
Career Interruptions due to Parental Leave:
A Comparative Study of Denmark and Sweden

Elina Pylkkänen and Nina Smith

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SUMMARY

1. Parental leave mandates are associated with high female employment rates, but with reductions in relative female wages if leave is of extended durations. If fathers were given longer periods of leave, would it shorten the career breaks of women? We analyze the impact of family policies of Denmark and Sweden on women's career breaks due to childbirth. These countries are culturally similar and share the same type of welfare state ideology, but differ remarkably in pursued family policies. Compared to Denmark, leave provisions in Sweden are more generous in terms of both duration and payment rates, and allow for flexible use until the child is 8 years old. In both countries childcare coverage rates are high, but very young (age 0-2) Danish children are more likely to be in day-care than in Sweden. This setting provides us with a fruitful point of departure to analyze explicitly the effects of different family policy regimes on job retention of Danish and Swedish mothers. Our analysis takes advantage of the availability of comparable longitudinal data and allows us to estimate parallel models across the two countries. The impact of family policies and economic incentives on the probability of returning to the labour market is estimated with a flexible model of parental leave duration. Our results show that economic incentives affect the behaviour of mothers in both countries. However, the parental leave mandates as such are very important determinants for the observed behaviour. The role of the fathers differs considerably between the two countries. In Sweden, fathers have much longer parental leave periods than fathers in Denmark. A striking result from the policy simulations is that if fathers were given more parental leave, it would promote the labour supply of women. For Denmark, we do not observe this substitution effect among the parents.

RESUME

2. Le dispositif de congé parental est associé à des taux d'emploi féminin élevés mais l'est aussi à une réduction des salaires relatifs des femmes si les congés sont de longue durée. Si les congés accordés aux pères étaient plus longs, les interruptions de carrière des femmes seraient-elles plus courtes ? Nous analysons l'incidence de la politique de la famille au Danemark et en Suède sur les interruptions de carrière des femmes après une naissance. Ces deux pays ont une culture analogue et adhèrent au même type d'idéologie en matière de protection sociale mais ils se différencient de façon remarquable dans la mise en œuvre de leur politique familiale respective. En ce qui concerne les congés, en comparaison avec le Danemark les provisions en Suède sont plus généreuses, aussi bien dans leur durée qu'au niveau des taux de paiement et un usage plus souple est permis jusqu'à ce que l'enfant ait atteint l'âge de huit ans. Dans les deux pays, les taux de garde pour les très jeunes enfants (de 0 à 2 ans) est plus utilisée qu'en Suède. Cette situation nous offre un bon point de départ pour analyser explicitement les effets de différents régimes à l'égard de la famille sur le maintien en activité des mères danoises et suédoises. Nous avons tiré parti dans notre analyse des données longitudinales comparables existantes et nous avons pu établir des modèles parallèles pour les deux pays. L'impact des politiques familiales et des incitations économiques sur la probabilité de réintégrer le marché du travail est estimé à l'aide d'un modèle dans lequel la durée du congé parental est variable. Les résultats que nous avons obtenus montrent que les incitations économiques influent sur le comportement des mères dans les deux pays. Néanmoins, les modalités du congé parental en soi sont des déterminants très importants des comportements observés. Le rôle des pères est très différent dans les deux pays examinés. Les pères en Suède bénéficient de congés parentaux beaucoup plus longs qu'au Danemark. Les simulations ont nettement montré qu'un accroissement des congés parentaux des pères développerait l'offre de main-d'oeuvre féminine. Nous n'avons pas observé cet effet de substitution entre les parents pour le Danemark.

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1. INTRODUCTION

3. Employment rates of mothers with young children have increased in almost all countries over the past thirty years. However, the increasing employment rates of mothers have been accompanied by a large decrease in fertility (OECD, 2001). In contrast, in the Nordic countries there has not been such a strong trade-off between mothers' employment and fertility. Both female employment and fertility rates have been relatively high. Studies on female labour supply show that, contrary to most other countries where young children have a large negative impact on mothers' labour supply, this effect is much smaller or non-existing in the Nordic countries (see, Callan *et al.*, 1999). The fertility rate in Scandinavia has been amongst the highest in Europe in the beginning of 1990s (about 2 in Sweden and slightly lower in Denmark and Norway), and yet the labour force participation rate has been amongst the highest internationally (about 80%). To which extent are the high female labour force participation and fertility rates explained by the generous parental leave and childcare systems that characterizes the Nordic family policies?

4. The family policies in the Nordic countries have a long tradition in offering facilities and subsidies to encourage mothers to combine family and work. Many international comparative studies show that women appear to increase their attachment to the labour force when given the opportunity to take paid leave (see, for example, Ruhm & Teague, 1995; Joesh, 1995; and Waldfogel *et al.*, 1999). Thus, the positive effects to the labour market tend to outweigh the costs of conducting such parental leave and benefit policies and therefore legitimizes these family friendly policies (Joesh, 1995; Gustafsson *et al.*, 1996; Rönson & Sundström, 1996). Ruhm's (1998) comprehensive comparative study on European countries, for example, finds that parental leave legislation raises the female employment-to-population rate by 3 – 4%, and even more for women of childbearing age.

5. The aim of this study is to examine the duration of career interruptions contingent to childbirth of Danish and Swedish women. Which factors affect a mother's decision to return to work after childbirth? How important are the benefit compensation rate and the parental leave schemes? Do the prices and availability of publicly provided childcare affect the retention decision? How do the availability and eligibility rules concerning fathers' leave affect the length of the career break of the mothers?

6. Our analysis takes advantage of the availability of comparable longitudinal data. These data allow us to estimate parallel models across the countries in order to determine to which extent the family leave policies affect women's retention. The study examines Danish and Swedish mothers who participate in the labour market and interrupt their careers due to childbirth during 1990s. Here we also make use of fathers' characteristics and their uptake of parental leave. It is interesting to compare these two culturally similar countries which share the same pattern of employment of women overall and of women with young children in particular, but differ remarkably in their family policies. During the last decades, Sweden has implemented fairly long maternal and parental leave schemes compared to Denmark. On the other hand, the coverage of publicly provided and subsidized childcare for children aged less than 3 has been considerably higher in Denmark compared to Sweden (Ellingsäter, 1998). Focusing on differences between these countries we test by simulations the impact of family policy regimes on the length of mothers' career breaks.

7. The raw data and the empirical estimations clearly show that women have a very high probability of returning to employment when the parental leave has expired (well over 90% do return). The rules of parental leave schemes as well as the other parts of the family policy regimes affect the mothers' decision on job retention. And, the same seem to apply to men, too. When given explicitly the possibility for taking parental leave, the majority of the fathers (about 70% of fathers in Sweden, and almost 50% of fathers in Denmark) make use of it. However, very few of the Danish fathers take more than two weeks of parental leave just after the childbirth. Our results show clearly that there is room for policy changes, which might promote both female labour supply and equal role sharing by both parents.

8. The structure of the paper is the following. The next section describes shortly the family policies in Denmark and Sweden. Section 3 summarizes some of the recent international studies about the impact of family policies on mother's employment. In Section 4 the econometric model is presented. The description of data and the descriptive statistics are presented in Section 5. Section 6 analyzes the results from the estimations and policy simulations and Section 7 concludes.

2. DESCRIPTION OF THE DANISH AND SWEDISH FAMILY POLICIES

9. Compared to Sweden, the leave schemes in Denmark have been rather inflexible in the sense that the leave periods cannot be split in several periods like in Sweden. There is much less focus on a shared responsibility of both parents, and thus the period of parental leave which can be taken by either parent is much shorter in Denmark than in Sweden, and a ring-fenced leave for the father has not existed until recently, except for two weeks in connection with childbirth (these two weeks were abolished in 2002). In both countries, the length of the leave period has been extended over the years. In Sweden, the compensation rate has been slightly reduced during the 1990s, whereas in Denmark the tendency is mixed: for some schemes the compensation has increased, for others reduced.

10. A major aspect of the effect of children on the earning capacity of parents is the access to as well as the quality and prices of day-care facilities. If it were easy and relatively cheap to get childcare, the earnings capacity of the parents (mothers) might well be less "damaged" than in countries where childcare facilities are scarce or expensive. Furthermore, if the quality or stability of the childcare arrangements were low, it may induce higher absenteeism from work and lower the productivity of the parents (mothers), compared to countries with high coverage along with high quality and stable childcare. In Sweden and Denmark the coverage of publicly provided childcare for children aged below 3 years has increased considerably during the last decades. The quality is fairly high in an international setting when measured by the staffing and economic resources spent on public childcare (see Rostgaard & Fridberg, 1998; Waldfogel, 1998, for international surveys of child care systems).

2.1 Parental Leave Schemes

2.1.1 Duration of the Leave Schemes

11. *Sweden* has a universal parental leave and benefit coverage. All parents are entitled to the leave, regardless of whether they are participating in the labour force or not. Since 1994 parents have been

entitled altogether to 450 days compensated leave per child. The leave can be taken flexibly from 60 days before the expected date of birth until the child is eight years old. Benefits can be used either full-time or part-time or saved and used any time within the entitlement period. The system allows both parents to share the leave and to interrupt the leave in order to save days for later use. Parents are entitled to have 360 days (each have 180 days) parental leave with a compensation level that is related to the income prior to the leave period, and in addition to that, a father is permitted to take 10 extra days of leave in connection with childbirth. A parent is allowed to transfer his or her days of leave to the other parent, but 30 days are reserved for him or her only. If the other parent does not use these days, they are lost. In addition to that, parents are allowed to take an extra period of leave of 90 days with only a guarantee level of compensation, a flat rate which is 6.7 € per day.¹ So, the parental leave for each child amounts to 450 days in total, which can be divided among the parents in a very flexible way. Single parents are entitled to 450 days as well. In the case of multiple births, parents are entitled to an additional 180 days leave.

12. *Denmark* has a slightly less universal system compared to Sweden (see, for instance, Rostgaard *et al.*, 1999, for a more detailed description of the Danish leave schemes). Since 1985, mothers who had a regular income during the latest 13 weeks before the birth are entitled to a maternal leave of 4 weeks before the birth (8 weeks in some unions in the public sector) and 14 weeks after, plus a parental leave period of 10 weeks. This parental leave can be taken either by the mother or the father, but the parents cannot be on leave at the same time. During these 10 weeks, a parent is only allowed to work a few hours weekly, and whether one chooses to work part time, the benefit is reduced accordingly, and the “non-used” period cannot be saved and used later as in Sweden. Further, a father is entitled to 2 weeks’ leave in connection to childbirth. During 1999 - 2002, a father has been entitled to two extra weeks after the 10-week parental leave. These weeks were reserved for the father only and lost if he did not use them. In 2002, the rules were changed, and the extra 2 weeks of leave was abolished, and the parental leave period was extended from 10 weeks to 32 weeks. In some cases, the parental leave period may be further extended.

13. There was a childcare leave scheme in 1992 - 2002 in Denmark which was changed several times, and was abolished completely in 2002 when the extended parental leave scheme was introduced. In 1994, the coverage and compensation of the parental leave scheme were extended substantially and consequently the take-up rate increased dramatically. In recent years, compensation has been reduced and the leave made more flexible along the lines of the Swedish system, but still faraway as flexible as the Swedish parental leave system. This new scheme allows both parents, whether employed or unemployed, to take leave for a period of up to 52 weeks for each child aged less than 9 years.² Most parents are entitled to the leave, irrespective of membership of unemployment insurance funds (UI-funds), employment etc.

2.1.2 Compensation during the Leave Period

14. *Sweden*: The level of compensation depends on prior earnings. If parents have not been employed a period before childbirth, they are eligible only for a guarantee level of benefits which amounts to 6.7 € per day (since 1987). If the parents were employed, they are entitled to 80% replacement of their

1 The guarantee level of compensation is 60 SEK (since 1987). The exchange rate used here is 1 € = 8.6 SEK.

2 Thus, more individuals are entitled to childcare leave than to parental leave schemes. Housewives without any regular income are the only group which is not entitled to childcare leave. However, this group constitutes less than 5% of the population in the age groups concerned. The duration of the childcare leave period depends on the age of a child. If the child is less than 1 year, the entitled period is 26 weeks, and it might be extended to 52 weeks if the employer accepted this extension. If the child was older, the duration was shorter.

previous income up to an income ceiling. In some sectors (specified in collective agreements between unions and employers' confederation) the public compensation may be supplemented by the employer to a full-wage compensation. Further, there is a so-called "speed-premium" for mothers who intend to have another child soon after the previous child. A mother is guaranteed to have the same level of compensation without returning to employment if there is not more than 30 months in between the childbirths. The main purpose of this rule was to stimulate fertility among Swedish mothers.

15. *Denmark:* The compensation during maternal leave depends on the sector of employment. In the public sector, there is a full-wage compensation. For the privately employed, the compensation depends on collective agreements between the employers and the unions, and some of them have specified a full pay during maternal and parental leave.¹ For those groups, which are not covered by these agreements, the compensation is calculated according to the rules of the unemployment insurance benefit system (UI-benefits). The compensation is 90% of previous earnings up to a maximum, which is rather low compared to other Nordic countries. On average, the compensation rate is 60 – 70% of former earnings. Since men on average tend to have higher earnings than women, and since more than half of the mothers are entitled to a full pay during parental leave, most households have a strong economic incentive to let the mother use the 10 weeks of parental leave, which could have been shared between the parents.

16. The compensation during childcare leave was considerably lower than for the maternal and parental leave periods. Initially, the compensation rate was 100% of the UI-benefits but it has been reduced several times since 1994, and since 1999 the compensation has been 60% of the UI-benefits. In 2002, when the childcare leave and parental leave schemes were combined into a one scheme, the compensation rate for this extended parental leave period was left to the same level as the former childcare leave, i.e. 60% of the UI-benefits.

2.2 Childcare

17. In both Denmark and Sweden, families have an access to highly subsidized, publicly provided childcare services. Municipalities are responsible for arranging childcare. There are various forms of public day-care programs: day-care centres, family day-care, and after school homes. Beside the public services, there also exist private childcare services (some of them are also publicly supported), but the amount of private services is considerably less than in other non-Nordic countries. The public childcare system is universal and is based primarily on children's needs, and therefore it is very common for children to attend publicly provided childcare even though the parents were not working. The public childcare system started to expand in both countries during the 1960s and the coverage has been steadily increasing (OECD, 2001). Despite the large expansion, there is a constant shortage of child day care places in both Sweden and Denmark. In Denmark the excess demand is mainly dominating in the largest cities of Copenhagen and Aarhus. One major reason is that public day-care is highly subsidized, i.e. the price is much lower than the actual price of producing these services.

18. *Sweden:* In autumn 2000, 76% of children aged 1 – 5, 67% children aged 6 – 9 and about 7% of children aged 10 – 12 attended public childcare (Socialdepartementet, 2001). According to a survey, only about three% of 1 – 5 years old children were in private childcare (Skolverket, 2002). Day care fees have been increased especially during the 1990s because of the dampening economic situation in municipalities and in order to suppress the demand. The fees contributed to 18% of the total costs in 1999 while the share was barely 10% in 1990. The payment scheme varies across municipality although most often the payment

1 An increasing number of workers in the private sector are entitled to a full compensation of former earnings. Collective agreements between unions and employers specify that the employers are due to supplement the public benefits. In 2002, all women have a full pay during maternal leave.

is related to the number of children, time used and parents' income. While the time-based fees provide parents with greater opportunities to influence the costs of childcare, they can also cause large marginal effects when a parent increases hours of work, especially for single parents. On average, the cost for two-earner household with two children is 230 € (ranging from 0 to 467 €). A completely new payment scheme was introduced in 2002, which is called 'maxtaxa' referring to a payment ceiling (for a respective family the cost will be at maximum 210 €).

19. *Denmark:* About 92% of all children aged 3 – 5, and more than half of the children aged 0 – 2 years attended publicly provided childcare in 1999. As in Sweden, the demand for public childcare is strongly stimulated by large price subsidies to childcare. According to the governmental regulations parents are not allowed to pay more than 30% of the variable costs of the day-care place, i.e. the local governments stand for at least 70% of the variable cost and additionally all fixed costs. In many municipalities, the subsidies are even larger. Further, there is an additional means-tested subsidy for low-income households which usually provides the childcare for free. The monthly costs of a childcare place vary between municipalities. The typical monthly cost for a 0 – 2 year-old child ranges 250 - 300 €, while for older children the prices are lower. Expenditures on publicly (or privately) provided childcare are not deductible from taxable income.

20. Despite the high coverage of publicly provided childcare in both countries, there is an excess demand for childcare places in many municipalities. The availability and price of a day-care place varies a lot across municipalities. There are more or less formal queuing systems in many municipalities implying that parents either have to extend their leave of absence or use private childcare. In either of the countries, there is no systematic information on queues to public childcare (there are some surveys made). Furthermore, there also exists a small market for untaxed private childcare,⁴ but there is fairly little information on the amount and prices of privately provided childcare. One reason that private childcare is seldom used and the lack of exact information is that private childcare is almost always untaxed and part of the underground ("black") sector because of the high levels of VAT and income taxes in Denmark and Sweden. If private childcare were produced in the formal (taxed) sector and without subsidies, the prices would be extremely high compared to publicly provided care. However, parents also seem to prefer public day care for quality reasons.⁵

2.3 Other Family Policy Regulations

21. The law guarantees a job security which entails the same or a comparable position upon the parent's return from leave. In both countries, it is illegal to fire a parent on parental leave. In Sweden, there is a job protection period of 18 months for parents of a newborn, and furthermore, parents are legally entitled to work shorter hours until the eighth birthday of the child, with a corresponding reduction in

4 A Danish study on the underground economy by Pedersen and Smith (1998) shows that about 14% of the adult Danish women worked in the untaxed sector in 1996, and about 1/4 out of them were occupied in childcare activities. This means that about 3 – 4% of the adult women worked in privately provided day care. However, these jobs were seldom full-time jobs, but typically only part-time jobs with about 10 or less hours weekly.

5 In a study by Bertelsen (1991) the parents who had their children in public childcare, were asked whether they would prefer privately provided childcare if available. Less than 5% answered yes to this question. The main reason probably is that there exist some mechanisms for a quality control for publicly provided childcare.

wages, in both the public and private sectors.⁶ In Denmark, this is only the case for publicly employed parents.

22. In both countries, there exist a scheme for care days. In Denmark, the publicly employed have a right to 10 care days annually with a full pay, which can be used if the child is ill, for visits at the doctor etc. Since 1998, some groups in the private sector have also got the right to care days (14 days with full pay). In Sweden, there is a parallel care day scheme. A parent has a right to 60 days of care annually if the child is ill up to the 12th birthday of the child.

23. Since the 1970s, the tax systems in both countries have been based on the separate taxation principle, which tends to be neutral with respect to work incentives for each of the spouses (see Gustafsson, 1992; Callan *et al.*, 1999). Due to income related compensation schemes parents are encouraged to work full-time and maximize the earnings before the childbirth. This also holds for Sweden, despite the fact that everybody is entitled to parental leave compensation irrespective of the labour market history.

3. EARLIER STUDIES

24. According to many comparative studies, the impact of family policies on the mothers' (or fathers') return to work can be quite substantial. A large literature provides insights on how different policies result in different labour force attachments of women. Waldfogel *et al.* (1999) compare mothers in the US, Britain and Japan and find that young children have a very strong negative effect on women's employment. However, they find strong evidence that family leave coverage increases the likelihood that a woman will return to employment after childbirth in all three countries they investigate. They conclude that the recent expansions in family leave coverage in these countries are likely to lead to increased employment of women after childbirth and in some cases even boost job retention. Ruhm (1998) investigates the economic consequences of paid parental leave in nine European countries and finds that a right to paid leave raises the employment rate of women. Even short durations of guaranteed work absence have a substantial effect on female employment. These results are confirmed for Germany in a study by Ondrich *et al.* (1999).

25. A longer entitlement period, such as the Swedish one, tends to lengthen the time out of employment shortly after childbirth, but in the long run, a longer leave period enables more parents (mothers) to join and stay in the labour force and therefore results in higher overall re-entry rates. Rönson & Sundström (1996) study the impact of family policies on the return to work by comparing the post birth employment activity of Norwegian and Swedish women. They analyze rates of re-entry into paid work after the first birth for mothers in 1968 – 1988. The most important findings are that the right to paid maternity leave with job-protection greatly speeds up the return to employment and that women who have

6 In Sweden, but not in Denmark, part-time work is very common among the parents of young children. Typically, the mother works part-time. In 1998, 46% of the Swedish mothers and about 6% of the Swedish fathers of young children worked part-time (SCB, 2001). In Denmark, the part time frequency has been declining since the early 1980s. In 1983, 43% of all employed women were part-time employed while in 2000 the frequency was only 17%. Women with young children tend work longer hours than women without children (see, Smith, 1998).

this right are much more likely to resume employment. However, part of this effect may be due to the fact that those women, who are eligible for leave schemes, are also the women with a more permanent attachment to the labour market and the strongest preferences for market work. Extensions in leave schemes and the so-called Swedish “speed-premium” on the next birth have, though, delayed the return to work.

26. Gustafsson *et al.* (1996) analyze labour force transitions around childbirth and the extent to which lower labour force participation rates of mothers are explained by different family policies. They compare German, Swedish and British women and find that different welfare policy regimes produce different outcomes in labour force participation among mothers. These countries represent the three main types of different welfare states. The difference in total labour force participation of women is a result of fewer mothers entering the labour force and entering later after births in Germany and Great Britain than in Sweden. Although there is no such difference before the birth of the first child, the difference is more pronounced for second and third births. Women’s own human capital is important both in Germany and Great Britain, whereas in Sweden also less educated women have entered the labour force by the time the child is two years old.

27. There is a good deal of literature that has found that at least part of the wage gap between the sexes is the result of women having more frequent career interruptions (some of the early references are Mincer & Polachek, 1974; Gronau & Weiss, 1981). Forgone growth of human capital and the depreciation of human capital during lengthy leave periods cause wage setbacks for women. The wage gap can be a consequence of a direct or indirect discrimination too. Entitlements that allow substantial time off work may cause employers to limit women to jobs where absences are least costly, thereby increasing occupational segregation, which has obviously occurred in Nordic countries (see, Stoiber, 1990).

28. Since the parental leave mandates and job-protection during the leave of absence tend to promote job retention, they may also promote more rapid wage growth. If protected leave allowed women to return to a previous employer, as opposed to getting a new job or leaving the labour market entirely for a period, the leave policies would prevent women from losing tenure and firm specific human capital, and consequently promote wage growth through gains from good job matches and reduced depreciation of human capital during non-employment periods. Recent studies in the US and Britain provide evidence of positive wage effects of returning to the same employer after childbirth (see, for example, Waldfogel, 1997; Joshi *et al.*, 1996). There is also some recent evidence on the positive wage effects of maternity leave coverage in the US and Britain (Waldfogel, 1998). However, this effect may to a large extent be a consequence of that those women who are covered by generous leave schemes, are a selected group, who are able to get a job at firms with attractive working conditions and “fringe benefits”, like maternal leave schemes. For countries like Sweden and Denmark, these selection effects are expected to be very small since the leave schemes are almost universal in both countries, and to a great extent publicly financed. A government mandate eliminates this type of sorting of workers.

29. Empirical studies from Sweden and Denmark have found very small long run effects on subsequent earnings for mothers who entered formal maternity leave (see Albrecht *et al.*, 1999; Datta Gupta & Smith, 2000). However, Datta Gupta & Smith compare the wage growth of women to that of men, and they find that when controlling for background characteristics, the wage increases of men are considerably larger during the child bearing period compared with women, irrespective whether they are mothers or not. The explanation could be that since almost every mother make use of the compensated parental leave she is entitled to, employers expect every woman, by default, to experience career interruptions, and thus, even those women who actually do not get children face lower wage growth, a type of statistical discrimination. Hence, the leave schemes may have negative long run wage effects in Denmark, but they are not observed when comparing the wage development of mothers with non-mothers. This conclusion is consistent with Ruhm’s (1998) who finds that, based on time series from OECD

countries, the gender wage gap tends to increase significantly when new leave schemes are introduced or the leave schemes are extended.

30. There are far less recent empirical research on the effects of child day care programs on parents' (mothers') work choices and families' decisions about how to provide care for their children. Even though, it is known that a lack of formal and affordable good quality care may constrain mothers to take paid employment (OECD, 2001). The limited empirical evidence within this area is probably due to lack of data on the availability, prices and type of childcare. A recent comprehensive study based on British data is found in Paull *et al.* (2002) and OECD (2002).

4. MODEL

31. Our intention is to estimate parallel models of the effects of different family policies on job retention of Danish and Swedish mothers, controlling for other individual and family characteristics that are likely to affect retention. In deriving a model that describes the decision to re-enter the labour market after childbirth, we assume that the fertility decision has already been made and the decision whether to resume employment depends on the expected utility over the lifecycle at each point of time. A formal theoretical model based on this approach is found in Ondrich *et al.* (1998, 1999).

32. Based on an inter-temporal plan, the timing of job retention may be described by a model where the mother in each period evaluates her expected utility of returning to work ($V_W(t)$) with her expected utility of staying at home ($V_M(t)$) for one more period. The expected utility from returning to work includes the wage effects from human capital depreciation, forgone training and the potential wage effects of losing the current job, and thus, probably losing a firm specific human capital. The expected utility from staying at home one more period depends on individual preferences, family situation (*e.g.* the existence of other children) and the rate of compensation while on leave. The model by Ondrich *et al.* does not explicitly include prices and availability of alternatives to a mother's time with respect to care for the child, *i.e.* public or private childcare, and the price and availability of the father's time but these variables may be added to the model. The presence of a newborn is likely to increase V_M strongly within the first months or years, but as children grow they become less time intensive (but more goods intensive) and thus the utility of staying at home one more period is likely to fall. The mother will return to work at the first t for which $V_W(t) > V_M(t)$. Ondrich *et al.* show that the probability of returning to work in a given period is a positive function of the time until the leave period expires and a negative function of the compensation rate.

33. In analyzing the return to work after the childbirth, we use a continuous time duration model. A set of parameters is used to generate probabilities of events occurring in intervals of different lengths. The intention is to consider the impact of family policies on job retention, controlling for other aspects that might affect their preferences, such as education, age, marital status and having other young children. Mothers' return from leave depends on parental leave programs, job-protected leave at childbirth (retain ties with the labour market), whether the father takes leave, attachment to the labour market (compensated leave), and the price and availability of childcare.

34. The career break due to childbirth is measured as a period on compensated parental leave, calculated as full-day equivalents and measured in weeks on parental leave. The probability of ending a

career break and resuming employment is estimated using a Cox proportional hazard model of the duration of parental leave. The advantage of this method is that it does not require any a priori assumption about the probability distribution to represent survival times.

35. The model is written as

$$h_i(t;X) = \lambda_0(t) \exp [X(t) \beta] \quad (1)$$

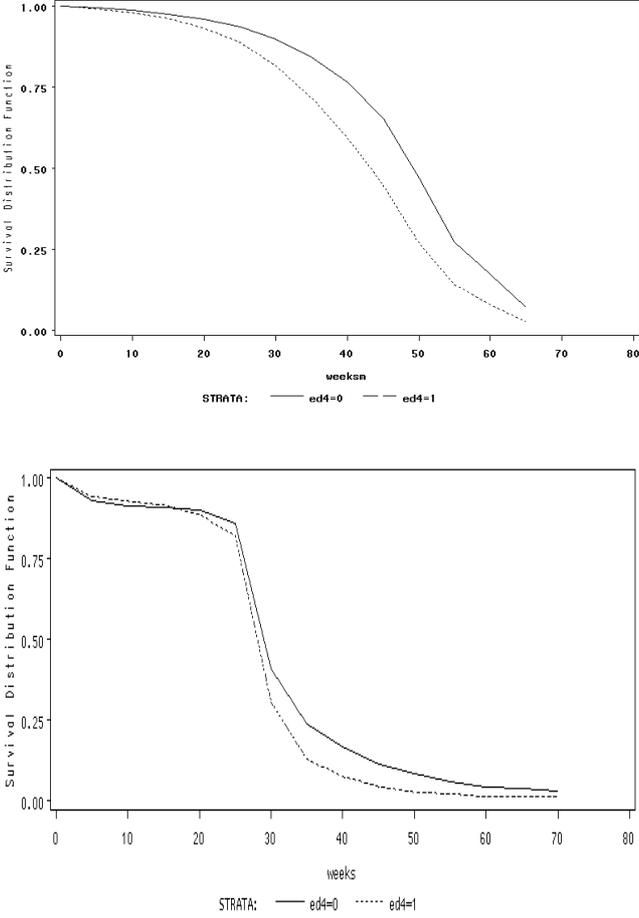
where $h_i(t;X)$ represents the hazard for individual i at time t , $\lambda_0(t)$ is the baseline hazard function that is left unspecified, i.e. we use a semi-parametric approach, and $X(t)$ represents a vector of time invariant and time-varying covariates and β is a vector of parameters.

36. In Sweden, mothers of young children are more likely to work part-time than women having older children or no children at all. It would have been interesting to see whether mothers end up to a part-time or full-time employment after the parental leave spell by estimating a competing risks model, which allows us to estimate destination specific hazard functions. Unfortunately, the information in our data sources on part- and full-time states after childbirth is incomplete, and therefore, we are not able to apply a competing risks approach.

37. A principal drawback when applying the basic Cox proportional hazard model is that it assumes that for any two individuals the ratio of the hazards is constant over time. However, there are various ways to test whether this proportionality assumption holds, for example, with the Schoenfeld residuals method, that is used here. Another drawback with the model is that it does not account for unobserved heterogeneity. Individuals usually differ in ways that are not fully captured by the model. As pointed out in numerous studies, estimation of hazard models that do not control for unobserved heterogeneity may result in biased estimates of the parameters (Heckman & Singer, 1985). For example, individuals with unobserved characteristics in the form of preferences for market work and career ambitions, will probably return to work before individuals who are less committed to work. Thus, the observed probability of returning to work, conditional of not having returned yet, i.e. the hazard, will tend to decline with the length of the spell simply because of a sorting effect where more and more individuals with unobserved characteristics for non-work will dominate the group of individuals still on leave. On the other hand, along the lines of the human capital theory, the heterogeneity with respect to the preference for work is at least partly observable. Differences in human capital endowments are reflected in differences in the level of education and in labour market experience. Therefore, we could expect to capture the group of women with a higher preference for work by controlling for these observable characteristics if schooling attainment could be thought to be a function of ability and motivation and other unobserved characteristics. Figure 1 provides evidence on differences in the rates of return between the highly educated and the less educated (drawn from the raw). The survival curves of these groups show almost parallel shapes, where the group of highly educated women returns to employment sooner after childbirth than the less educated.

38. Due to the differences in the constructions of the data, the Danish and Swedish observations (events) are collected in different ways. In both samples, we avoid left censoring by conditioning on parents who get a baby within the observation period. In the Swedish case, mothers are followed about fifteen months after the childbirth or until they re-enter the labour market if it happens before. Right censoring occurs after the observation period if the mother has not returned to the labour market, which is the case if she has a new period of parental leave, starts studying, or stays at home caring the child. In the Danish case, the sample is selected from a random sample of mothers who had a child during the period 1993 – 1996. These women are observed weekly during the period. A spell is right censored if the woman is still on maternal, parental or childcare leave at the end of the observation period, i.e. ultimo 1997.

Figure 1. Survival curve of the career break of mothers. Comparison between the highly educated mothers and mothers having lower education. The upper panel show the Swedish sample, the lower the Danish.



5. DATA AND DESCRIPTIVE STATISTICS

5.1 The Swedish Data

39. To study career interruptions due to parental leave we use register data containing information on parental leave periods of all parents and compensation levels, conducted by the National Insurance Board, Sweden. These data are the supplement to the large longitudinal LINDA database⁷ which have register-based information on income and taxes with a rich array of individual and family characteristics. The LINDA data are representative data on the Swedish population and contain information on about 300 000 households annually. Due to the panel property of the data we are able to follow individuals from the year 1992 up to 2000.

40. The parental leave data contain information on all children and their parents who have taken parental leave during the child's first eight years. The data have records on the periods when taking the leave, the level of compensation, number of days with compensation and the rate of compensation. These data cover years 1993 – 2001 (June). The key variables of the study are collected from both the basic LINDA database and the supplementary data basis.

41. Since the idea is to study the length of the career break, we focus only on those mothers who were employed, self-employed or unemployed prior to childbirth. In order to be able to follow mothers at least 15 months after childbirth, the birth cohorts that are considered are 1993 – 1998. The records for mothers' and fathers' characteristics are collected from a year before and the information about the re-entry to the labour market from a year after the parental leave spell.

42. In Sweden, mothers can take parental leave with a 25, 50, 75 or 100% compensation rate. Parental leave periods are then converted as full-day equivalents. Nevertheless, the biggest majority (92%) of all mothers take the leave with 100% cover. Most often, they take the leave periodically rather than taking the leave with a smaller than 100% cover. Mothers are followed until they resume work or stop their parental leave schemes. A career break, the dependent variable, is counted as the time in weeks between the first day of the parental leave period and the last one during the first fifteen months after the childbirth. Even though the majority of the mothers take their period of leave very concentrated right after the birth, there are some women who choose to return to employment before their maternity leave has expired.

5.2 The Danish Data

43. The Danish sample is selected from the Danish Longitudinal Panel Database which is a random register based sample selected by Statistics Denmark.⁸ The sample is an unbalanced representative panel

7 Longitudinal Individual Data (LINDA) is a joint endeavour between the Department of Economics at Uppsala University, The National Insurance Board (RFV), Statistics Sweden, and the Ministries of Finance and Labor. The data have been collected systematically since 1960.

8 Documentation on this sample can be found on www.cls.dk.

sample, which covers each of the years 1976 – 1997 and includes comprehensive information on each individual's education, labour market history, incomes, taxes and income transfers, and family characteristics for about 300 000 individuals (5% of the Danish adult population). The sample unit is an individual, not a household.

44. For this study, we have selected all the women in the master sample who gave birth to at least one child during the period 1993 – 1996 and who were labour market participants prior to childbirth. For these women, additional register information from “The integrated Social Statistics” owned by Statistics Denmark is merged to the master sample. The register includes weekly or monthly information on all types of public income transfers and weekly information on participation in different leave schemes. The first year included in this register was 1993, and at the time of selecting the sample, the last available year was 1997. Therefore we restrict the selected sample to children born during the period 1993 – 1996 in order to reduce the number of right-censored observations. Based on the information from the “The integrated Social Statistics”, we construct spells of career breaks related to each childbirth. A spell is defined as an unbroken period out of the labour market, either in maternal leave, parental leave or childcare leave, or out of job without being in any scheme. The spell ends when the woman starts to work. The later periods are not taken into account, for instance, in cases where the father took up a part of the parental leave and the mother continued on leave after the father's period.

45. From the registers in Statistics Denmark, we get additional information on the fathers of the children who are born in the master sample during 1993 – 1996. Thus, we are able to construct the necessary household information by combining the additional information on fathers with the sample of mothers. The background information are collected from the years 1992 – 1996 since a number of the explanatory variables are defined by their value during the year prior to birth.

5.3 Selections

46. The Danish and Swedish mothers are classified into three different samples according to the order of the child. The first sample consists of mothers who give birth to their first child, the second sample contains the mothers who are having their second child and the third sample contains the higher order births. The adopted children and multiple births are excluded. Further, we only choose mothers who have a partner, either married or cohabiting with her. Table 1 shows the sample means of parental leave durations for mothers and fathers in Denmark and Sweden (the period of observation is 1993 – 1996 for the Danish sample, and 1993 – 1998 for the Swedish sample). Figure 1 shows the sample frequencies of weeks on parental leave for all mothers and fathers.

5.4 Variables

47. *The dependent variable* is the duration of parental leave. It is a sum of all types of leave contingent to childbirth. A distinction is sometimes made between “maternity leave” as well as “paternal leave”, which is granted to mothers and fathers for a limited period around the time of childbirth, and “parental leave” or “childcare leave”, which permit additional time off work to care for infants. All these types of continuous leave periods related to childbirth are included in the definition of parental leave used in this study.

48. To assess the impact of family policies on women's return to work, we use information on relevant family policy legislation. The first set of explanatory variables represents *the family policy regimes* in Sweden and Denmark: the compensation rate, father's use of parental leave, and the prices and availability of public childcare.

Table 1. **The mean duration of parental leave periods of mothers and fathers in weeks and the share of fathers taking parental leave.**

SWEDEN ¹⁾	First Child	Second Child	Higher order
Parental leave taken by a mother (duration in weeks)	40.2	42.5	43.1
Parental leave taken by a father (duration in weeks)	4.4	3.8	4.0
Percentage of fathers who takes a leave period	77%	69%	72%
DENMARK	First Child	Second Child	Higher order
Parental leave taken by a mother (duration in weeks)	27.9	28.1	29.4
Parental leave taken by a father (duration in weeks)	1.0	1.1	1.0
Percentage of fathers who takes a leave period	49%	46%	47%

¹⁾ For Sweden, the observation period is restricted to the first 15 months after childbirth.

49. The rate of compensation is not constant during the mandated leave in either of the countries but decreases stepwise. Based on the register information on hourly wages, duration and timing of leave periods and supplementary information on the compensation rules, we are able to construct for each individual a time varying variable representing the compensation rate that she receives during the leave of absence for the Danish sample. The compensation rate is defined as the hourly compensation divided by the hourly market wage that the woman had prior to the leave period. For the Swedish sample the rate of compensation is given according to the rules under the respective period taking the sector of employment and the income ceiling into account (about 5% of women had income over the ceiling). The rate of compensation has changed several times during the 1990s.⁹

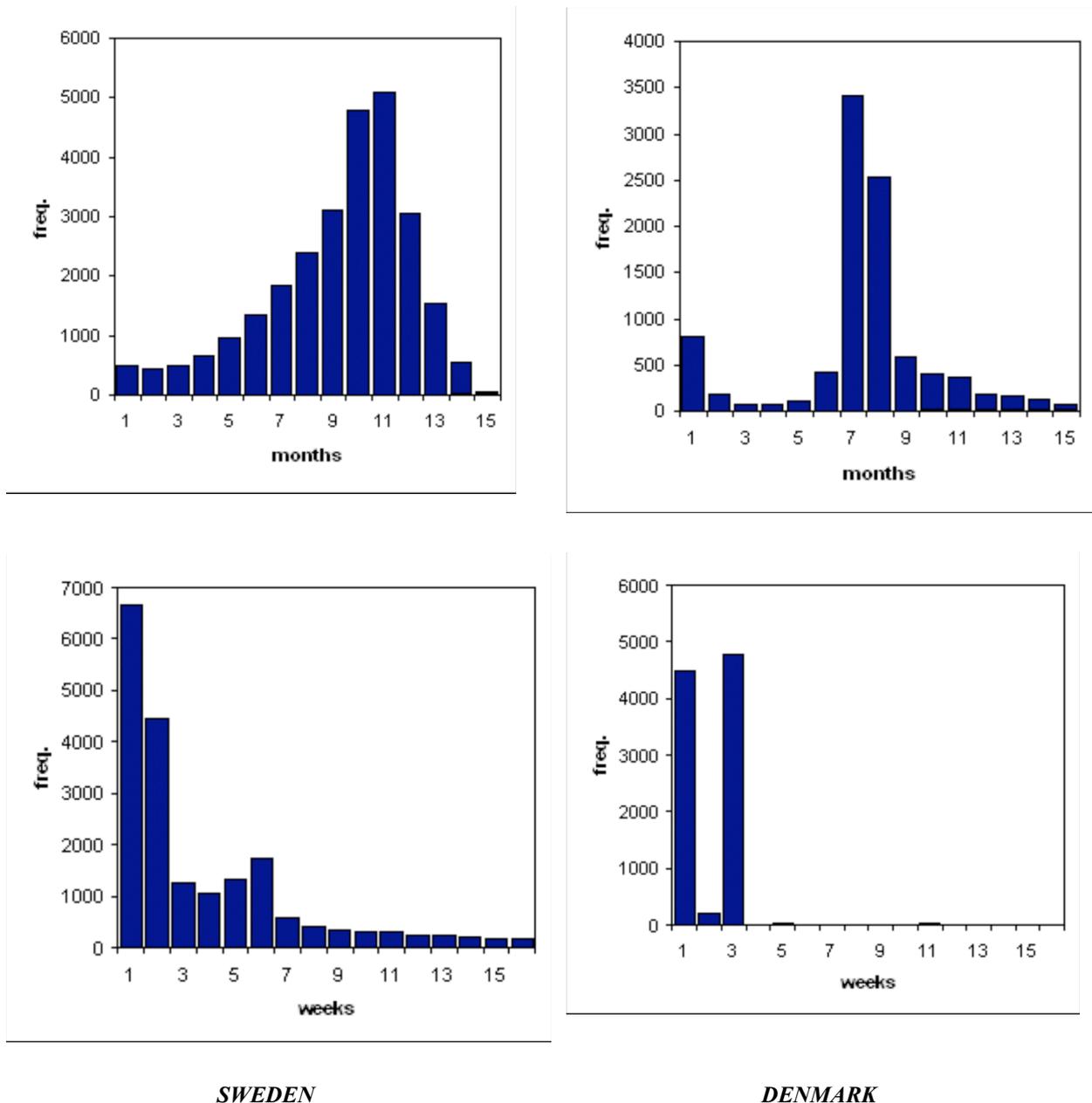
50. The length of the parental leave period that is targeted to fathers is used as a family policy variable. In Sweden a father has been entitled to a two-week leave in connection with childbirth since 1980, and a 30-days quota for each parent was introduced in 1995 in addition to that.¹⁰ For the Swedish sample, the father quota that varies along the period of observation is used as a covariate. For the Danish sample, we use the length of a parental leave the father actually took. The actual take-up of parental leave may be endogenous in the model because the duration of both parents' spells may be determined in a simultaneous process. As an alternative to actual take-up we might have used the potential duration of paternal leave (like the father quota in Sweden), but since the duration of the paternal leave has been unchanged over the period in question in Denmark, we are not able to use that. The actual duration of fathers' leave period might be instrumented or the duration of both parents' spells might be modelled in a simultaneous structure. But since we prefer to estimate almost identical models for the two countries, we

9 During the period of observation the replacement rates were 90% in 1993-94, 80% in 1995, 75% in 1996-97, and 80% in 1998-99 up to an income ceiling. For a 30 day-period there were extra 10 percentage points' increase in the replacement rate both in 1995 and 1996.

10 In Sweden the duration of leave was decreased from 360 to 270 in 1994 (July), but was raised again to 360 in the beginning of 1995 with the 30-day ring-fenced leave for each of the parents. Thereafter the duration of leave has remained unchanged for the whole period of observation.

have not estimated a simultaneous model for Denmark. Since we do not model this potential endogeneity for Denmark, our results may overstate the substitution effects between the parents. Nevertheless, as shown in Section 6, the estimated substitution effect for Denmark is very small.

Figure 2. Duration of parental leave of mothers (the upper panels) and fathers (the lower panels). The parental leave period is measured in months in 1993–1998 Sweden (n=27 000), and in 1993-1996 Denmark (n=9 500) and in weeks for fathers. The figures left show the Swedish samples and in right the Danish.



51. For both samples we include additional information on the local prices of publicly provided childcare. The prices vary quite a lot between the municipalities, and we include information on prices in 1993 in each of the 273 Danish municipalities and about 150 Swedish regional areas.¹¹ In order to control for the rationing of the public childcare we also add an indicator variable for those municipalities where the availability of public childcare is limited.² Especially in some big cities parents may meet difficulties in getting a place in day-care centre for their children in their most preferred district.

52. Other control variables (time-constant) are collected from the LINDA data (Sweden) and the 5% sample (Denmark) a year prior to childbirth. These are age, the level of education, years of labour market experience, sector of employment, employment status, marital status, the total income of a household, and the number and ages of other children. We have the respective information about fathers too.

53. *The labour market status* before childbirth will possibly affect the timing of the labour market re-entry. For women without permanent job, the employment status during pregnancy might be highly relevant. Thus, we include an indicator variable for whether a woman was unemployed before the childbirth. We also control for a sector of occupation prior birth. The sector of occupation is a classification corresponding the employer: the state, a municipality or a private employer (includes also unemployed). The hypothesis is that those employed in the public sector might return to work earlier due to wider opportunities of combining work and parenthood (more flexible work schemes, e.g. part-time work). In both countries about half of the women are in fact employed in the public sector. The majority of publicly employed work for a municipality at service sector and only a few are working for the state.

54. The timing of paid work is hypothesized to depend on a woman's opportunity cost of working for pay relative to her opportunity cost of staying home. The opportunity cost of staying home depends on a set of *human capital variables*. Those who have a higher opportunity cost will be expected to return to work sooner. In view of that, the age at childbirth has a negative effect on job-retention since younger women have longer future work horizons and therefore would lose more from a career interruption. Also, women who have invested more in human capital, having higher education and more work experience, may have more to lose when staying out of the employment. On the other hand, more education has shown to raise the reservation wage of a mother too (Even, 1987). To capture these effects we use age, the attained level of education and the years of work experience as covariates. The level of education is defined with four categories: primary school, high-school or vocational school, short university degree, and long university degree. The lowest level of education is used as a reference group in the estimations. A striking feature of the raw data is a strong effect of education on the job retention of mothers. Figure 1 (in Section 4) compares the survival curves of the career breaks between the mothers having the highest level of education and the others.

55. *The family situation* plays an important role in women's employment decisions. The age of other children seems relevant to the timing of women's work decisions in addition to the number of children. To address these effects, we use categorical variables for other 0 – 2 and 3 – 6 years old children. Also an indicator variable for marital status is used. Further, the economic situation of a family may play an

11 There are about 238 municipalities in Sweden, but the information of prices is aggregated to regional prices.

13 Our indicator of excess demand for childcare is far from perfect since we do not have precise information on childcare queues. For Denmark, we include an indicator assuming the value of 1 if the mother lives in Copenhagen or Frederiksberg (two biggest municipalities in the Copenhagen area) and Aarhus (the second biggest city in Denmark). For Sweden this variable indicates the biggest cities where the availability is known to be worse than in minor cities and towns.

important role in the timing of women's employment after childbirth. To capture this effect we use family income as a covariate.

56. To control for *the macro economic trends* during the period of interest, yearly national unemployment rate is used as a covariate. Higher unemployment rates are expected to lengthen the time out of work.

57. All the monetary values are expressed in Euros at year 2000 prices. Tables 6 – 8 in Appendix summarize the descriptive statistics of all of the samples of mothers during the period of observation (Denmark 1993 – 1996; Sweden 1993 – 1998).

6. RESULTS AND POLICY SIMULATIONS

58. Earlier studies report that women return to work sooner after childbirth if they are more likely to gain financially from employment, which is when women earn higher wages and have more work experience, and, of course, if she worked during the pregnancy (see, for example, Klerman & Leibowitz, 1990; Joesh, 1994). Family income has been reported to have either a negative or no relationship with the timing of post-birth employment (Wenk & Garrett, 1992). Results are more mixed for most other factors, such as education level, age at birth, marital status, and race (Desai & Waite, 1991; Wenk & Garret, 1992). For Sweden, Rönson & Sundström (1996) found that more educated women have shorter career breaks contingent to childbirth compared to less educated women. Another study by Gustafsson *et al.* (1996) finds that longer labour market experience increases the tempo of re-entry.

6.1 Results from the Hazard Model

59. The intention is to study explicitly to what extent the conducted family policies affect the re-entry rates of women after childbirth. The results from the proportional hazard model of the duration of parental leave are presented in Tables 2 - 3 for the Swedish and Danish samples, respectively. There are no big differences in the characteristics of the Swedish and Danish mothers, except that the mean duration of the career break is about 13 weeks longer in the Swedish samples due to the mandated parental leave which is much longer.

60. Since previous fertility may be an important, but endogenous variable, we condition our estimations on the number of children in the household, i.e. we estimate separate models for the first, second and higher order births.

61. The first set of explanatory variables represents *the family policy regimes* in Sweden and Denmark: the compensation rate, father's use of paternal leave and the prices and availability of public childcare.

62. For the Swedish samples, the higher compensation rate seems to lengthen the career break, which is in accordance with a priori expectations. The economic situation of the family depends, of course, on the compensation while on leave and a mother can afford better to stay longer home the higher the compensation for that time is. The second variable measures the length of the parental leave devoted only

to a father. When the amount of days that are quoted to a father increases women tend to return to the labour market sooner (also when controlling for the entitled days for the mother). Even though the effect is small (for each one week increase in the fathers' quota the hazard of job retention goes up about 4%), it is significant in all three estimations, i.e. irrespective of the number of children in the household.

63. Day-care prices show also an expected sign for the second and higher order births, but the effect is only significant for the second birth sample. The effect is not significantly different from zero for the other two samples, which is not surprising since the prices of childcare are relatively low and queuing systems may dominate price effects. The effect of prices is negative only if the availability is good (the interaction term shows a positive sign). This can be seen in the estimate of the availability of public childcare which has more importance to the job retention decision for the third sample than the price has. It may well be the case that many mothers have to postpone the job retention due to queuing. The availability of all types of childcare is meagre in big cities not only the publicly provided childcare but also the availability of informal care. Informal sources of care, such as that provided by grandparents, friends and neighbours in a non-market setting, may be more difficult to get if a family does not live near these informal networks.

64. For Denmark, the estimates of the family policy variables are different. The coefficient of the compensation rate is significant with the expected sign for mother having their first and second child, but insignificant for the third sample.¹⁴ Father's uptake of parental leave has the expected sign, but the effect is insignificant, which might be due to the fact that there is only a little variation in the observed behaviour of the Danish fathers (see Figure 2) and hence the substitution effect between spouses' times cannot be captured. If a father takes leave, he usually takes 2 weeks of leave, only extremely few fathers take more than 2 weeks. This may reflect the desired behaviour of the Danish parents who are not willing to substitute a mother's time with the father's time at home. But, it may also reflect the Danish rules, during the period of observation the rules were inflexible or unattractive for fathers (families) because of poor economic incentives.¹⁵ For child day care prices no significant effects are found for any of the samples either. Neither does the proxy variable for poor availability of childcare show any significant effects.

65. The second set of the variables controls for the characteristics considering *the labour market status*. The sector of employment seems to affect the retention decision in the Swedish samples. Women employed in the public sector tend to return at a higher rates compared with the private sector employed (the reference group). This effect is significant for all of the samples when the employer is the state or a municipality, except for the mothers having their second child and being employed by a municipality. This may reflect a more tolerant and supportive attitude from the employer's side towards parenthood, mothers return sooner but are allowed more flexibly to take time off work when needed. In the private sector there is not necessarily such a family-adjusted flexibility. Further, the employment status prior to childbirth affects the decision to return to the labour market. If a mother was unemployed prior to childbirth the longer is her period of leave, which is quite intuitive. The effect is significant for every Swedish sample: the hazard of return for unemployed is only about 37% of the hazard for those being employed prior childbirth in the sample of the first time mothers.

14 Since the Danish compensation rate of childcare leave decreased during the observation period, exactly as the macro unemployment rate, we have tested whether multi-collinearity between these two variables affected the estimated coefficients. However, this did not seem to be the case.

15 The majority of the fathers were employed in the private sector, where the compensation rate was only about 60% of their wage, while the compensation rate for mothers were much higher. For the publicly employed the rate was 100% (more than half of the mothers) and for privately employed the rate was also higher than for men because women have lower wages in general.

Table 2. The results from the estimations of the proportional hazard model of re-entering the labour market after childbirth according to birth order, the Swedish samples.

VARIABLE	1 ST CHILD		2 ND CHILD		3 RD CHILD	
	PARAMETER ESTIMATE (STANDARD ERROR)	HAZARD RATE	PARAMETER ESTIMATE (STANDARD ERROR)	HAZARD RATE	PARAMETER ESTIMATE (STANDARD ERROR)	HAZARD RATE
Family Policy regimes:						
Compensation rate	- 0.638 *** (0.197)	0.528	- 0.235 * (0.103)	0.790	- 0.343 ** (0.113)	0.710
Father's leave	0.036 ** (0.013)	1.037	0.040 *** (0.007)	1.041	0.045 *** (0.008)	1.046
Day-care price	0.024 (0.087)	1.024	- 0.113 ** (0.043)	0.893	- 0.076 (0.049)	0.927
Big city	- 0.512 (0.873)	0.599	- 2.578 *** (0.490)	0.076	- 1.650 ** (0.565)	0.192
Day-care price * city	0.150 (0.367)	1.162	1.053 *** (0.206)	2.865	0.688 ** (0.237)	1.989
Labour Market status:						
Sector of occ.: state	0.198 ** (0.072)	1.219	0.192 *** (0.039)	1.212	0.352 *** (0.052)	1.422
Sector of occ.: municip.	0.102 * (0.050)	1.108	0.045 (0.025)	1.046	0.116 *** (0.029)	1.123
Unemp. prior to birth	- 0.371 *** (0.113)	0.690	- 0.182 *** (0.042)	0.833	- 0.208 *** (0.049)	0.813
Human Capital variables						
Age	- 0.010 (0.010)	0.990	- 0.010 (0.005)	0.990	- 0.029 *** (0.005)	0.984
Educ: High-school	0.169 (0.114)	1.184	0.133 ** (0.047)	1.143	0.168 *** (0.042)	1.112
Educ: Short university	0.410 *** (0.121)	1.507	0.334 *** (0.053)	1.397	0.442 *** (0.051)	1.411
Educ: Long university	0.701 *** (0.126)	2.016	0.570 *** (0.059)	1.768	0.651 *** (0.055)	1.752
Years of work exp.	0.072 (0.017)	1.074	0.056 *** (0.009)	1.057	0.063 *** (0.010)	1.053
Yrs. of work exp ² /100	- 0.240 (0.095)	0.787	- 0.159 ** (0.051)	0.853	- 0.139 ** (0.057)	0.881
Family situation:						
Marital status: married	- 0.170 (0.102)	0.844	- 0.013 (0.024)	0.987	- 0.028 (0.031)	0.972
Family inc (10 000 €)	0.004 (0.011)	1.004	0.001 (0.007)	1.001	- 0.005 (0.004)	0.995
Other child: 0-2 yrs. old	----	----	0.333 *** (0.043)	1.395	0.081 * (0.038)	1.085
Other child: 3-6 yrs. old	----	----	0.207 *** (0.038)	1.230	0.013 (0.029)	1.013
Macro economic variables:						
Unemployment rate	- 0.073 ** (0.027)	0.930	- 0.042 ** (0.014)	0.959	- 0.067 *** (0.017)	0.936

Significance levels: * < 0.05, ** < 0.01, *** < 0.001

Table 3. The results from the estimations of the proportional hazard model of re-entering the labour market after childbirth according to birth order, the Danish samples.

VARIABLE	1 ST CHILD		2 ND CHILD		3 RD CHILD	
	PARAMETER ESTIMATE (STANDARD ERROR)	HAZARD RATE	PARAMETER ESTIMATE (STANDARD ERROR)	HAZARD RATE	PARAMETER ESTIMATE (STANDARD ERROR)	HAZARD RATE
Family Policy regimes:						
Compensation rate	- 0.447 *** (0.138)	0.640	- 0.590 *** (0.121)	0.554	0.081 (0.195)	1.085
Father's leave	0.010 (0.019)	1.010	0.016 (0.017)	1.016	0.034 (0.030)	1.035
Day-care price	- 0.019 (0.118)	0.981	0.030 (0.092)	1.031	0.019 (0.165)	1.020
Big city	- 1.575 (2.848)	0.207	1.524 (2.837)	4.595	- 2.903 (5.836)	0.055
Day-care price * city	0.110 (0.191)	1.116	- 0.103 (0.191)	0.903	0.201 (0.394)	1.223
Labour Market status:						
Sector of occ.: state	0.186 * (0.095)	1.205	0.109 (0.089)	1.115	- 0.041 (0.149)	0.960
Sector of occ.: municip.	0.071 (0.056)	1.074	- 0.012 (0.049)	0.988	- 0.076 (0.076)	0.927
Unemp. prior to birth	0.183 ** (0.059)	1.200	0.072 (0.054)	1.075	0.172 * (0.086)	1.188
Human Capital variables:						
Age	- 0.007 (0.009)	0.993	0.002 (0.007)	1.002	- 0.010 (0.010)	0.990
Educ: High-school	0.206 *** (0.060)	1.229	0.035 (0.051)	1.036	0.070 (0.077)	1.073
Educ: Short university	0.310 *** (0.073)	1.363	0.100 (0.060)	1.105	0.289 *** (0.086)	1.335
Educ: Long university	0.547 *** (0.123)	1.729	0.323 ** (0.107)	1.382	0.266 (0.170)	1.305
Years of work exp.	0.053 ** (0.021)	1.055	0.017 (0.018)	1.017	- 0.046 (0.025)	0.955
Yrs. of work exp ² /100	- 0.211 (0.118)	0.810	- 0.047 (0.095)	0.954	0.388 ** (0.125)	1.474
Family situation:						
Marital status: married	0.083 (0.046)	1.087	0.007 (0.038)	1.007	0.050 (0.064)	1.052
Family inc (10 000 €)	- 0.214 (1.004)	0.807	0.934 (0.857)	2.545	- 0.168 (1.276)	0.845
Other child: 0-2 yrs. old	----	----	- 0.118 ** (0.046)	0.889	- 0.011 (0.063)	0.989
Other child: 3-6 yrs. old	----	----	- 0.116 * (0.051)	0.891	- 0.124 * (0.064)	0.883
Macro economic variables:						
Unemployment rate	0.171 *** (0.015)	1.186	0.153 *** (0.014)	1.166	0.157 *** (0.022)	1.171

Significance levels: * < 0.05, ** < 0.01, *** < 0.001

66. In the Danish samples the effect of the sector of employment is only significant for the 1st child mothers. Mothers employed by the state seem to return sooner to the labour market compared with privately employed. This may reflect that the working conditions in the public sector are more family friendly than in the private sector (more care days, more flexible work schedule etc., see Nielsen *et al.* (2002). For the other samples the effect is mixed and insignificant. The unemployment status prior to birth

seems to have a reversed effect for the Danish mothers compared with the Swedish mothers. The effect is significant for the 1st and the 3rd samples.

67. *The human capital variables* capture the effect of education, age and the years of labour market experience on the risk to return to work. The raw data shown earlier in Figure 1 (Section 4) and the results from the hazard models confirm that the level of education has a very strong and pronounced effect on women's decision to return to work. The higher the attained degree of schooling the shorter the career break. The effect is clear almost in all three samples. The reference level in the estimations is a compulsory school, and compared to that, for all three higher categories the effect is positive, indicating a higher risk to return. For example, for the Swedish samples the hazard for employment is estimated to be almost 2 times higher for women having a long university degree than for those with the lowest level of education. For the Danish samples the effect is also strong, especially for the 1st child sample. The education variable is likely to pick up some of the differences in forgone earnings since wages are not included in the model.

68. The affect of the age on a mother's return from leave has a significant effect only for the Swedish sample of 3rd or higher order births. For them the effect is negative on job retention, though the effect is minimal for them too, for each one-year increase in age at childbirth the hazard of return goes down by 1.6%.

69. The number of years of labour market experience reflects the attachment to the labour market prior to childbirth. This variable and its square are significant for almost all of the samples. The more mothers have work experience the shorter the career break but with a decreasing rate. This effect is clearly seen in the Danish samples too, except for the 3rd or higher order births for which the effect is reversed and significant at the 5% level.

70. The model has control variables for *the family situation* of a mother. The marital status, an indicator for being married, stands for a proxy for traditional values or a more stable family concept. Being married affects in this respect as expected, the interruption in career lasts longer if the mother is married. Though the effect is hardly significant for any of the Swedish samples. On the other hand, the effect is the opposite but again not significant for the Danish samples. The family income has no significant effect either on the length of the mothers' career break.

71. One interesting variable reflecting the differences between the family policies in Denmark and Sweden is the existence of other young children in the family. For the Swedish samples the existence of other children shortens the career break, whereas the effect is reversed for the Danish samples. Apparently, the availability of childcare is part of the cause. In Sweden it is easier to get a day-care place if there are other siblings who already have a place in day-care. In Denmark it is more likely that a mother stays longer home if she has other young children too.

72. To include the effect of *macro economic situation*, the national unemployment rate is added as a covariate to the model. For the Swedish samples the effect is clearly negative, indicating longer career interruptions for mothers, while the effect is the opposite for the Danish sample. The conflict in results may reflect mothers' situation in the labour market and the job-protection law. When the unemployment rate is high, mothers who have a job might want to return sooner if they fear for loosing the job. However, if there is a job-protection, this may not be a problem (in principle).

6.2 Policy Simulations

73. In order to test how changes in family policy regimes would affect the length of career breaks of mothers, we pursue some policy reforms and apply the new rules to the Danish and Swedish samples. To predict the length of the career break, we replace a set of family policy covariates with the new ones and

evaluate the survivor estimates for a “typical” case. In order to be able to obtain predictions, the time-dependent covariate, the rate of compensation, is changed to a time-constant replacement rate that will only depend on the previous income, the sector of employment (Denmark) and the year in question (Sweden). For the Swedish case, the mandated parental leave period for mothers is added to the equation as an explanatory variable to be able to control for that in simulations.¹⁶

74. The survival probability, $S(t)$, at time t for an individual with covariate values \mathbf{x} can be written as

$$S(t) = [S_0(t)]^{\exp(\beta\mathbf{x})} \quad (2)$$

where $S_0(t)$ is the baseline survivor function. After estimating β , we get an estimate of $S_0(t)$ by a non-parametric maximum likelihood method. With that estimate we generate the estimated survivor function for the chosen “typical” case by substituting her characteristics and the suggested policy reforms in the equation (2).

75. First we apply the Danish system to the Swedish 2nd child mothers’ case, but keeping the entitled days for mothers constant. In the second policy suggestion we apply a more equal parental leave schemes that share the responsibility more even between the parents and predict the effect on the length of the mothers’ career breaks. The parental leave quota for fathers is set to four months with everything else unchanged, i.e. maintaining the idea of flexibility. The third policy reform tests the effect of a free and perfectly available child day-care. Lastly, we test the effects of different compensation rates, with a full pay and with a lower rate of compensation.

Table 4. Results from policy simulations for a typical household. The predicted length of the career break under different family policy rules applied to the Swedish sample of mothers having their second child.¹⁾

<i>FAMILY POLICY RULES</i>	2 ND CHILD (the Swedish rules)	2 ND CHILD (the Danish rules)	2 ND CHILD (4 months of leave for fathers)	2 ND CHILD (no day-care fees, availability)	2 ND CHILD (compensation rates: 1.0 / 0.5)
Compensation rate	0.8	0.7 / 1.0	0.8	0.8	1.0 / 0.5
Father’s leave	4.0	2.0	16.0	4.0	4.0
Entitled period /100	3.3	3.3	3.3	3.3	3.3
Day-care fee	2.5	2.0	2.5	0	2.5
Childcare availability	0	1	0	1	0
Duration of leave	41	40 / 43	37	39	42 / 38

1) A typical household is defined as a household with a mother having average characteristic for continuous variables and modal values for indicator variables. Thus, the mother is 32 years old who is married and she has another child aged 0-2 years. She has 7 years of labour market experience, a long university degree, and she is employed in the public sector (state). Her husband takes 4 weeks parental leave. The family income is 33’ €.

76. The last row of Table 4 shows the predicted lengths of the career breaks after the suggested changes in family policy schemes. According to the results, mothers would react to changes. When the Danish system with the average level of compensation is applied to the Swedish sample it results in a one-week shorter career break, which is not much out of the total of 330 days of leave, but the effect could be more substantial in the macro level. When the rate of compensation was set to 1.0 it resulted in 2 weeks longer leave. The second policy reform gives fathers a 16-week long parental leave all other things unchanged (the entitlement period of mothers is left unchanged). This reform would decrease the career

16 The results from these estimations are in line with the results in Table 3 - 4.

break for the mother of the type family by 4 weeks. The result could imply that, if we tried to promote equality between males and females in the labour market, more leave should be directed explicitly to fathers (even without decreasing the entitlement period of mothers). If the idea were to encourage women to shorten the career breaks contingent to childbirth, i.e. work more hours, this might also result in smaller loss in wages and future earnings.

77. The third reform involves changes in child day-care availability and its price. As we saw earlier, we cannot test the price effect separately, because the restrictions in the supply side of the childcare may dominate the price effect. Free and perfectly available childcare would result in two weeks shorter parental leave periods for mothers, when the quality aspects of child day-care are not considered. Finally, we assessed the effects of different rates of compensation. When mothers were given a full compensation, they would increase their leave by one week, and when the compensation were decreased to 0.5 they would return three weeks sooner to the labour market.

78. The possibilities to pursue policy simulations with the Danish samples are more restricted because there has been no changes in the rules during the period of observation and because the simulation with insignificant estimates is questionable. Hence, we only assessed policy reforms considering the child day-care system and the compensation rates.

Table 5. Results from the policy simulations for a typical household. The predicted length of a career break under different family policy rules applied to the Danish sample of mothers having their second child¹⁾

<i>FAMILY POLICY RULES</i>	2 ND CHILD (the Danish rules)	2 ND CHILD (no day-care fees, full availability)	2 ND CHILD (compensation rates: 1.0 / 0.5)
Compensation rate	0.75	0.75	1.0 / 0.5
Father's leave	1.0	1.0	1.0
Entitled period (weeks)	28	28	28
Day-care fee	2.5	0	2.5
Childcare availability	1	1	1
Duration of leave	27	27	27 / 26

1) A typical household for the Danish sample: the mother is 30 years old, she is married and has another child aged 0-2 years. She has 3 years of labour market experience, a high-school degree, and she is employed in the public sector (municipality). Her husband takes one week of parental leave. The family income (excluded the mother's income) is 20 €.

79. The results from these policy reforms applied to the Danish sample are seen in Table 5. There seem to be no effect on time off work if the childcare were free and better available. Only if the rate of compensation were decreased to 0.5 it would bring about one week shorter career break.

80. The Swedish examples of policy simulations suggest that there is room for changes within the framework of family policies. Some of these policy simulations resulted in small changes in the level of a single family, but they might result in more far reaching effects in the labour market from the macro perspective, and regarding the shortage of the labour force in the future there can be substantial effects on the total supply of labour. Also, more flexible parental leave schemes and child day-care systems would allow a more effective use of the labour force.

81. On the other hand, family policy rules may determine the take up of parental leave even when the rules allowed flexibility and parents tend to adopt the rules as norms which conduct their behaviour – and this applies to fathers in particular. As the results from the hazard estimations and policy simulations show, when increasing the fathers' quota women react by decreasing their parental leave periods, and most likely this happens via changes in the behaviour of the fathers.

7. CONCLUSIONS

82. This study investigated the effects of different family policy regimes on the job retention of Danish and Swedish mothers, controlling for other individual and family characteristics that are likely to affect retention. Here we focused only on mothers who had a partner and participated in the labour market and interrupted their careers due to childbirth during the 1990s.

83. Our analysis took advantage of the availability of comparable longitudinal data and allowed us to estimate parallel models across the two countries. The timing of re-entry to the labour market was hypothesized to depend on a woman's full wage relative to her reservation wage. The probability of ending a career break and resuming employment was estimated using a Cox proportional hazard model.

84. Compared to previous research, this study applies the latest and more representative data. So far, only a few studies have addressed the impact of family policies on the return to work: see the studies of Rønsen & Sundström (1996) and Gustafsson *et al.* (1996), where they compare the determinants of the length of a career break in connection with childbirth between Sweden and some other European countries. The novelty of this study is to compare the two Scandinavian countries with similar welfare state ideologies with high labour force participation of mothers but with different parental leave regimes. Moreover, here we also take the family policy regimes explicitly into account including the child day-care availability and prices.

85. The labour market activity of mothers in Nordic countries is among the highest in the world, and yet they have the most generous parental leave schemes. The parental leave regimes are based on the labour market attachment before the childbirth and include a guarantee of job security. The Danish and Swedish family policies provide families with different kinds of incentives, which are reflected in labour market outcomes. Family policies differ significantly between both countries. Whereas Sweden represents a country that has a universal, flexible and generous parental leave scheme, Denmark represents a more conservative type of family policies when it comes to parental leave schemes. On the other hand, there is greater provision of child day-care places. In Sweden, many families have to queue for a place in a day-care centre, which makes things more difficult for families and perhaps obliges mothers to reduce their hours worked.

86. The paid parental leave mandates determine to a great extent the rate of return to employment. Since parental leave is longer in Sweden the return rates are lower than in Denmark during the first months after childbirth. To be able to compare the re-entry rates of mothers between the two countries we should keep in mind the country-specific features (*e.g.* other benefit systems and the labour market legislation) which interact with the family policy rules. Economic factors have a striking effect on the decision to return from leave, especially for Sweden. Our results suggest that the lower compensation rate boosts the return and, in areas with a good availability of childcare, the higher prices of day-care postpone it. We also found that fathers' parental leave take-up play an important role in the timing of women's employment after childbirth in Sweden; the longer leaves for fathers give rise to shorter time off work for mothers. Our findings underline also the importance of the labour market attachment of mothers. Over 90% of the mothers in both countries return to the labour market after the childbirth, and such labour force attachment is stronger the more they have invested in human capital.

87. We also carried out some policy simulations regarding the effects on the length of parental leave. The idea was test to how much these changes would affect the mothers' parental leave take up. The policy changes included applying the Danish rules to the Swedish mothers, giving fathers more ring-fenced leave, providing an access to a free childcare, and varying the rate of compensation. Each of these changes

resulted in some reactions in mothers' parental leave take-up for the Swedish sample, but the most interesting result was that when fathers were given a parental leave of 16 weeks, all other things unchanged (the entitlement period of mothers), it would decrease the leave for the mother of the type family by 4 weeks. This result would imply that, if we tried to promote equal career prospects between men and women, more leave should be directed explicitly to fathers. If the idea were to encourage women to shorten the career breaks contingent to childbirth, i.e. work more hours, this might also result in smaller loss in wages and future earnings. For Denmark, we are not able to find any significant substitution effects between the parents' time. We explain this empirical evidence by the fact that there – contrary to Sweden - has been only a very short “father quota” leave period (which is now abolished), the economic incentives are on average extremely negative for the fathers, and thus, there is yet no tradition in Denmark for the families to consider potential substitution options between the time of the parents.

88. We believe that this paper provides some evidence that by courageous and more flexible family policies we could promote the labour supply of women and more equal role sharing between mothers and fathers. More ambitious endeavours, such as the analysis of the fathers' parental leave take up and simultaneous decision-making over parental leave within a household are in the agenda for the future research.

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APPENDIX

Table 6. **Descriptive statistics of the sample of parents, the Swedish (1993 – 1998) and the Danish (1993 – 1996) sample, where the mother gives birth to her first child. All variables related to the market work are records from a year prior to the birth. Monetary values are given at the year 2000 prices in Euros. In the Swedish sample n=3 297, in the Danish sample n=3 248.**

VARIABLE	SWEDEN		DENMARK	
	MOTHERS	FATHERS	MOTHERS	FATHERS
AGE	29.2	33.4	28.0	28.0
AGE WHEN HAVING THE FIRST CHILD	29.2	30.9	28.0	28.0
HAVING CHILDREN 0-2 YEARS OF AGE	0	0.00	0	0
HAVING CHILDREN 3-6 YEARS OF AGE	0	0.01	0	0
NUMBER OF CHILDREN	1.0	1.09	1.0	1.0
MARRIED	0.94		0.29	0.29
EDUCATION (the highest attained level)				
ELEMENTARY SCHOOL	0.05	0.11	0.37	0.19
HIGH-SCHOOL DEGREE	0.47	0.44	0.40	0.51
BACHELOR'S DEGREE	0.24	0.22	0.20	0.14
MASTER'S DEGREE (or higher)	0.24	0.23	0.04	0.07
HOURS OF WORK *)	1 788.4	2007.1	1 517.3	1 743.0
SHARE OF FULL-DUTY *)	0.90	0.93	0.92	n.a.
HOURLY WAGE RATE (€) *)	10.9	12.9	15.4	18.3
LABOR INCOME (1000 €) *)	18.5	22.3	21.5	27.2
YEARS OF WORK EXPERIENCE	7.4	11.5	6.1	8.5
FAMILY INCOME	3.40		3.57	
SECTOR OF EMPLOYMENT				
STATE	0.11	0.14	0.37	0.06
MUNICIPALITY	0.38	0.13	0.31	0.07
PRIVATE	0.48	0.67	0.56	0.86
OTHER	0.03	0.06	0.07	0.01
LIVING IN A BIG CITY **)	0.48	0.48	0.20	0.20
PARENTAL LEAVE				
TAKEUP OF LEAVE (weeks)	40.2	4.4	27.9	1.03
SHARE OF THE FATHERS HAVING LEAVE		77.3		49.0
DAYCARE FEE (€)	232.0		205.7	
COMPENSATION RATE 1 ***)	0.83	0.78	0.78	0.55
COMPENSATION RATE2	0.79	0.75	0.48	0.36
COMPENSATION RATE3	0.14	0.17		
LENGTH OF THE PAID LEAVE (weeks) ****)	25.7	27.7	28.0	12.0

*) For Sweden, the information on hours of work and hourly wage rate are not available for every individual but on about 1/3 of our sample, therefore the mean value are calculated only for those having these information.

For Denmark, the mean values are calculated excluding the self-employed.

**) For Sweden, Stockholm, Göteborg and Malmö areas. For Denmark, Copenhagen, Frederiksberg and Aarhus.

***) For Sweden, the rate of compensation changes during the parental leave (time-varying variable) and varies across sector of occupation (with an income ceiling), and there have also been changes in the parental leave compensation rules over the years. For Denmark, the rate of compensation varies across sector of occupation, and further there is an income ceiling for compensation.

****) For Sweden, each parent has 180 days of parental leave, which could be transferred to the other parent only, except for 30 days (a father also have 2 weeks of leave contingent to childbirth). For Denmark, 10 weeks of leave can be taken either by a mother or a father (a father also have 2 weeks of leave contingent to childbirth).

Table 7. Descriptive statistics of the sample of parents, the Swedish (1993 – 1998) and the Danish (1993 – 1996) sample, where the mother gives birth to her second child. All variables related to the market work are records from a year prior to the birth. Monetary values are given at the year 2000 prices in Euros. In the Swedish sample n=9 756, in the Danish sample n=4 404.

VARIABLE	SWEDEN		DENMARK	
	MOTHERS	FATHERS	MOTHERS	FATHERS
AGE	30.4	33.1	29.7	30.9
AGE WHEN HAVING THE FIRST CHILD	27.8	28.8	26.6	n.a.
HAVING CHILDREN 0-2 YEARS OF AGE	0.25	0.24	0.28	0.28
HAVING CHILDREN 3-6 YEARS OF AGE	0.64	0.64	0.47	0.47
NUMBER OF CHILDREN	2.00	1.89	2.00	2.00
MARRIED	0.56		0.54	
EDUCATION (the highest attained level)				
ELEMENTARY SCHOOL	0.07	0.13	0.32	0.19
HIGH-SCHOOL DEGREE	0.57	0.55	0.42	0.54
BACHELOR'S DEGREE	0.20	0.16	0.22	0.14
MASTER'S DEGREE (or higher)	0.16	0.16	0.04	0.08
HOURS OF WORK*)	1 378.1	1 921.9	1 481.0	1 754.8
SHARE OF FULL-DUTY*)	0.81	0.92	0.91	n.a.
HOURLY WAGE RATE (€) *)	10.8	13.1	14.6	19.8
LABOR INCOME (1000 €) *)	13.5	21.6	20.0	29.9
YEARS OF WORK EXPERIENCE	8.2	13.1	7.4	10.6
FAMILY INCOME	3.46		4.11	
SECTOR OF EMPLOYMENT				
STATE	0.09	0.12	0.05	0.07
MUNICIPALITY	0.43	0.12	0.35	0.07
PRIVATE	0.42	0.68	0.49	0.85
OTHER	0.06	0.08	0.11	0.01
LIVING IN A BIG CITY **)	0.39	0.39	0.13	0.13
PARENTAL LEAVE				
TAKEUP OF LEAVE (weeks)	42.5	3.8	28.1	1.07
SHARE OF THE FATHERS HAVING LEAVE		69.0		46.0
DAYCARE FEE (€)	230.0		207.3	
COMPENSATION RATE 1 ***)	0.84	0.79	0.80	0.54
COMPENSATION RATE2	0.81	0.76	0.49	0.36
COMPENSATION RATE3	0.17	0.17		
LENGTH OF THE PAID LEAVE *****)	25.7	27.7	28.0	12.0

*) For Sweden, the information on hours of work and hourly wage rate are not available for every individual but on about 1/3 of our sample, therefore the mean value are calculated only for those having these information.

For Denmark, the mean values are calculated excluding the self-employed.

**) For Sweden, Stockholm, Göteborg and Malmö areas. For Denmark, Copenhagen, Frederiksberg and Aarhus.

***) For Sweden, the rate of compensation changes during the parental leave (time-varying variable) and varies across sector of occupation (with an income ceiling), and there have also been changes in the parental leave compensation rules over the years. For Denmark, the rate of compensation varies across sector of occupation, and further there is an income ceiling for compensation.

*****) For Sweden, each parent has 180 days of parental leave, which could be transferred to the other parent only, except for 30 days (a father also have 2 weeks of leave contingent to childbirth). For Denmark, 10 weeks of leave can be taken either by a mother or a father (a father also have 2 weeks of leave contingent to childbirth).

Table 8. Descriptive statistics of the sample of parents, the Swedish (1993 – 1998) and the Danish (1993 – 1996) sample, where the mother gives birth to her third or higher order child. All variables related to the market work are records from a year prior to the birth. Monetary values are given at the year 2000 prices in Euros. In the Swedish sample n=7 519, in the Danish sample n=1 855)

VARIABLE	SWEDEN		DENMARK	
	MOTHERS	FATHERS	MOTHERS	FATHERS
AGE	33.2	35.9	32.5	32.6
AGE WHEN HAVING THE FIRST CHILD	25.4	27.6	24.4	n.a.
HAVING CHILDREN 0-2 YEARS OF AGE	0.14	0.13	0.65	0.65
HAVING CHILDREN 3-6 YEARS OF AGE	0.66	0.80	0.43	0.43
NUMBER OF CHILDREN	3.37	3.17	3.25	3.25
MARRIED	0.75		0.67	
EDUCATION (the highest attained level)				
ELEMENTARY SCHOOL	0.14	0.20	0.29	0.24
HIGH-SCHOOL DEGREE	0.55	0.52	0.39	0.47
BACHELOR'S DEGREE	0.18	0.13	0.28	0.15
MASTER'S DEGREE (or higher)	0.14	0.15	0.03	0.07
HOURS OF WORK ^{*)}	1 386.2	1 958.0	1 397.8	1 663.8
SHARE OF FULL-DUTY ^{*)}	0.77	0.92	0.86	n.a.
HOURLY WAGE RATE (€) ^{*)}	10.8	13.3	13.8	18.6
LABOR INCOME (1000 €) ^{*)}	12.9	21.2	17.9	28.2
YEARS OF WORK EXPERIENCE	9.2	15.7	8.0	11.5
FAMILY INCOME	3.83		4.30	
SECTOR OF EMPLOYMENT				
STATE	0.07	0.12	0.04	0.06
MUNICIPALITY	0.53	0.15	0.44	0.09
PRIVATE	0.32	0.63	0.36	0.84
OTHER	0.08	0.10	0.16	0.01
LIVING IN A BIG CITY ^{**)}	0.34	0.34	0.09	0.09
PARENTAL LEAVE				
TAKEUP OF LEAVE (weeks)	43.1	4.0	29.4	1.03
SHARE OF THE FATHERS HAVING LEAVE		72.5		47.0
DAYCARE FEE (€)	229.0		205.9	
COMPENSATION RATE 1 ^{***)}	0.84	0.79	0.85	0.54
COMPENSATION RATE2	0.81	0.76	0.50	0.35
COMPENSATION RATE3	0.17	0.17		
LENGTH OF THE PAID LEAVE ^{****)}	25.7	27.7	28.0	12.0

^{*)} For Sweden, the information on hours of work and hourly wage rate are not available for every individual but on about 1/3 of our sample, therefore the mean value are calculated only for those having these information.

For Denmark, the mean values are calculated excluding the self-employed.

^{**)} For Sweden, Stockholm, Göteborg and Malmö areas. For Denmark, Copenhagen, Frederiksberg and Aarhus.

^{***)} For Sweden, the rate of compensation changes during the parental leave (time-varying variable) and varies across sector of occupation (with an income ceiling), and there have also been changes in the parental leave compensation rules over the years. For Denmark, the rate of compensation varies across sector of occupation, and further there is an income ceiling for compensation.

^{****)} For Sweden, each parent has 180 days of parental leave, which could be transferred to the other parent only, except for 30 days (a father also have 2 weeks of leave contingent to childbirth). For Denmark, 10 weeks of leave can be taken either by a mother or a father (a father also have 2 weeks of leave contingent to childbirth).

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