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## **Employment after childbearing:** a comparative study of Italy and Norway

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# Employment after childbearing: a comparative study of Italy and Norway

Magdalena Muszyńska

#### Abstract

In this study we look at the circumstances under which motherhood and employment are compatible. Comparing two countries, Italy and Norway, we analyze the impact of macro factors and individual characteristics on employment decisions of first- and second-time mothers. Our results show that in Norway, where flexible forms of employment are a popular way to reconcile family life and employment, not only many women start to work when their child is small, but the fertility is also relatively high. In Italy, characterized by high rigidities of the labor market and where flexible forms of employment are hardly available, relatively few mothers enter employment and fertility is low. In addition, we found that in both countries better educated women and women with more work experience return to their jobs relatively soon after childbirth. The majority of women with a low level of education and who did not work before the childbirth do not take up work when the child is small.

## 1 Introduction

Work and family formation are conflicting careers in life because they both require investments from the same supply of individual's time (Willekens, 1991). As generally women are responsible for household duties, and this applies also to dual-earner couples (Kalleberg and Rosenfeld, 1990; Presser, 1994), the problem of reconciling family life and employment mainly affects women. As a result, two basic questions concerning the causal relationship between family formation and employment arise: Does the labor-force participation of women influence fertility decisions negatively? Does the need to provide care for a child negatively affect female employment?

The two problems have been discussed in previous studies both, on the micro and macro level. The results are not consistent and depend mostly on the level of analysis and implemented methods. Although several macro-level studies reported that the correlation between fertility and female employment has changed from a negative value (until the early 1980s) to a positive one today (Ahn and Mira, 2002; Brewster and Rindfuss, 2000), the relationship on the individual level remains a negative one (de Laat and Sanz, 2003).

The positive relation on the macro level has been explained by crosscountry differences in the opportunities and constraints for women to combine both roles, which result from two sets of factors: social-structural and ideational (de Laat and Sanz, 2003). Social-structural factors are, for example, labor-market regulations and the availability of institutional child-care. Gender roles and the division of household duties between men and women are defined as ideational factors. On the individual level, these factors are claimed to induce mother's employment "by removing a barrier to labor force entry and by reducing the incompatibility between work and children" (Willekens, 1991, p. 27).

Comparing the development of female labor-market participation and fertility in two countries – Italy and Norway – we aim to show that motherhood and employment are not always conflicting careers and that under certain circumstances women do not have to resign from any of these roles. We would like to know what the individual characteristics of mothers are who are able to combine both roles. In addition, it is important to learn whether the influence of these individual characteristics is universal or whether it changes in different macro contexts.

Models measuring the time after which women enter employment after childbirth were calculated for Italian and Norwegian first- and second-time mothers. In order to ensure comparability, the same variables describing the individual characteristics of a woman were included in the models for both countries. We chose to study Italy and Norway because these two countries are assumed to represent extreme positions in the range of opportunities available and constraints imposed to reconcile work and family. In addition, the development of female labor-force participation and fertility trends are different in both countries.

The theoretical background of the study is based on the economic theory of employment decisions (Even, 1987; Mincer and Ofek, 1982; Mincer and Polachek, 1974). The theory broadly discusses the impact of the individual characteristics of a woman on job retention, but very little attention is paid to cultural and structural macro determinants of employment decisions. A discussion of the possible impact of macro factors is included in the theoretical part of the paper.

The specification of our empirical analyses is similar to that proposed by Rønsen and Sundström (2002) to investigate the impact of family policies on after-birth employment of mothers. We analyze the process separately for the periods following first and second birth (most of the studies concentrate on the process after first birth, see for example, Bender et al., 2003; Desai and Waite, 1991; Dex et al., 1998 or after both first and higher-order births together, see for example, Adam, 1996; Joesch, 1994). The reason for calculating separate models for employment entries after first and second childbirth is that the conflict between family and work is much greater with two children than with one only and as a result the speed at which women enter employment is expected to be different (Rønsen and Sundström, 2002). In addition, most of the previous research concentrates on the transition to employment and do not distinguish between full- and part-time jobs, under the assumption that part-time and full-time employment are of similar character. Part-time work prevents the depreciation of human capital (Drobnic et al., 1999) and provides women with a source of income independent of her partner. However, a woman who works part-time is still dependent on the income of her partner and plays the role of supplementary worker (Bernhardt, 1993). In addition, part-time employment is claimed to be of different character in European countries (Sier et al., 2001; Tijdens, 2002). In this study we examine not only the prevalence of part-time employment among mothers in Italy and Norway but also we answer the question of which women choose this work arrangement.

The paper is structured as follows. In Section 2 we provide a brief de-

scription of social-structural and ideational differences between the countries under study and compare trends in female labor-force participation and fertility developments. The theoretical background of our study together with hypotheses concerning the impact of individual and contextual factors on employment entries of mothers are presented in Section 3. This section also includes a short description of previous studies. In Section 4 we describe the data and specify the models used in the analysis. Our main findings from the analysis on mothers' entries into employment are presented in Section 5. There follows in Section 6 a discussion that brings together the results obtained from the description of the two countries and our micro level analysis.

## 2 The national context – Italy versus Norway

#### 2.1 Social-structural factors

The Italian welfare state is a conservative 'southern' one as it has low level of social protection, especially for families and children, and strict labor-market regulations (Ferrera, 1996). This means that it is the family, rather than the state, that provides essential social services. An important feature of this type of welfare is that income protection is characterized by dualism: it is generous for those working in the regulated 'institutional' market and low or non-existent for those working in the non-institutional or not-regular labormarket. Italian 'familiarism' supports traditional division of tasks within the family, where the male-breadwinner model is dominant (Esping-Andersen, 1990; Esping-Andersen and Kolberg, 1991).

Norway belongs to the group of social-democratic welfare states that promote 'equality of the highest standard' (Esping-Andersen, 1990). Social protection is universal as the state sees itself as being responsible for the wellbeing of all citizens. The state ensures gender equality by legislation and by 'implementing measures to ensure that equality exists in practice' (OECD, 1998). However, Norwegian family policy incentives for a dual-breadwinner model coexist with high direct transfers to mothers. According to Skrede (2001), this dualism suggests that family policy treats the dual-breadwinner model "as an option and not as a norm" (Ibidem, p.5).

In both countries under study, public child-care opportunities for children under three years of age are very limited. At the end of the 1980s only 5% of children aged 0-2 in Italy were in publicly funded child-care; this compares to 12% in Norway. As a result, working mothers in both countries choose private childminders if they can afford it. The situation changes for children older than three years, however. In the late 1980s in Italy 88% of children aged three to five attended public kindergartens, compared to only 40% in Norway. In addition, institutional care for children at kindergarten age was guaranteed in Italy and not in Norway in the period under study (Gornick et al., 1997).

Since 1971, maternity leave in Italy has been equal to five months at 80% of the last salary (Della Sala, 2002). An additional opportunity is provided to stay at home with a child up to one year at 30% of the last salary. However, this support for working mothers is mainly aimed at women working in the regulated labor market (Bernardi, 2001; Leira, 2002). Parental leave for fathers is optional.

In Norway, family policies generously support mothers with small children, but state benefits for mothers with children at pre-school age are rather limited (Gornick et al., 1997). Entitlement to leave with full pay with for 12 weeks was guaranteed by the National Insurance Act in 1956. The period of leave was prolonged to 18 weeks and unpaid leave of one year with job guarantee introduced in 1977. Paid leave was extended a few more times with a maximum of 52 weeks in 1987. Fathers have been entitled to part of the leave since 1977 (Rønsen, 2004). Although these arrangements seem favorable for women, until 1994 the leave could be taken only as one continuous spell (Rønsen and Sundström, 2002).

The elements of the macro context that strongly distinguish one country from the other are labor-market regulations and the availability of flexible forms of employment. In Italy, the regulations of the labor market make work hardly compatible with family obligations. Opportunities to find temporary or part-time job are scarce as this kind of employment requires high social security contributions paid by the employer (Del Boca and Pasqua, 2003). Another reason for the limited availability of part-time jobs is the underdevelopment of the service sector, where this kind of employment is most popular (Del Boca, 2002). In addition, according to Sier et al. (2001) part-time employment is of a permanent nature and concentrated in low paid jobs.

In Norway, female labor-force participation rates are high, with women concentrating on the public sector and female-dominated occupations. Parttime employment is a popular way to reconcile family and work and treated as a transitional stage for mothers who later resume full-time work. Employment benefits and union protection for part-time and full-time workers are the same (Sier et al., 2001).

## 2.2 Cultural differences

The results of the International Social Survey of 1994 (after Treas and Widmer 2000, Table 1, p.1420) do not disclose large differences between the two countries as far as the definition of gender roles is concerned. While 59% of Italians support full-time employment of married women before they have children, only 5% think that mothers of a preschool child should work fulltime. Among Norwegians the support for women's full-time employment before childbirth is much higher (88%), but so not for mothers of small children (8%). At the same time, more Italians (33%) than Norwegians (10%) agree that part-time work is an appropriate form of employment for married women. As part-time employment is scarce in Italy and popular in Norway, this result is surprising. Support for part-time employment is especially strong among Italians who are in need of providing care for a small child: 56% of Italians believe that mothers should work part-time when a child is small. This compares to 48% of Norwegians. In addition, 39% of Italians and 45% of Norwegians believe that mothers should stay at home in this case.

An element that differs between the two countries is the actual division of roles in the family. While in Italy most of the tasks related to household duties and child-care are performed by women (Di Tommaso, 1999), strong inconsistency abounds between perceived norms and preferences in Norway. According to Norwegian parents, the traditional division of tasks in a family with small children should be a societal norm. When it comes to their own preferences, however, Norwegian parents generally choose equal partnership, believing that other parents are more traditional in their opinions than themselves (Ellingsæter, 1998).

#### 2.3 Labor force participation of women and fertility

Between 1965 and 1990, labor-force participation rates of women and fertility tended to be higher in Norway than in Italy (for a comparison, see Figure 1). During this period, changes in Total Fertility Rates (TFR) and Female Labor-Force Participation Rates (FLFP) went similar directions in both countries, however with different intensity. The levels of the indicators in selected years are presented in Figure 1. In 1965 the FLFP was relatively low and

Figure 1: Total Fertility Rate (TFR) and Female Labor-Force Participation (FLFP) in Italy and Norway, selected years



Source: Brewster, K. and Rindfuss, R., 2000, pp.274,276

the TFR was far above the replacement level and higher in Norway than in Italy. However, rapid changes during the period 1965-1980 resulted in lower fertility and higher participation of women in the labor market. In both countries the TFR decreased dramatically and reached similar levels (1.9 in Italy and 1.8 in Norway). Nevertheless, the two countries showed large differences as to increases in the LFPR. In Italy the labor force participation of women increased by a mere 14%, while in Norway there was a dramatic change by 71%. The FLFP after 1980 rose in both countries with similar intensity. At the same time, fertility continued to fall in Italy and levelled off in Norway. As a result, Italian period fertility in the mid-1990s was at the lowest-low level in Europe and the Norwegian one among the highest (Council of Europe, 2002).

Note that Italy is characterized by significant regional differences as far as fertility and female employment are concerned (Delgado and Livi-Bacci, 1992). The relative declines in the TFR on the regional level over the period 1975-1990 did not differ by large (by 34 - 47%), but the 1.1-child difference in 1975 between the region of the highest and of the lowest fertility narrowed

to 0.7 in 1990 (Delgado and Livi-Bacci, 1992). For the cohort born in 1963 completed fertility of women living in the North is estimated at the level of 1.32, while for those living in the South it is estimated at 1.91 (Golini, 1999). The regions also differ in the level of female labor-force participation. In 1993, for example, the gap between Southern and Northern regions in employment rates of married women accounted for more than 16 percentage points (Del Boca and Pasqua, 2003).

## **3** Theoretical Framework

The conceptual framework of the study is based on economic theory of employment decision (see, for example, Even, 1987; Mincer and Ofek, 1982; Mincer and Polachek, 1974). In our analyses, fertility decisions have been already taken. We focus on the process in which a mother decides whether to stay at home with a child (children) or work for pay. We assume that a mother starts to work only at the moment her full wage exceeds her reservation wage. We define the reservation wage as the minimum wage an individual is willing to work for (Smith, 1994). In other words, the full wage equals the value of time spent at home, and this is *the opportunity costs of working* (Joesch, 1994).

The full wage consists of the present market wage and the present value of the future earning losses caused by non-accumulation and depreciation of human capital due to employment interruption (Even, 1987). The full wage is also known as *opportunity costs of staying at home*.

According to Hotz and Miller (1988), the need to provide care for a small child raises the reservation wage of a woman. As children advance in age they require less care from their mother, in other words they become less timeintensive. At the same time children become more good-expensive. That means that the reservation wage of a mother decreases with the age of the child.

On the other hand, the full wage of a woman decreases with the duration of employment interruption. First, the longer a woman is not employed, the lower is her market wage due to a decrease in the value of her human capital. Second, the longer the interruption, the older the woman becomes and the shorter thus is her working horizon. As a result the other two components of mother's full wage decrease with the duration of the interruption.

It is important to remember that only when the full wage exceeds the

reservation wage does the woman (re)enter the labor market. If the full wage falls more rapidly than the reservation wage, she will not enter employment at any given point of time.

In the following sections, we discuss the expected impact of individual and macro-level characteristics on the level of a mother's full and reservation wage. In addition, we present the results of previous studies and general hypotheses concerning the influence of selected factors on employment decisions of a mother. These hypotheses result directly from the economic theory of employment.

#### 3.1 The full wage

#### The level of accumulated human capital

In general, the more human capital stock a woman accumulates before childbirth the higher is her market wage. In addition, if we set the rates of depreciation and appreciation of human capital at the same level for all women, the more human capital is accumulated, the higher is the absolute loss in future earnings due to the interruption. As a result, the higher the accumulated human capital of a woman, the higher is her full wage and the more probable it is that she starts to work.

There are two stocks of human capital: (a) on-the-job training together with work experience and (b) education. Educational attainment and work experience are expected to have a positive effect on the full wage and thus on (re)entry rates.

In addition, a mother's employment when her first child is small and before second childbirth protects her against the depreciation of human capital and allows her to accumulate additional stocks.

A positive significant effect of education on the risk of (re)entering the labor market after childbirth was found in studies by Dankmeyer (1996); Dex et al. (1998); Drobnic et al. (1999); Greenstein (1989); Gustafsson et al. (1996); Macran et al. (1996); Pylkkanen and Smith (2003). However, education was insignificant in a comparative study by Rønsen and Sundström (2002), and work experience prior to birth was found to have a positive and significant effect. Rønsen and Sundström (2002) and Macran et al. (1996) reported a significant effect of employment after first birth on the risk of reentering the labor market after second birth. This leads to the following hypothesis:

H1: EDUCATION AND WORK EXPERIENCE HAVE A POSITIVE EFFECT ON (RE)ENTRY RATES.

#### Age

The younger the woman, the longer is her future work horizon. As a result, the period of "penalties" arising from work interruption after childbirth is longer for young women than for older ones. In order to prevent their human capital from depreciation the former would start to work faster than their older counterparts. In addition, young mothers may prefer full-time employment to part-time jobs, because the latter may have a negative impact on their future employment and income perspectives (which are, again, longer for a younger women) (Rønsen and Sundström, 2002).

Greenstein (1989) found that American women who delay first birth (re)enter employment later than women who have their first child at a relatively young age. The mother's age at childbirth was reported to have a negative effect on the process under study for mothers in Western Germany and Sweden but a positive one on their British counterparts (Gustafsson et al., 1996).

H2: THE MOTHER'S AGE AT FIRST CHILDBIRTH HAS A NEGATIVE IN-FLUENCE ON (RE)ENTRY RATES.

#### The situation in the labor market

The level of a mother's full wage depends on the general situation in the labor market. The current market wage is influenced by the level of earnings and types of jobs available to women (Gordon and Kammeyer, 1980). A mother's market wage grows as wages generally increase and may be lower during times of high unemployment. In this study we analyze the effect of labor-market regulations and unemployment on the process under study by including into the models a period variable. We propose the following hypothesis:

H3: IN TIMES OF HIGH UNEMPLOYMENT, FEWER MOTHERS START TO WORK AFTER CHILDBIRTH THAN OTHERWISE. SIMILARLY, WHEN LABOR-MARKET REGULATIONS MAKE IT MORE DIFFICULT TO ENTER EMPLOY-MENT, FEWER MOTHERS START TO WORK.

#### 3.2 The reservation wage

#### Attitudes towards gender roles

According to Gordon and Kammeyer (1980), the attitudes of a woman towards gender roles and in particular opinion towards the importance of mothering influence her decision to enter the labor force when the child is small. Mothers with more traditional values regarding the role of a women in the family will value their time at home more so than those who believe that women could combine family duties and work. Following Hakim's Preference Theory (Hakim, 2000), McRae (1993) examined women's employment histories after first birth and concluded that significant differences in the preferences for family and market work exist between women employed and not employed after first birth. No distinction, however, was found between economically active women with different work histories. An effect of preferences concerning employment on the labor-force participation of mothers was also reported by Dowdall (1974). The author concludes that when a woman wants to work, family obligations do not stop her from putting this decision into practice.

In order to asses the influence of values and preferences on the employment decisions of mothers, one should analyze data from a panel study. However, variables such as marital status and religiousness can also serve as an indirect measurement of mother's values. For example, women who have children out of wedlock may differ in their values and preferences from married mothers. These preferences most probably also shape the decision to work when the children are small. For example, women living in a relationship stay longer out of employment than single mothers according to a study by Dex et al. (1998).

Similarly, the religious are usually expected to be more traditional in their attitudes towards the importance of motherhood than those not religious. Rønsen (1995) found that religiously active women are at lower risk of entering full-time employment, but no difference existed as to part-time employment.

In order to answer the question on the influence of attitudes on employment decisions of mothers, we intend to test the following hypothesis:

H4: WOMEN WHO BEAR THEIR CHILDREN OUT OF WEDLOCK WOULD START TO WORK AFTER CHILDBIRTH SOONER THAN MARRIED MOTHERS. RELIGIOUS WOMEN HAVE LOWER RISK OF ENTERING EMPLOYMENT AFTER

#### CHILDBIRTH THAN NOT RELIGIOUS ONES.

#### The total resource constraint

The economic need of a mother for employment is reduced if additional income is available in the household. Additional sources of income are earnings of other household members and social security benefits. The higher those incomes are, the lower is the economic need for women's work and as a result the higher is the value of mothers' time spent at home. The importance of economic need in the employment decisions of mothers was also found in previous studies (for example, Gordon and Kammeyer 1980). In the data sets used in our analyses, no information on incomes or social security benefits received by a mother is available. However, the marital status can serve as an approximation of an additional income being available in the household. This means that married women and women living with a partner are expected to be at a lower risk of entering employment when a child is small than single mothers.

H5: IF AN ADDITIONAL SOURCE OF INCOME IS AVAILABLE IN THE HOUSEHOLD, WOMEN STAY LONGER AT HOME WITH A CHILD THAN OTHERWISE.

#### The age of the older child

The reservation wage falls with the age of a child. The older a child is, the less time-intensive and more goods-intensive it is. Additional children may serve as substitutes of mother's time spent on child-care if they are old enough to look after the youngest child (Even, 1987). Furthermore, as children advance in age, they raise the economic need for the work of a mother becoming increasingly goods-intensive. If the two children are small, they both need attention. As a result, the existence of two small children at home raises the reservation wage of a mother (Joesch, 1994). A positive effect of the age of the first child on employment entry after second birth was reported by Rønsen and Sundström (2002). This leads to the following hypothesis concerning the effect of the first child's age on the risk of entering employment after second birth:

H6: The older the first child is, the sooner a mother will enter employment after second birth.

#### Cultural and structural incompatibility

The possibilities of and constraints on reconciling family with employment depend on several macro-level factors, like the availability of alternative childcare, the division of tasks in the family, and gender roles. When women's employment is not supported by society, the conflict between women's professional career and their family roles is stronger than otherwise, and they are faced with problems of reconciling motherhood and employment.

According to Liefbroer and Corijn (1999) the incompatibility between women's roles in society can be attributed to two factors: cultural and structural. 'Cultural incompatibility relates to broad ideologies, values and norms concerning the role of women in society. Structural incompatibility relates to actual societal opportunities and constraints on the roles of women.' (Liefbroer and Corijn, 1999, p. 52). The intensity of both conflict sources is usually related – if gender roles are perceived 'modern', the society provides women with opportunities to combine work and motherhood (Sjoberg, 2004).

In societies that define gender roles in a traditional way, it is in the main women that are responsible for household duties and child-care. In these societies, the value of mother's time at home is very high and so is their reservation wage.

Similarly, a high structural conflict between women's roles results in a high reservation wage. The level of structural conflict depends, first, on the character of state social policy and labor-market regulations. If social policy supports the labor-market participation of mothers, for example by providing institutional child-care, the opportunity costs of working are lower than otherwise. In addition, if flexible forms of employment, like part-time jobs, are available, it is easier for women to combine work and motherhood. A strong relation between employment-supporting policies for mothers and the continuity of maternal employment was found by Meyers and Gornick (1999) in a cross-national study of 14 industrialized countries.

While the level of cultural conflict between women's roles is comparable in both countries (compare with Section 2.2), the level of structural conflict is lower in Norway than in Italy, mainly due to the availability of flexible forms of employment (Section 2.1). We can, therefore, hypothesize that:

H7: IT IS EASIER FOR NORWEGIAN MOTHERS TO COMBINE FAMILY LIFE AND EMPLOYMENT, AND THEY ENTER EMPLOYMENT AFTER CHILD-BIRTH MORE OFTEN AND SOONER THAN ITALIAN MOTHERS DO.

## 4 Data and methods

The analysis is based on data derived from the Fertility and Family Survey. The survey was conducted in Italy between November 1995 and January 1996 (for a description of the survey, see, De Sandre et al. 2000). The sample consists of 4824 women, 2910 of them had at least one child at the time of the interview and 1910 bore at least two children.

In Norway the survey was conducted in 1988 under the name *Family and Occupation Survey* and covered women born in 1945, 1950, 1955, 1960, 1965, and 1968 (for a description of the survey see, Noack and Østby 1996). The sample consists of 4019 women, 2459 of them had at least one child and 1694 at least two children at the time of the interview.

The period of observation is restricted in Italy to the years 1971 - 1995 and in Norway to 1968 - 1988.

The period of the analysis is limited in both countries. Twin births, women who misreported their work histories and women whose children died within one year after birth were excluded. As the result the analysis of mother's employment after first birth is based on 2547 cases in Italy and 2257 cases in Norway, and after second birth to 1604 and 1516 cases respectively.

We follow a woman until she starts to work, the child has reached six years of age, a second child is born (or a third as to the models for second birth) or to the time of the interview, whichever comes first.

The dependent variable in the study is the time at which the woman enters employment after having given birth to a child. According to the theoretical background we assume that a woman enters employment at the point of time at which her full wage exceeds her reservation wage.

During the process of data preparation we found that many women did not report work interruptions around the time of childbirth (for example, in Italy 82% of women of those who worked before first birth). No additional information concerning maternity and parental leave was available. Women who reported continuous work around the time of childbirth are considered as if they re-entered employment within the first month of a child's life.

Two sets of models were calculated separately for each of the countries, one after first birth, and the other one after second birth. We calculated the hazard function separately for employment after each birth order. Then we estimated the hazard of one event in the presence of other competing events (full-time job, part-time job, jobs of unknown hours of work). Models for entries into employment (disregarding of working hours) and models estimated for entries into full- and part-time jobs are presented.

For the purpose of our study, we specify the baseline hazard using the piecewise constant exponential model. Time is measured in months since first childbirth and the risk is constant in the following segments: 0-3, 4-11, 12-23, 24-35, 36-47, 48-59, 61-71 months.

As the risk under study depends on several individual and macro characteristics, we introduce into the model a set of time-constant and time-varying covariates.

Let J denote the set of competing events and T denote the duration during which a person is at risk of experiencing an event. The hazard rate that a mother would start a job in a sub-period k can be expressed as

$$\log h_k(X) = h_{ok} + \alpha \mathbf{X} + \beta \mathbf{Y}$$

where  $h_{ok}$  is the baseline hazard rate in sub-period k, X is a vector of timeconstant covariates, Y is a vector of time-varying covariates,  $\alpha$ , and  $\beta$  are vectors of parameters.

In addition, the hazard rate for a specific event j in a sub-period k is specified as

$$\log h_{jk}(X) = h_{ojk} + \alpha_j \mathbf{X} + \beta_j \mathbf{Y}$$

where  $h_{ojk}$  is the baseline hazard rate of event j in sub-period k, X is a vector of time-constant covariates, Y is a vector of time-varying covariates,  $\alpha_j$ , and  $\beta_j$  are vectors of the parameters associated with event j.

#### 4.1 Explanatory variables

Following the theoretical background mentioned above we introduce into the models the following variables. The distribution of occurrences and exposures for every level of the variables in each of the models is presented in Table 1.

#### Educational level

Education is measured at first childbirth at four levels: primary, lower secondary, higher secondary, and tertiary. We include this variable into the

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variable	months	any job	full -time	part -time	months	any job	full -time	part -time	months	any job	full -time	part -time	months	any job	full -time	part -time
education																
primary	16338	188	150	23	10241	192	109	20	18762	106	80	18	8726	133	46	79
lower secondary	23595	392	311	48	18625	566	305	229	22244	213	150	37	18355	408	145	238
higher secondary	18674	518	375	70	7962	363	195	140	14400	245	164	45	7064	192	72	110
university	1457	171	85	62	4060	349	187	145	1098	109	58	37	3682	271	26	156
marital status*												_				
single	2388	54	40	×	5526	154	85	53								
cohabiting	976	50	36	7	4643	252	151	79	1376	29	21	4	2733	78	36	36
married	56700	1165	845	188	30719	1064	560	452	55128	644	431	133	35094	926	324	547
religiousness																
yes	55341	1100	805	171	4813	133	60	66	53089	606	403	129	5482	129	37	62
no/ somehow	4723	169	116	32	36075	1337	736	518	3415	67	49	x	32345	875	323	504
age at 1st birth																
15-19	8453	95	75	12	8835	198	102	86	9095	85	57	20	8120	186	68	105
20-24	29738	410	322	45	22427	651	357	254	31534	247	179	37	22185	509	182	299
25-29	18167	522	361	100	7440	485	271	189	13852	273	172	70	6673	269	96	158
30-46	3706	242	163	46	2186	136	66	55	2023	68	44	10	849	40	14	21
age of 1st child																
0-2									25114	226	150	43	19557	439	157	252
3-5									24498	301	199	66	15883	435	152	260
6 and older									6892	146	103	28	2387	130	51	71
period (Italy / Norv	vay)							_								
1971-84/1968-73	32677	666	517	83	11104	273	177	85					12238	194	73	111
1985-89/1974-80	13233	260	173	50	14921	491	258	207	25589	415	297	77	17392	399	135	238
1990-95/1981-84	14154	343	231	20	7938	300	161	111	14724	160	66	37	6710	260	87	159
/ 1985-88					6925	406	200	181	16191	98	56	23	1487	151	65	75
work experience bef	ore 1st birth															
none	34938	118	82	24	4730	78	44	32	36218	140	82	38	4555	87	34	49
little	18101	668	464	119	28450	981	510	413	14502	350	237	68	25434	722	266	414
large	7025	483	375	60	7708	411	242	139	5784	183	133	31	7838	195	60	120
job between births																
no									46516	83	47	21	25181	243	73	156
part-time									568	100	1	98	4360	256	23	227
full-time									5964	395	384	×	5648	315	228	83
other									3456	95	20	10	2638	190	36	117
total	60064	1269	921	203	40888	1470	796	584	56504	673	452	137	37827	1004	360	583
*after second hinth single	and cohabitine	mother	s torethe	r as not-	married							-				

\*after second birth single and cohabiting mothers together as not-married *Source:* author's estimations based on FFS, Italy and Norway

model as time-constant covariate due to the following reasons. In Norway, only 3% of women were enrolled in studies after first childbirth and before they started to work or have a second child. After the birth of the second child, hardly any women were enrolled in studies. In addition, it was difficult to reconstruct women's educational histories for Italy due to incomplete information; however, according to De Sandre et al. (2000) on average only 1.2% of Italian mothers undertake further studies.

#### Marital status

This variable distinguishes between women who raise their children in marriage, cohabitation, or as single mothers. The variable is specified in the model as a time-varying covariate. In the case of employment transitions after second birth, single and cohabiting mothers were combined into one group of not-married due to the small number of exposures (in Italy 3% of exposures are attributed to mothers who were not married at the time of second childbirth, this compares to 7% of exposures in Norway).

#### Religiousness

Religiousness is usually assumed not to change during the life-course. It was measured at the time of the interview. The variable was based in Italy on answers to the question, *Are you religious?*. Not and somehow-answers were pooled into the group not-religious. In Norway, the variable was based on the question, *How often do you attend religious services?*. Women who answered once a week, more than once a week were considered religious and other cases were considered not-religious.

#### Age at first birth and age of older child

Four age groups to measure the age of a mother at first childbirth are used in the analysis (15-19 years, 20-24, 25-29, 30 and more). This variable is included only in the models estimating employment after second birth. The age of the first child was measured at the birth of the second child and divided into four age groups (0 - 2, 3 - 5, 6 years and older)

#### Calendar period

The description of selected calendar periods and the reasons for their selection are presented in the Table 2.

Table 2:	Characteristics	of macro-	economic	factors	captured	by t	the	period
variable								

	Italy		Norway
period	characteristics	period	charactristics
1971-1984	highly regulated	1968-1973	period of steady
	labor market		economic growth
1985-1989	first deregulations	1974-1980	economic problems related
			to first oil price shock
1990-1995	further reforms aiming	1981-1984	rising unemployment,
	at flexibility		more than doubling
	of the labor market		in the period
		1985-1988	fast economic growth
		1000 1000	and fall in unemployment

Source: Ferrera, Gualini, 2000, pp. 356 – 381; Ronsen 1995, p.10

#### Work experience

Work experience before first birth was measured in months, from the 15th birthday of a woman onwards. Three levels of work experience were distinguished in the analyses: no experience, little experience and ample experience. Work experience of women who were ever employed was divided into two groups according to the value of the third quartile of the past duration of labor activity (84 months in Italy, 74 months in Norway).

#### Employment between births

This variable, which is included in the second set of models, measures woman's economic activity in the period between first and second birth. It indicates whether a woman was employed between the two births (yes) or not (no). In addition, we show in the Table 1 the distribution of the population at risk and the number of events according to the type of work between the births: only

part-time job, only full-time job, other (women who had full and part-time jobs or jobs of unknown working hours). Due to the small number of events, it was impossible in some of the cases to include this detailed classification in the final models. However, we included a discussion of the process based only on the distribution of events itself.

## 5 Results

## 5.1 The macro level

#### Cultural and structural incompatibilities

The levels of structural and cultural conflict between family and employment have an impact on labor-force participation of women. They influence not only the general level of female labor-force participation (see, Section ??) but also mothers' employment, in particular the level and speed at which women take up work after childbirth. In general, Norwegian mothers of small children enter job more often than do Italian mothers. By the time the first child is six years old 80% of Norwegian mothers have started to work, this compares to only 54% of Italian mothers. In the case of second child 75% of Norwegian mothers and 44% of Italian ones enter employment up to six years after the childbirth. Moreover, 50% of Norwegian mothers have started to work by the time their first child is 14 months old, while for Italy it takes about 41 months from the first childbirth. The survival functions, calculated for full-time and part-time jobs separately and for all types of employment together are presented in the Figure 2.

In both countries, women have the highest risk of starting work within the first three months after first and second birth (in Italy, 79% of all entries after first birth and 75% of all entries after second birth occur within this period; this compares to 44% and 38% in Norway, respectively). After first childbirth, most of the women who entered employment during this subperiod did so on full-time basis (in Italy 84% of entries within this period are to full-time jobs, this compares to 82% of entries in Norway). In Italy, also after second birth most of the mothers (79%) who started to work within the first three months after childbirth took up full-time positions, while in Norway second-time mothers entered part-time jobs as often as full-time ones. Similar to the findings for the US of Desai and Waite (1991), most mothers



Figure 2: Transition to employment after childbirth, Kaplan-Meier survival estimates

Source: author's estimations based on FFS, Italy and Norway

who re-entered labor market relatively soon after childbirth returned to their previous jobs, the others tended to seek a new position.

While part-time employment is a popular way to reconcile job and childcare duties among Norwegian mothers, in Italy the prevalence of this type of employment is similar in all the moments of the family formation. In order to answer the question on the prevalence of part-employment, an additional variable was calculated – mother's status in the labor market before first birth. It measures whether or not a woman worked before (six and fewer months) first childbirth and if so it includes the information about the number of hours she worked weekly. In previous studies, women's status on the labor market prior to childbirth was found to be an important factor determining mother's employment after birth (see, for example, Joesch 1994; Ondrich, Spiess, and Yang 1996). We did not include this variable in the models due to the co-linearity with other covariates describing labor-force participation of a mother (for example, work experience prior to first birth, employment between births), which we included in the models in line with the theoretical background. In both countries, the percentage of women having part-time jobs among those working before first birth is similar. In Norway, 12% of women who took up work before first birth did so part-time; this compares to 15% in Italy. After second childbirth, many Norwegian mothers entered parttime positions, while in Italy the percentage of women working part-time did not change dramatically after this event. Among mothers with a child of preschool age in Norway, part-time jobs were as popular as full-time positions, while in Italy only 16% of women who started to work after first birth entered part-time employment. In Italy the percentage of mothers who work parttime did not change even after second birth. In most cases, women working part-time after second birth are those who had part-time positions after first birth (see, Table 1). In Norway, by contrast, mothers with two small children preferred part-time to full-time work arrangements. These findings are similar to the description of women's work along the life-cycle proposed by Kempeneers and Lelievre (1991) (after, Pinnelli 1995). According to these authors Scandinavian countries are characterized by high female employment. Mothers have the opportunity there to change from full-time to part-time activity. In Southern Europe, fewer women enter the labor market before family formation. The drop-out rate is very high, partly due to the limited availability of part-time jobs.

We examined in addition the effect of the region of residence in Italy (North-East, North-West, Center, South, Isles) on the risk under study. We do not show the results in the final tables because there was no significant effect of the variable when we controlled for mother's work experience. However, it is important to mention that significant differences between the regions existed before the inclusion of work experience into the models. Women living in the North have the highest risk of employment after childbirth and those living in Southern regions have the lowest. These results show that variations in mothers' employment do occur across regions, and this differences can be ascribed to variation in employment prior to childbirth.

#### The general situation on the labor market

The effect of the general situation on the labor market on mothers' decision to enter employment is particularly interesting (see, Tables 3 and 4). Changes in mothers' employment over time were different in both countries, and these trends are discussed separately.

In Norway, the risk of a woman starting to work when a child is small grew from period to period, independently of the type of employment (full-time or part-time) and the number of small children at home. Contrary to the findings of Rønsen (1995) no effect of economic crisis of the 1981 – 1984 on entry rates of mothers was found in our study.

In Italy, a greater number of mothers entered employment after childbirth in the years 1990 - 1995 than in the previous periods. However, when we controlled for individual characteristics of a woman (in particular, the educational level and work experience), the relative risk of entering employment after childbirth (first and second child) was higher during times of strict labor-market regulations (1971 - 1984) than during the periods of deregulation reforms (1985 - 1989 and 1990 - 1995). A possible explanation of this phenomenon is that in times of strict regulations on employee hiring and dismissal women are forced to shorten their employment interruptions to at highest three months, otherwise they may encounter difficulties to find a new job. The growth in the labor-force participation of women, and in particular the employment of mothers, resulted from rising female education and work attachment. At the same time, labor market regulations did not favor the employment of mothers.

Table 3: Relati	ve risks (	of dol fo	llowing fi	irst birtl	n for Ita	lian and	Norweg	rian wom	ten, by s	elected i	ndividua	ľ
and macro chai	acteristi	cs. Absc	dute risk	s of job	following	g first b	irth, per	person	nonths			
			Ital	ly					Nor	way		
variable	any	job	full-t	time	part-	time	any	job	full-t	ime	part-	time
education	+++ ++ 0 1 0	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	+++ +> 1	* * 5 0	) j	200	***0000	+++ +> 1	キキケッション	+ + 1 0	+ + 1 0	) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
primary	$0.53^{+++}$	0.58***	$0.56^{++}$	0.01***	$0.55^{\circ}$	0.64	0.62***	$0.56^{++}$	0.66***	0.57***	0.57***	$0.55^{***}$
lower secondary	$0.77^{***}$	0.68***	$0.84^{*}$	$0.72^{***}$	0.74	0.70	$0.85^{*}$	$0.77^{***}$	0.84	$0.75^{**}$	0.91	0.86
higher secondary	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
university	$1.74^{***}$	$2.01^{***}$	1.17	$1.38^{*}$	$5.09^{***}$	$5.61^{***}$	$1.38^{***}$	$1.53^{***}$	$1.30^{*}$	$1.51^{***}$	$1.65^{***}$	$1.72^{***}$
marital status												
single	0.91	1.05	0.93	1.06	0.83	1.03	0.98	0.99	1.06	1.07	$0.73^{*}$	0.74
cohabiting	$1.34^{*}$	1.15	1.38	1.18	1.07	0.91	$1.20^{**}$	$1.22^{**}$	$1.40^{***}$	$1.42^{***}$	0.85	0.86
married	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
religiousness												
Yes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
No/ somehow	$1.36^{***}$	1.15	$1.31^{**}$	1.11	$1.61^{*}$	1.39	$1.40^{***}$	$1.36^{***}$	$1.69^{***}$	$1.64^{***}$	1.15	1.13
age at 1st birth												
15-19	$0.51^{***}$	1.22	$0.53^{***}$	$1.38^{*}$	$0.46^{*}$	0.87	$0.56^{***}$	0.86	$0.51^{***}$	0.85	$0.67^{**}$	0.89
20-24	$0.60^{***}$	$0.85^{*}$	$0.64^{***}$	0.96	$0.44^{***}$	$0.52^{***}$	$0.64^{***}$	$0.78^{***}$	$0.62^{***}$	0.82	$0.68^{***}$	$0.73^{**}$
25-29	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30-46	$1.42^{***}$	1.07	$1.55^{***}$	1.13	1.02	0.84	$0.82^{*}$	$0.66^{***}$	0.77	$0.57^{***}$	0.77	$0.71^{*}$
period (Italy $/ N$	[orway]											
1971-84 / 1968-73	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1985-89 / 1974-80	$0.78^{***}$	0.88	$0.69^{***}$	$0.78^{**}$	1.12	1.19	$1.32^{***}$	$1.33^{***}$	1.09	1.11	$1.76^{***}$	$1.77^{***}$
1990-95 / 1981-84	$0.78^{***}$	$0.77^{***}$	$0.71^{***}$	$0.70^{***}$	1.14	1.12	$1.37^{***}$	$1.42^{***}$	1.13	1.18	$1.66^{***}$	$1.71^{***}$
/ 1985-88							$1.77^{***}$	$1.83^{***}$	1.22	$1.27^{*}$	$3.10^{***}$	$3.18^{***}$
work experience	before 1st	$\mathbf{birth}$										
none		$0.13^{***}$		$0.13^{***}$		$0.16^{***}$		$0.53^{***}$		$0.63^{***}$		$0.47^{***}$
little		1.00		1.00		1.00		1.00		1.00		1.00
large		$1.61^{***}$		$1.84^{***}$		1.10		$1.45^{***}$		$1.75^{***}$		1.10
age of 1st child i	n months (	(absolute)	risk per pe	erson mon	(ths)							
0-3	0.2889	0.3450	0.2242	0.2506	0.0298	0.0409	0.0924	0.0785	0.0739	0.0566	0.0135	0.0131
4-11	0.0085	0.0125	0.0042	0.0057	0.0023	0.0040	0.0277	0.0238	0.0082	0.0063	0.0158	0.0155
12-23	0.0073	0.0112	0.0048	0.0069	0.0014	0.0025	0.0190	0.0165	0.0072	0.0056	0.0095	0.0094
24-35	0.0090	0.0134	0.0063	0.0088	0.0015	0.0027	0.0156	0.0136	0.0080	0.0063	0.0057	0.0057
36-47	0.0077	0.0114	0.0046	0.0063	0.0015	0.0026	0.0122	0.0109	0.0070	0.0055	0.0036	0.0036
48-59	0.0051	0.0073	0.0027	0.0036	0.0012	0.0021	0.0149	0.0136	0.0055	0.0045	0.0079	0.0082
60-71	0.0039	0.0053	0.0019	0.0025	0.0013	0.0021	0.0119	0.0110	0.0037	0.0030	0.0072	0.0075
log	-3378.29	-2965.77	-2759.19	-2435.15	-856.04	-805.33	-3571.31	-3545.77	-2508.94	-2490.84	-1694.78	-1685.71
$p \le 0.05, p \le 0.01$	$^{***}p \leq 0.0$	01										
Source: author's esti	mations bas	ed on FFS,	Italy and N	lorway								

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Table 4: Relative 1	risks of jo	ob follow	ing secor	id birth f	or Italia	n and Nc	orwegian	women,	by selec	ted indiv	idual	
and macro charact	teristics.	Absolut	e risks o	f full-tim	e job fol	lowing se	econd bi	rth, per	person r	nonths		
			Ita	ly					Nor	way		
variable	any	doj	full-1	time	part-	time	any	job	full-t	time	part-	time
education						-	Ī					
primary	$0.34^{***}$	$0.58^{***}$	$0.38^{***}$	$0.65^{**}$	$0.30^{***}$	$0.51^{*}$	$0.77^{*}$	0.92	0.74	0.94	0.79	0.91
lower secondary	$0.65^{***}$	$0.78^{*}$	$0.68^{***}$	0.81	$0.60^{*}$	0.74	1.03	1.06	0.99	1.07	1.03	1.04
higher secondary	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
university	$1.93^{***}$	$1.74^{***}$	$1.44^{*}$	1.30	$4.29^{***}$	$4.14^{***}$	$2.21^{***}$	$1.88^{***}$	$1.98^{***}$	$1.59^{**}$	$2.32^{***}$	$2.04^{***}$
marital status												
non-married	1.42	1.24	1.45	1.26	1.19	1.07	0.80	1.03	0.97	1.08	$0.65^{*}$	0.75
married	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
religiousness												
Yes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
No/ somehow	1.09	0.81	1.23	0.88	0.59	$0.43^{*}$	1.18	1.04	$1.48^{*}$	1.31	1.14	1.01
age at 1st birth												
15-19	$0.66^{***}$	1.12	$0.65^{**}$	1.14	0.79	1.36	0.96	1.24	0.95	1.06	0.94	1.29
20-24	$0.53^{***}$	$0.79^{*}$	$0.59^{***}$	0.90	$0.36^{***}$	$0.54^{***}$	0.94	1.10	0.94	1.01	0.94	1.16
25-29	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30-46	$1.61^{**}$	1.13	$1.93^{***}$	1.29	0.70	$0.49^{*}$	0.72	0.86	0.67	0.93	0.68	0.76
age of 1st child												
$0^{-2}$	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
3-5	$1.43^{***}$	1.18	$1.44^{***}$	1.18	$1.53^{*}$	1.31	$1.35^{***}$	1.06	$1.30^{*}$	1.01	$1.40^{***}$	1.11
6 and older	$2.26^{***}$	$1.34^{**}$	$2.51^{***}$	$1.41^{**}$	$2.03^{**}$	1.27	$2.60^{***}$	$1.47^{***}$	$2.51^{***}$	$1.45^{*}$	$2.67^{***}$	$1.55^{**}$
period (Italy / Norv	vay)											
1971-84/1968-73	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1985-89/1974-80	$0.55^{***}$	$0.66^{***}$	$0.47^{***}$	$0.58^{***}$	0.77	0.88	$1.61^{***}$	$1.50^{***}$	$1.50^{**}$	$1.37^{*}$	$1.66^{***}$	$1.57^{**}$
1990-95/1981-84	$0.31^{***}$	$0.45^{***}$	$0.25^{***}$	$0.38^{***}$	$0.42^{***}$	$0.60^{*}$	$2.53^{***}$	$2.36^{***}$	$2.23^{***}$	$2.05^{***}$	$2.72^{***}$	$2.58^{***}$
/ 1985-88							$5.73^{***}$	$4.59^{***}$	$5.90^{***}$	$4.52^{***}$	$5.47^{***}$	$4.60^{***}$
work experience bef	ore 1st bir	$^{\mathrm{th}}$										
none		$0.44^{***}$		$0.40^{***}$		$0.58^{*}$		$0.54^{***}$		$0.61^{***}$		$0.53^{***}$
little		1.00		1.00		1.00		1.00		1.00		1.00
large		0.98		1.05		1.04		0.99		0.77		1.11
job between births												
no		1.00		1.00		1.00		1.00		1.00		1.00
yes		$12.55^{***}$		$14.51^{***}$		$10.72^{***}$		$4.39^{***}$		$4.90^{***}$		$4.02^{***}$
age of 2nd child in n	nonths (at	osolute risk	t per perse	on months								
0-3	0.2843	0.0550	0.1947	0.0332	0.0511	0.0100	0.0369	0.0166	0.0157	0.0072	0.0175	0.0078
4-11	0.0051	0.0017	0.0027	0.0008	0.0011	0.0004	0.0091	0.0047	0.0023	0.0012	0.0061	0.0031
12-23	0.0055	0.0019	0.0024	0.0007	0.0022	0.0007	0.0072	0.0040	0.0017	0.0010	0.0049	0.0027
24-35	0.0048	0.0017	0.0022	0.0007	0.0013	0.0005	0.0064	0.0039	0.0019	0.0012	0.0040	0.0024
36-47	0.0060	0.0020	0.0026	0.0008	0.0022	0.0007	0.0060	0.0040	0.0017	0.0012	0.0035	0.0023
48-59	0.0051	0.0017	0.0039	0.0011	0.0007	0.0002	0.0054	0.0038	0.0013	0.0010	0.0033	0.0023
60-71	0.0084	0.0027	0.0052	0.0015	0.0014	0.0004	0.0053	0.0041	0.0011	0.0009	0.0038	0.0028
log	-1842.30	-1399.56	-1402.45	-1075.96	-570.02	-495.13	-2340.81	-2146.29	-1231.72	-1155.79	-1633.04	-1527.89
** / 0 0 ** * / 0 0 **	~ ~ 0 001											

\*  $p \leq 0.05$ , \*\*  $p \leq 0.01$ , \*\*\*  $p \leq 0.001$ Source: author's estimations based on FFS, Italy and Norway

## 5.2 The micro level – individual characteristics of a woman

#### Human capital

In both countries under study the effect of accumulated human capital on (re)entry rates of mothers is positive and significant. The more human capital of the two types a woman accumulated before first and second birth, the higher is the risk of transition to both full- and part-time jobs.

The influence of the educational level on the work entries of mothers is positive and strong, and independent of the number of children. In both countries, the higher the level of education of a woman is, the higher is her full wage and the faster she (re)enters employment. This effect applies both to full- and part-time jobs and is independent of other individual characteristics as well as contextual variables. After second birth, this positive influence does not change in Italy, while in Norway the effect of educational level below tertiary becomes insignificant when we control for mother's work experience: the difference in relative risks between women with primary and secondary education disappears. Only mothers with university education have a higher risk, independently of their work experience. This means that women with a lower than tertiary education differ in their work experience and it is this factor rather than educational level itself that influences the risk of employment.

In Italy and Norway, women who have never worked have a lower risk of entering employment after they become mothers than their counterparts with some work experience. The positive effect of on-the-job-accumulated human capital on (re)entry rates is particularly elevated in Italy. Here, 35% of women have never worked before the first childbirth and the risk they will enter employment is about 9 times lower than for women with previous work experience, independently of their educational level. In Norway, only 7% of women never worked before first birth and when we control for the educational level, the relative risk of these mothers starting to work when their first child is small is "only" about twice smaller than for women with prior work experience. The survival estimates (see, Figure 5.2) also indicate a selection effect between women on the basis of work preferences. This effect is much stronger in Italy than in Norway. Certain preferences concerning work seemed to be reflected in the decisions to enter employment made early in life, taken even before the problem of reconciliation of family and child-

Figure 3: Transition to a job after first birth according to work experience, Kaplan-Meier survival estimates



Source: author's estimations based on FFS, Italy and Norway

care duties occurs. Among Italian women who were ever employed before first childbirth, 72% started to work when the first child was small; this compares to only 21% out of those with no work experience. In Norway 80% of women who worked before childbirth entered employment after they became mothers, compared to 69% of those who never worked.

In addition, the positive effect of the level of on-the-job accumulated human capital on re-entry rates of first-time mothers is particularly strong in the case of full-time employment. Women who worked for a long period before their first child was born have a higher risk of entering this form of employment than those with less work experience, independent of other characteristics. As to part-time jobs, when a woman has ever worked the decision to resume employment does not depend on the length of her work experience.

As we hypothesized, work experience prior to first birth has a positive influence on the risk of entering a job also after second birth, both regarding full- and part-time jobs. This effect remains significant even when we control for employment between the two births. However, similar to the job entries after first birth, for women who worked prior to childbirth, the risk of employment after second birth does not depend on the length of work experience.

In Italy, a mother who was not employed between the two births, will most probably not be so neither after the second birth, independent of her work experience gained prior to first birth. In Norway, the effect of employment after two births is also positive and significant but not as strong as in Italy.

The segregation of the Italian labor market into a primary labor market with full-time jobs and a secondary one with part-time employment (Sier et al., 2001) is also reflected in our study. The distribution of exposure times and events in Table 1 shows that most Italian mothers who worked part-time between the two births continue to do so after second birth. The risk that they move to full-time employment is even lower than for women who never worked before. In addition, hardly any mothers who held full-time positions between the two births move to part-time jobs after the second birth.

In Norway, the effect of full- and part-time employment between the first and second childbirth on employment entries after the second birth is similar to the Italian case. However, some mothers held full-time positions after the first birth and move to part-time employment after the second birth. Changes in the opposite direction are less common.

#### Values and attitudes

The behavior under study is influenced by the level of traditional values and preferences of a mother, operationalized in the variables "marital status" and "religiousness". In both countries, women who adhere to traditional values in other spheres of life (married, religious) have a lower risk of entering employment when a child is small than other women have.

Italian and Norwegian mothers who are not religious enter employment, full- and part-time, more often than religious ones. In Italy, this effect becomes insignificant when analyzed together with work experience prior to birth. This means that it is not religious beliefs that make mothers stay out of the labor market when their children are small, but rather these beliefs shape the decision to work in general, also before the need to provide care for small child arises. In Italy, after second birth, the fact of being religious has a positive effect on part-time entries and a negative on full-time employment. In Norway, the effect of religiosity is negative in both cases. Religious mothers enter employment, irrespective of hours of work, less often than not-religious mothers. However, the effect of this variable in the models for second birth becomes insignificant when we control for other characteristics, except full-time employment entries in Norway. Similar to the findings of Rønsen (1995), Norwegian mothers who are not-religious are more likely to enter full-time employment. No effect of religiosity was found as far as part-time employment is concerned.

In both countries, first-time single mothers have a risk of entering employment similar to married mothers. However, women who bear their first child in cohabitation enter employment more often than do married mothers. In Norway, a part-time position as the first job after the childbirth is most popular among married mothers, while full-time positions are most popular among those cohabiting. This probably means that married mothers of small children more often than women in cohabiting couples play the role of second provider. In cohabiting couples, by contrast, mothers' work is treated as a source of income equal to their partners'. In both countries, most of the women have their second child in marriage. However, in Italy unmarried second-time mothers have a higher risk of employment, no matter of the hours of work. In Norway, similar to first-time mothers, mothers of two children who are not married have a lower risk of entering part-time positions when their second child is small, even when we control for previous work histories. In both countries, the effect of the marital status on employment entries after second birth becomes insignificant when we control for other characteristics.

#### The timing of births

The effect of age on the relative risk of entering employment after first birth is different from what was originally hypothesized. In Italy, this effect is positive both after first and second birth, while in Norway, for first-time mothers it increases until the age 25-29 and falls down afterwards. In addition the effect of age was found to be insignificant in employment transitions of second-time mothers. One cannot draw any conclusions concerning the impact of mother's age on the risk of entering employment when a child is small if we control for past employment histories.

As originally hypothesized, the age of the first child has a positive and strong impact on the decision to start to work when the second child is small. When we control for employment between the two births there is no significance difference in the employment risk whether the second child was born up to three or up to six years after the first one. The difference between these two groups can only be ascribed to different work histories. Women who had their second child three to six years after first childbirth more often tended to work between the two births than those who had second child up to three years after the first one. Only women who had their second child when the first was already six years of age or above had significantly higher risk of entering employment after second birth than women who spaced their births closer. This applies also when we control for employment between the two births.

## 6 Discussion

In this study we addressed the question concerning the circumstances under which motherhood and employment are compatible. Comparing two countries, Italy and Norway, we analyzed the impact of macro and individual characteristics on employment decisions of first- and second-time mothers. The study distinguished between full- and part-time job entries. In addition, we compared the opportunities and constraints involved in reconciling family duties and work in the two countries and provided a short description of the differences in the development of female labor-force participation and fertility. The study was based on the economic theory of employment decisions (Even, 1987; Mincer and Ofek, 1982; Mincer and Polachek, 1974). In the theoretical background we presented our hypotheses concerning the potential influence of cultural and structural factors on the concerned decisions.

The results of the study show that motherhood and labor-force participation are not necessary conflicting careers. In Norway, in comparison to Italy, female labor force participation is higher and more children are born. In Norway, mothers of small children also start to work relatively soon after childbirth. The level of mothers' employment differs between the two countries, though. Nevertheless, mother's individual characteristics have a similar effect on employment entries. Women who enter employment relatively soon after childbirth are those who have the highest opportunity costs of staying at home: they are relatively well educated and have relatively long work experience.

The highest risk for a mother of entering a job after childbirth is within the first three months, both in Italy and Norway. The longer a woman is not employed after childbirth, the lower the risk that she will work when the child is small. This applies to employment after first and second birth. However, the effect of the duration on (re)entry risk is different in both countries. In Italy, women who start to work after childbirth do so immediately and most of the events occur within the first three months. In Norway, the risk of starting a job decreases with the duration of employment interruption, but many women still make interruptions for longer than three months.

This different pattern of mothers' entry into employment can be explained both by the demand and supply side of the labor market. Most of the women who take up a job within the first three months after childbirth return to their previous jobs. This behavior is more common in Italy, where rigid regulations of the labor market result in those who are not in the labor market (they dropped out or never entered it) facing difficulties in finding a new job (Del Boca et al., 2000). This was also evident when rigidities of the labor market where introduced into the models as a period variable. When we controlled for individual characteristics, the women tended to re-enter employment faster during the period of strict labor-market regularization than in the later periods. On the other hand, the study shows a selection effect between women as far as mothers' employment is concerned, which is much stronger in Italy than in Norway. This heterogeneity between women is explained by the variables describing work histories. According to Nakamura and Nakamura (1991), if there are unobservable factors, like preferences, which affect mothers' decision to work, their effect is also reflected in the past employment of women. The existence of home-centred women, following Hakim's Preference Theory (Hakim, 2000), is evident in Italy. As much as 35% of Italian mothers never worked before the birth of their first child and only few of them (21%) started to work afterwards. By contrast, among the mothers who worked before first childbirth, 72% re-entered employment when their first child was still small. These results suggest that low labor-market participation of women in Italy is partly related to the lack of opportunities to reconcile family and work, but also reflects the preferences of many home-centred women who are not willing to work. In Norway, by contrast, only 7% of women never worked before first birth and 69% of them eventually entered employment afterwards.

The results of the study show that not only the prevalence of part-time employment is different in Italy and Norway, but also its character. Among Italian women who become mothers, the prevalence of part-time jobs is similar at any moments of the family formation: a similar percentage of women worked before and after childbirth, and also after the birth of the second child. There are very few movements around childbirth from full- to parttime employment and into the opposite direction. As a result, part-time employment proved in the study to be of permanent nature, as it was argued by Sier et al. (2001), and not just a flexible form of employment allowing women to reconcile family duties and work. In Norway, however, the prevalence of part-time employment grows with family obligations. Part-time jobs are as popular as full-time work arrangements among Norwegian mothers. In addition, mothers with two small children enter part-time jobs more often than full-time employment. Although most of the movements around childbirth are from full- to part-time jobs, there are still some changes into the opposite direction, which suggests that part-time employment is of different nature in Norway than in Italy. As argued by Sier et al. (2001), flexible work arrangements in social-democratic welfare states, the group to which Norway belongs, are treated as a temporal alternative to work interruption and allow access to full-time employment thenafter. We expect to arrive at the same conclusions when the whole mother's work histories are observed and not only the first employment entries.

The factors determining the level of women's full wage proved to have a positive and significant effect on employment entries of mothers in both countries, both regrading full- and part-time jobs. As we hypothesized, the full wage of mothers who are better educated and/or have more work experience exceeds their reservation wage much faster than with other women. When we controlled for the employment histories of mothers, only after the second birth did the effect of an educational level lower than tertiary disappeared in Norway. In Italy, prior work experience is the strongest determinant of mother's employment and women who never worked before childbirth have a very low risk of starting a job when their children are small.

In both countries women who bear their first child in cohabitation enter employment more often than married mothers. While in Italy the influence of marriage on the risk under study is negative both in the case of full- and parttime employment, in Norway the effect is negative as to full-time jobs and positive as far as part-time work entries are concerned. This result suggests that in Norway married mothers are very often only second providers.

Religiousness has a negative effect on full-time employment entries after first and second birth. However, the effect of religiosity on full-time entries disappeared in Italy when we controlled for work experience and remained significant for Norway. Possibly, religious beliefs shape the employment histories of Italian women even before the need to provide care for small child arises. This means that religious beliefs have an impact not only on the reservation wage of a mother but also on her full wage. Similar results were obtained for part-time employment. The effect religiosity on the part-time entries of mothers was insignificant when we controlled for the employment history of women.

As far as the timing of births is concerned, the age of a mother at first birth does not have a negative effect on (re)entry rates in either of the two countries. This result is different from what was originally hypothesized. The effect of spacing births had a significant impact on the process under study. In both countries the older the first child is, the lower is the reservation wage of the mother and the more probable it is that she will enter employment.

The results of the study show that the level of opportunity costs of childbearing depends on general opportunities in reconciling work and motherhood, but also on individual preferences. Even when the regulations of the labor market and division of tasks within the family do not support mothers' employment there is a group of women that does not resign from any of these careers. This study addressed only some of the issues concerning the interrelation between fertility, employment and structural and cultural factors. We analyzed only the impact of childbearing on first employment after birth. In order to draw the whole picture it is necessary to study also how maternity obligations influence the entire employment histories of individual women and how the individual employment histories of women who do not have children differ from that of mothers.

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