
Compulsory schooling only	1.	1.	1.	1.
Compulsory schooling plus 1 year	0.91	1.35***	1.22	1.53**
2–3 years of secondary school	1.11	0.93	1.44**	1.83***
Post-secondary school educ.	1.40*	1.03	2.10***	2.36***
Sector of employment:				
Public sector	0.99	1.06	1.19**	1.24**
Other	1.	1.	1.	1.
Period of first childbirth:				
1968–73	2.12***	1.27	1.43***	0.57***
1974–6	1.93***	1.75***	1.60***	1.16
1977–9	1.77***	2.15***	1.28*	1.03
1980–84	1.	1.	1.	1.
1985–8	1.49***	1.73***	1.33**	1.43***
Status after childbirth				
Maternity leave	2.70***	2.65***	1.36**	1.30**
Housekeeping	1.	1.	1.	1.
Log likelihood		−6831.2		−7550.6
No. of parameters		32		32

Notes: For categorical variables risks are given relative to that of the base group, indicated by the value 1. For continuous variables a value lower than 1 indicates a negative gradient, higher than 1, a positive one.
*** significant at the 1 % level, ** at 5 %, * at 10 %

effect of having maternity leave is to speed up the return to work in both countries, but especially in Sweden, and it is just as important for part-time entries as for full-time entries.

Because of the many extensions of the leave program, especially in Sweden, the effect of having maternity leave may have changed over the years. In addition, the variations in the length of leave entitlement are likely to have produced very different full-time and part-time exit patterns across our calendar periods of birth. We explore these two possibilities by running

interactions between calendar period of birth on the one hand and on the other hand (i) being entitled to maternity leave or not and (ii) duration. The first interaction reflects the extent to which the impact of having maternity leave varies across calendar periods, and the second picks up whether the exit rates of each calendar period are proportional as is assumed in the Cox model. If not, the proportionality assumption is violated, in which case there is a duration (or time) dependency (see, e.g. Cox 1972; Blossfeld and Rohwer 1995: 224ff). To check for such interaction effects we re-estimated the model presented in Table 8.3 with the interaction terms included. The results are presented in Table 8.4 and show, first, that maternity leave has had a differential impact on re-entry rates across calendar periods only for Swedish women. This makes sense as there have been fewer changes in the Norwegian leave entitlement period than in the Swedish one. We observe that the importance of having maternity leave was greater before 1980 than after, and that the impact on both full-time and part-time return rates increased throughout the 1970s. In 1980–84 the positive effect of maternity leave decreased considerably and this trend continued also after 1985 for part-time work. Maternity leave may have been more important in the earlier periods because fewer women were entitled to leave at that time, and those who were may have had a stronger work commitment relative to those without

Table 8.4 Relative risks of entry into full-time and part-time employment after first childbirth among Swedish and Norwegian women. Model with interactions with calendar period of birth

	Sweden		*Norway*	
	Full-time	*Part-time*	*Full-time*	*Part-time*
Period*Status after birth:				
1968–73* On maternity leave	2.62***	2.15**	0.87	0.71
1974–6* On maternity leave	4.18***	1.58	1.23	0.62
1977–9* On maternity leave	5.75***	3.12**	0.85	0.72
1980–84* On maternity leave	1.	1.	1.	1.
1985–8* On maternity leave	1.30	0.73	0.91	0.63
Period*Duration:				
1968–73*[ln(T)–ln(mean dur.)]	0.29***	0.19***	0.52***	0.67*
1974–6*[ln(T)–ln(mean dur.)]	0.38***	0.23***	0.59***	0.59**
1977–9*[ln(T)–ln(mean dur.)]	0.62	0.54***	0.86	0.80
1980–84*[ln(T)–ln(mean dur.)]	1.	1.	1.	1.
1985–8*[ln(T)–ln(mean dur.)]	0.48**	0.38	1.25	1.03
Log likelihood		−6772.9		−7527.5
No. of parameters		48		48

Notes: This model also includes all the covariates in Table 8.3. Only interaction effects are reported. The risks are given relative to that of 1980–84, indicated by 1. For Period*Duration, T = process time. Since [ln(T)–ln(mean duration)] is negative for process times less than mean duration, a relative risk less than 1.0 implies that the risk relative to 1980–84 is higher for process times shorter than mean duration and lower for process times longer than mean duration.
*** significant at the 1 % level, ** at 5 %, * at 10 %

entitlement than in the later periods when most mothers were entitled. However, the reduced importance of maternity leave after 1980 may also reflect to some extent the particular Swedish rule, introduced in the 1980s (see Norwegian and Swedish family policies), according to which women who bore their next child within 24 or 30 months of the earlier one did not have to return to work to establish eligibility for benefits for leave with that child, reducing the positive impact of leave on re-entry rates. Second, we see that the effects on re-entry rates of the interaction between period of birth and duration are indeed significant for most calendar periods in Sweden, but only for the two early periods in Norway. The low relative risks for Sweden in particular in the two early calendar periods indicate that re-entry rates were much higher a shorter time after giving birth (and lower for longer durations), especially to part-time work, than they were in 1980–84. Of course, this is because the leave entitlement was considerably shorter at that time than in 1980–84 (6–7 months as compared to 12 months). Also, in the late 1980s the risk of exiting to full-time work in Norway was higher for longer durations than in the early 1970s when the benefit period was only about three months as compared to four and five months later on.

SUMMARY AND CONCLUSION

Female employment in Scandinavia is characterized by very high employment rates among mothers of young children and high part-time rates. At the same time the Scandinavian countries have a long tradition of extensive social policies, including generous parental leave programs and other economic support to families with children, which are likely to have facilitated the combination of work and family. Recent research confirms, for example, that the right to a paid maternity leave reduces women's career breaks in connection with childbirth and thus encourages a continuous attachment to the labor market (Rønsen and Sundström 1996).

In this paper we focus on the re-entry into full-time and part-time work after the birth of the first child, and study the impact of public policies and other factors on these processes using two data-sets with almost identical designs: the 1988 Norwegian Family and Occupation Survey and the 1992 Swedish Family Survey. Norway and Sweden are culturally quite similar, and have the same set of public policies, but with country-specific variation. Swedish women have, however, a longer tradition of high female employment. This will, since our data go back as far as 1968, be reflected in the Norwegian women in our sample having more traditional working patterns. They are also more traditional when it comes to cohabitation outside marriage and they are more religious. On the whole, Norwegian mothers seem to differ more in values and preferences than Swedish mothers do, and these differences are also mirrored in their after-birth employment behavior. For

example, in Norway religiously active women are less inclined to work full time after delivery, while cohabiting mothers have higher full-time return rates than mothers who are married. In Sweden there is only weak and insignificant evidence of similar associations. Further, there is a stronger positive impact of education on the re-entry rates in Norway, where higher education speeds up the return to part-time work just as much as to full-time work. In Sweden, the part-time profile is quite different from the full-time profile, and the highest part-time risk is found among mothers with lower levels of education.

The parental leave programs in the two countries also have many similarities, but there are important variations in generosity and flexibility. The Swedish program has offered a longer paid leave throughout the period studied, with more options for saving leave for later usage and to take leave full time or part time. In addition, since 1980 Swedish mothers have been able to maintain the same benefit level as after the first child without going back to work if the next child is born within a certain interval. This "speed-premium" is not a feature of the Norwegian system, which requires mothers to work up their entitlement before each birth. Nevertheless, in both countries women who have the right to a paid leave resume employment faster than non-eligible women, and the part-time rates are affected just as much as the full-time rates. However, the impact is larger in Sweden than in Norway. Possibly, the longer entitlement period in Sweden has encouraged more mothers to keep in touch with the labor market. With the short entitlement in Norway during the period studied, a few women will return more quickly, but a larger number will end up outside the labor force because it is more difficult to reconcile work and motherhood when the baby is very young.

During the two decades of our study, there have been several extensions of the Swedish leave program, suggesting that exit patterns will differ across calendar periods. Likewise the importance of maternity leave may have changed over the years. Not surprisingly, our results confirm that the length of the statutory leave has shaped the exit patterns. In the early 1970s, when the leave was shorter in both countries, there was a faster return closer to birth and a slower return toward the end of the 36-month observation interval. As expected this was more pronounced for Sweden than for Norway, where changes in the leave program have been fewer and smaller. Further, the interaction effects between calendar period of birth and maternity leave are significant for Sweden only, where the positive impact of having had maternity leave increased during the 1970s, but declined sharply after 1980. This is an interesting result, which may indicate that the introduction of the particular Swedish "speed-premium" may have delayed the return to both full-time and part-time work after birth.

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