Determinants of Parental Leave Uptake among Fathers

A Comparative Study of Four Nordic Countries

by

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Abstract: Fathers in the Nordic countries were among the first in the world to gain the right to paid parental leave. The overall uptake has however been low, despite various attempts to increase it. This paper compares characteristics of fathers in four Nordic countries, to identify important determinants of parental leave uptake. The relationships were tested using logistic regression models. Support for theories regarding household division of labor and household bargaining was found: the socio-economic position of the father, but also the spouse was positively correlated with the probability of parental leave uptake of the father.

Keywords: parental leave, logistic regression, socioeconomic status, fatherhood, household division of labor

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1 Introduction

1.1 Research Problem

The Nordic countries have been among the first globally to introduce paid parental leave. Uptake of parental leave among fathers has however remained low, in comparison to mothers (Haataja, 2009). The generous family benefit systems in countries such as Sweden have been developed simultaneously with increasing female labor force participation rates, the long parental leaves and extended rights of parents to cut down working hours to combine family and work-life have however been argued to harm women's position on the labor market, given that it has been the mother taking on most of the parental leave and household work (Gupta et al, 2006). Norway was the first country to assign part of the parental leave to the use of fathers only, creating the first "daddy month" in 1993. Studies evaluating the effects of policies aimed to increase fathers leave take have found positive effects on fathers' aggregate parental leave uptake (Eriksson, 2005; Kotsadam & Finseeras, 2011; Haas & Rostgaard. 2011). Father's increased participation in childcare and a more equal outtake of parental leave have in some cases been seen as a strategy to make for a more gender equal labor market, while maintaining the strong family benefits of the welfare state. The, in a European context, relatively high fertility rates of Nordic countries have been prescribed to the family-friendly welfare state systems, with cheap childcare facilities and good opportunities for parents to combine careers with childbearing (Gislason 2010, p23).

Fathers' parental leave uptake is not only correlated with positive outcomes for women's labor market position, but has also been associated with increased engagement in the child's later life, and for a more gender-equal share of unpaid household work in such families (Gislason, 2010). The involvement of both parents in childcare and raising has been found to be linked to positive outcomes for the child, such as better cognitive development and educational attainment (Cools et al, 2015) and social competence and overall well-being (Harris et al, 1998) Fathers involved in early childhood care have also been found to have higher life-satisfaction and feel more self-confident and effective as parents (DeLuccie, 1996).

Paternal involvement in childcare is thus associated with positive outcomes for children, fathers but also women's overall labor market position, and paid parental leave is a key feature in realizing this.

1.2   Aim and Scope

This study aims to compare characteristics of fathers who claim parental leave, specifically within the Nordic countries. The introduction of parental leave in these countries was relatively early, and the universality of the systems make them suitable for a comparison. Studies on characteristics of fathers in each country have been undertaken, and will be presented in the previous research section. Differences between fathers on parental leave in the Nordics are to be identified: this study aims to compare characteristics of fathers who claim parental leave, using data from four Nordic countries for years ranging between 2000 and 2010. Theories on household division of labor, household bargaining and organizational culture are applied to the analysis. Socio-economic correlates on paternity leave in the different countries are also be examined, using information on educational attainment and ownership of dwelling.

The similarity of the institutional system of the Nordics allows for a collective analysis of fathers on parental leave, identifying the effects of the determinants on said fathers. Additional controls for country allows to distinguish between the effects of different institutional frameworks within the Nordics, as well as country-specific attitudes to parental leave. Considerable differences between the Nordics are still present, most prominently in the low uptake of shared parental leave among Finnish and Danish fathers.

Two research questions have been formulated:

What are the determinants of fathers claiming parental leave in the Nordic countries?

Are there significant differences between fathers claiming parental leave in the Nordic countries?

To answer these questions logistic regression models, estimating the probability of the father being on parental leave, given a set of covariates are applied, using harmonized micro-level data from the Luxembourg Income Study (LIS). Data availability restricts the sample to Sweden, Finland, Denmark and Norway. The data provided is cross-sectional, hence this study makes no causal claims.

1.3   Clarifications

The following section aims to provide a short overview of the different parental leave regulations within Sweden, Norway, Denmark and Finland, with focus on the years during which data was available. Parental leave in the Nordic countries is universal, meaning that all citizens have the right to parental leave, with benefits depending on previous income and labor force participation. The basic benefits are paid by the state and mostly financed

through taxes. A distinction between maternity, paternity and parental leave needs to be done. Maternity leave is leave reserved for the use of the mother only, usually in connection with childbirth. Paternity leave has been the male equivalent of this, a shorter leave period for fathers, commonly constructed so that the father could take time off work to help the mother around childbirth. Parental leave is the longer period of leave available for parents after maternity and/or paternity leave. This period is, in the context of the Nordics, not reserved to either parent, but can be split between the parents as they see fit, with the reservation of quotas. Except for the parental leave some countries offer parents the opportunity to reduce working hours when the child is young, or take time off work to care for the child at home, with limited financial compensation. These leave types are however beyond the scope of this study.

A unique feature of the parental leave systems in the Nordic countries is the introduction of father's quotas, assigning part of the parental leave to the use of fathers, on use-it-or-lose-it principles. This sort of leave was first introduced by Norway in 1993, when 4 weeks of parental leave became reserved to the use of fathers. The other Nordics introduced similar policies, in the form of either non-transferable leave or benefits for families where fathers claimed certain shares of the parental leave. These incentives have been introduced to increase gender equality in the out-take of parental leave, and thus also in family-life (Haas & Rostgaard, 2011). On the aggregate level the introduction of these quotas has been associated with an increase in fathers' participation in parental leave, without changing the, already high, uptake of paternity leave (Haataja, 2009).

Below follows a brief overview of the regulations and benefit levels in place in each country during the relevant time periods. Leave benefits can further differ depending on collective agreements at the workplace level, especially between the public- and private sector. What will be laid out here is the national regulations, the minimum standard that all citizens are entitled to.

Denmark

Eligibility and benefits are based on previous earnings, at least 120 hours of work in the 13 weeks preceding expected delivery, or enrolment in unemployment insurance. The benefit is paid according to previous earnings, up to a maximum of 2.846 DKK per week (2000) or 3.113 DKK per week (2004) (Luxembourg Income Study (LIS) Database, 2015, institutional information). About 75 % of the workforce is covered by collective agreements, in which case the employer would top up the state benefit up to full previous earnings. Maternity leave is replaced at the same rate as sickness cash benefit (Bloksgaard & Rostgaard, 2015).

The maternity leave consists of 4 weeks before and 24 weeks after childbirth. Between years 1998 and 2002 an extra fathers' quota was placed after this period, giving fathers 2 weeks of paternity leave after the finished maternity leave. These two weeks would

however commonly be shared with the mother, who would go on child care leave after the maternity leave, and thus not return to employment for only two weeks. Since 1997 two weeks within the first 14 weeks of the child's life are available for the father to claim, simultaneously with the mother, a sort of fathers' quota (Rostgaard, 2002). The system was reformed in 2002, abolishing the 2 weeks fathers' quota after maternity leave and merging the parental and child care leave. This made parental leave availability to 36 weeks per parent, however only 36 of these weeks, per family, are compensated. Up to 100% of the previous wage can be replaced, and the leave can be taken until the child is 9 years old (Haas & Rostgaard, 2011). At this point both parents were enabled to have parental leave simultaneously, and to claim the leave until the child turns 9 (Haataja, 2009).

Finland

Parental leave in Finland is available to all parents who have been covered by Finnish social security at least 180 days before estimated delivery are eligible for parental leave benefits. Days are defined as working days, in this case all week days except Sundays. The benefit is calculated based on previously taxed earnings, with up to 70% of previous earnings replaced, up to a ceiling of 26.720 euro (2004), or 140.560 FIM (2000) annually, with lower replacement for earnings above this. The minimum benefit was 60 FIM per day in 2000, and 10 euro per day in 2004. Maternity leave amounts to a maximum of 105 days, starting up to 50 days before expected delivery. Paternity leave of 18 days could be claimed during the maternity leave period, or while the mother is on parental leave (LIS Database, 2015, Institutional Information).

The parental leave is paid at the same benefit rates as maternity / paternity leave, for 158 days to either parent. In 2003 a father's month was introduced, giving fathers another two weeks of parental leave, conditional on them claiming at least two weeks of the shareable parental leave (Haataja 2009). Fathers must be resident with the mother to be eligible for parental and paternity leave. Also included in the data for Finland is 'Childcare leave', giving parents with a child aged less than three years the possibility to stay at home with their child, full-time or part-time, with a small replacement (maximum of 4647 euro per year and child in 2004, and a maximum of 30 000FIM per year in 2000). Child home care allowance for disabled children is also included. A birth grant to all mothers is also included in the data: a care package usually paid in kind upon the birth of a child (LIS Database, 2015, Institutional Information)

Sweden

To be eligible for the Swedish parental leave benefits employment of 240 days prior to delivery date is required. If these conditions are not fulfilled benefits are paid at the minimum rate, 60 SEK for both 2000 and 2005. Up to 450 days per child was available for parents, with up to 80% of previous wage covered for the first 360 days of parental leave, the remaining 90 days are paid at the flat minimum daily amount (LIS Database, 2015,

Institutional Information). The first father's quota was introduced in 1995, reserving four weeks of the parental leave for use of each paren. The quota was expanded to eight weeks in 2002. Leave can be claimed until child is 8 years old, also part-time and in several different periods (Haas & Rostgaard, 2011). 10 days of paternity leave in accordance to childbirth is available to all fathers.

In the Swedish data, care allowance for disabled children is also included, paid to parents with children under 16 who require special supervision or care for at least six months.

Norway

Employment in 6 out of the 10 months prior to delivery required. Replacement rates and length of leave can be adjusted by the family, so that the parent on leave would receive 100% of previous earnings for 46 (42) weeks or 80% for 56 (52) weeks (year 2004). Leave can be claimed until the child is 3 years old. Up to 16 weeks of the leave was reserved for the use of the mother around childbirth (LIS Database, 2015, Institutional Information).

Norway was the first country to introduce fathers' quotas, creating the first quota in 1993, reserving four weeks for the father only. The quota was prolonged to 5 weeks in 2005, 6 weeks in 2006 and to 10 weeks in 2009 (Haas, 2010). Norwegian fathers have the right to two weeks off work, covered by the employer if the father is part of a collective agreement, in connection to childbirth. This would however not be recorded in national statistics, as payment is not administered by the government (Brandth & Kvande, 2015). Fathers' leave eligibility was dependent on the mothers' eligibility until 2006 (Haas & Rostgaard, 2011).

1.4 Outline of the Thesis

Part two of the thesis covers previous studies on determinants of parental leave uptake among fathers in Nordic countries, which are combined into a theoretical framework for finding determinants of parental leave uptake for fathers. Furthermore theories on household division of labor, organizational culture and social gradients in values are presented. In part three the data used is introduced, following with a description of the model and variables in part four. The results of the analysis is presented in part five, where they also are discussed in relation to the theoretical framework and previous studies presented in part two. Part six concludes this thesis with a short conclusion and suggestions for further research.

2 Theoretical Framework & Previous Research

The following section presents the theoretical framework used for identifying determinants of paternity leave use. Expected determinants are drawn from previous studies and Gary Becker's theories on household economics, as well as organizational culture theories and a theoretical framework regarding social gradients in value change.

2.1 Previous Research

In sections 2.1.1 until 2.1.4 previous studies covering determinants of fathers on parental or paternity leave in Sweden, Finland, Denmark and Norway is presented. In section 2.1.5 different attitudes to parental leave for fathers and mothers in the Nordics is explored.

2.1.1 Country differences in fatherhood ideology and practices

In the following section research on different ideologies and practices concerning fatherhood and parental leave policies in the Nordics is presented.

According to Rostgaard (2002), the ideology and social construction between motherhood, fatherhood and care work is different in Sweden, Norway and Denmark, due to differences in the conception of gender, parenthood and equality. In Sweden fatherhood has a central position, the Danish system reflects a system of gender neutral relations and shared care work, while Norwegian leave rights are characterized by safeguarding motherhood.

Leave expansion in Denmark has been about promoting the welfare of the child, rather than the expansion of gender equal labor market outcomes, which Rostgaard identifies as the underlying cause in Sweden. The introduction of paternity leave did not successfully shift care responsibilities to the father, since most mothers would be on leave simultaneously, acting as the main caregiver. The emphasis from Swedish policy makers was instead on gains to gender equality, from increasing father's individual rights to parental leave. The first reform introducing paid leave for fathers in Sweden gave them the right to claim half of the parental leave with replacement at up to 90 per cent of previous earnings (1974). The introduction of two months of parental leave reserved for each parent in 2002, the first Swedish fathers' quota. This was coupled with an acknowledged political goal of increasing father's use of total parental leave days to 12.5 per cent.

Norway was early introducing parental leave as well, giving parents the option to share the leave as of 1977. They were also the first to introduce a quota specifically for fathers, already in 1993, reserving one month of the parental leave to the use of fathers alone, as only 1.5 per cent of the entitled fathers previously were claiming leave. At this point the total leave time was prolonged, the introduction of the first fathers' quota did thus not shorten the parental leave available for mothers. The motivation behind the fathers' quota in Norway was also tied to positively influencing women's labor market outcomes, but also in regards to the child's development. The introduction of the first fathers' quota has however been linked to an attitude change: from the right to take leave, to a duty to do so.

The introduction of shared leave in Denmark came later, with the first leave made available for fathers in 1984. A period set aside for the use of fathers only was not introduced until 1999, when two weeks of the parental leave was reserved for fathers. In both Denmark and Norway, however, the father's leave rights have been conditional on the mother's parental leave entitlement, which is tied to her employment situation (Rostgaard, 2002).

Hakovirta et al (2015) explore father's rights to family benefits in the Nordic countries, and whether or not these rights of fathers are in accordance to the dual career model employed in the Nordic countries. They conclude that it is only in Sweden that family policies support the parenting responsibilities of fathers and mothers equally. After separation the child benefits would go to the resident parent in Finland and Denmark, and can only be split for Swedish and Norwegian citizens. Fathers in Norway and Sweden only need to have custody of the child to be eligible for parental and paternal leave benefits, but fathers in Finland and Denmark have restrictions based on residency with child or mother placed on their leave rights.

These differences could be tied to different views on gender and gender equality in the Nordic countries, as explained by Rostgaard (2002). According to Haas & Rostgaard (2011) quotas for paternity leave have been the most efficient policy instrument to increase father's participation in parental leave, but also that flexibility and high coverage rates also have been crucial ingredients. Swedish and Norwegian policy makers have seen parental leave as the key to gender equality, while Finnish and Danish policy makers would see parental leave as a way for families to themselves choose which spouse would act as the homemaker and which as the main breadwinner, not promoting equal sharing of parental leave to the same extent. The Finnish strategy of creating incentives for gender-egalitarian leave uptake in form of prolonged leave for fathers in case of certain leave participation seems to not have been as efficient as the system with father's quotas. Part of the success of the father's quota is prescribed to strengthening fathers' negotiation position at the workplace, even though other policies such as generous benefits, universal coverage and flexibility also seem to have improved fathers' parental leave participation.

In a 2009 working paper, Haataja applies a quantitative approach to the different parental leave systems in the Nordic countries, comparing fathers' uptake of parental and paternity leave. Fathers in Finland and Denmark use mostly their paternity leave days, and not

much of the parental leave days. Finnish fathers were the most likely to use paternity leave, but share parental leave the least, which was more common in Sweden. Uptake of paternity leave has been high in all Nordic countries, however participation in parental leave has been more limited and varying. The presence of father's quotas should thus be expected to have a positive impact on the probability of parental leave uptake for fathers, but due to the different construction of parental leave policies and expectations, the difference between countries should also be significant.

H1: The presence of a fathers' quota has a positive effect on the probability of parental leave uptake

Differences in attitudes to fatherhood and utilization of parental leave policies by policy-makers to reflect these differences are not tested per se, except for by controlling for countries in the model. Focus on gender equality seems to be stronger within Sweden and Norway, whereas focus in Finland and Denmark seems to have been on childcare and enabling the creation of one breadwinner and one homemaker within families, rather than promoting a more dualistic approach, as has been the case in Sweden and Norway. Norway was the first country to introduce fathers' quotas and has the highest replacement rates, up to 100% of previous earnings. These two factors should influence fathers' uptake of parental leave positively, as the income loss for the family becomes smaller, and a high share of the leave is reserved for the use of the father. Furthermore institutions encouraging dual parenting have a long tradition in Norway. It should be noted that Denmark is the Nordic country that is closest to an individualized right to parental leave, whereas leave entitlements in Sweden, Norway and Finland are based on the family. Worth noting is however that the benefit is set per family in Denmark, and that Sweden and Norway have reserved quotas of their parental leave for each parent, making the distinction less clear.

H2: Parental leave uptake is the highest among Norwegian fathers

2.1.2 Finland

Lammi-Taskula (2008) finds that the social standing of mothers, rather than fathers, is what determines the sharing of parental leave among parents in Finland. Furthermore cultural conceptions of motherhood – if the mother is the one expected to care for the child, it is harder for her to return to work before the whole parental leave period is over, which in this study is proxied through survey questions. The earnings of the mother, as well as expectations of motherhood, were found to have a bigger positive impact on parental leave uptake, than the father's own income. The prevailing ideology of motherhood is also prescribed as one of the factors behind the short average take up of parental leave by fathers in Finland, and fathers with values oriented towards gender equality were also found to be more likely to share parental leave.

Salmi & Lammi-Taskula (2015b) report that since 1990s the share of fathers claiming the paternity leave of 1 to 18 days has increased from 40 per cent to 83 per cent in

2013. This leave has been used regardless of the socioeconomic background of the father or his spouse, making a short period of leave a normality for new fathers. Fathers have claimed little of the parental leave, except for the quota of two weeks that was reserved to them. Fathers with better socioeconomic position and fathers working in the public sector were more likely to claim parental leave but, for shorter periods than those with less education and lower earnings. Few fathers would use the Home Care Allowance or Home Care Leave options, with lower replacement rates.

According to these two studies fatherhood in Finland is secondary to motherhood. The mother is still the one expected to care for the child, and her earnings power was according to Lammi-Taskula (2008) more important than the earnings power of the father himself, in determining parental leave participation of the father. The among fathers low uptake of childcare leaves available after the parental perpetuates the male-breadwinner ideology described by Lammi-Taskula (2008), making the mother the main caretaker. Another dimension would be the mean higher male wages, making it an economically sound decision for families to let the mother stay at home.

2.1.3   Sweden

Sundström & Duvander (2002) find that while both the mothers' and fathers' earnings had a positive impact on fathers' use of parental leave, the fathers' earnings had the larger impact. If the father's earnings were at the income ceiling the impact was found to be negative, likewise the impact was negative in a second order polynomial – the families were thus concluded to be sensitive to income shortfall at some stages. The longer the education of the mother, the larger the larger share of parental leave would the father claim, the length of the mother's education was found to be more important than the length of the father's education. Younger fathers also claimed more leave, and more leave for the first child, compared to families with more children. This is interpreted as support for theories regarding household division of labor, and this becoming more gender-based with larger quantities of children.

In a cohort study on fathers in Stockholm Månsdotter et al (2010) investigate social and health characteristics of fathers who claim parental leave, distinguishing between the 60 days of leave reserved for the father and fathers claiming leave from the shared leave. Fathers with earnings close to those of their spouse were found to be more likely to claim parental leave, compared to couples where one of the spouses had significantly higher earnings. High educational attainment, non-manual occupation, a stable labor market position and employment in a workplace with equal shares of men and women were also positively correlated with parental leave. Self-reported poor health as well as mental ill-health, smoking and high alcohol consumption were negatively correlated with parental leave.

Duvander (2014), using a longitudinal design tests attitudes of fathers on their uptake of parental leave. Fathers who consider gender equality as important are more likely to claim longer leaves, whereas fathers who consider the economic aspect of work as important

only would claim a medium-length leave. Importance of family did not have any real impact on leave length for fathers, only mothers.

As opposed to in the Finnish case, the studies presented here claim that in determining fathers' parental leave uptake, characteristics' of the father are more important than those of the mother. Larger quantities of children however had a negative impact on fathers' parental leave participation, showing signs of a gender-based division of labor in Sweden as well.

2.1.4 Norway

Research on parental leave uptake of fathers in Norway has been undertaken by Naz (2010), comparing characteristics of fathers taking leave from the paternity quota and fathers claiming the gender-neutral parental leave, using Norwegian register data on parents to children born in the year of 2001. Most fathers claimed the paternity quota, as it otherwise is lost for the family, but take-up of the parental leave was limited. Likewise the effect of the different characteristics of fathers was stronger on parental leave uptake. Education and earnings of the mother were found to be positively correlated with father's parental leave uptake, as well as being married compared to only cohabiting. Fathers working in female-dominated professions were found to be more likely to claim parental leave, however this had no effect on the uptake of the paternity quota. Mothers' workplace did not have any effect. Number of pre-school children in the family was negatively correlated with parental leave, which Naz claims supports Becker's theory of household specialization.

Lappegard (2008) study father's use of parental leave using Norwegian register data on children born between 1993 and 1997. At this point fathers' eligibility for parental leave benefits was dependent on the mother's labor market position. They find that the introduction of a father's quota was positively correlated with absolute number of fathers on parental leave, but found no increase in mean leave length. Birth order of the child, and cohabitation was negatively correlated with fathers' leave take. Fathers aged 29-35 years at childbirth were most likely to claim leave, mothers age was not found to have any significant results. Educational level and earnings of both parents had a positive correlation, as well as fathers working in female-dominated sectors. Gender balance in breadwinning was found to be important for fathers childcare participation, again supporting theories of Becker.

According to Brandth & Kvande (2015a) expansions of the father's quota has in each case led to increased uptake of parental leave among Norwegian fathers, the shareable part of the parental leave has however remained female-dominated. The stronger the labor market position of the mother, the more likely the father is to claim parental leave outside of the father's quota. Employers attitudes, as fathers wanting to take more leave than the assigned quotas might have to negotiate about it, has also been found to affect fathers.

Class relations to parental leave has been investigated by Brandth & Kvande (in Eydal & Rostgaard, 2015). Socio-economic class is related to parental leave use of fathers in

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Norway, with the traditional parental leave being more for the middle class. Working class fathers have traditionally been side-line fathers, seeing the mother as the primary caregiver. The implementation of father's quota however seemed to change practices of parenthood in a more gender-egalitarian direction within both working- and middle-class fathers.

As for Sweden, workplace characteristics in terms of gender-composition were found to impact fathers parental leave, with fathers working in occupations with a higher share of women more likely to claim leave. Gender-based division of labor was found in Norway as well, as the likelihood of parental leave for fathers decreased with number of pre-school children present in household (Naz, 2010). As for Finland the fathers' quota had a positive impact on number of fathers on parental leave, but not affecting the average length of leave much. The dependency of fathers' benefits on mothers' employment until 2006 signals that family is the mother's sphere, supported by the fact that fathers who want to claim more leave outside of the quota are not entitled to it, but might have to negotiate with their employer.

2.1.5   Denmark

Research on Danish fathers' usage of parental leave is scarce.

Bloksgaard (2015) examines the low leave participation of fathers in relation to the practice of fathers' workplace negotiation for leave. Using interviews and observations of fathers employed in three different companies they find that the workplace does have effects on fathers parental leave possibilities. Fathers individual negotiation without the support of quotas have given them less bargaining power against their employer, especially since the shareable part of parental leave has been considered to be "for the mother". Male-breadwinner ideals are thus still strong.

Fathers' use of parental leave declined between 2009 and 2010, possibly due to the economic crisis decreasing fathers bargaining power at their workplace. Bloksgaard & Rostgaard (2015) use survey data from 2006 and find that 24 per cent of fathers to children born in 2005 took leave, compared to 94 per cent of the mothers. Public employees accounted for 67 per cent of these fathers, despite only making up 48 per cent of those entitled to parental leave. Fathers in the public sector receive larger benefits, and are more likely to be working in female-dominated or gender-neutral professions. Fathers with higher education, as well as those with a spouse with higher education were more likely to claim leave. Self-employed were also less likely to take leave. Workplace culture and age also affected fathers' use of parental leave (Bloksgaard & Rostgaard, 2015).

The lack of father's quotas in Denmark can based on this be seen as a negative impact on leave take up among fathers. The workplace seems to be an important factor: men working in the public sector receive larger benefits, and this is also where gender-neutral or female-dominated professions are more common, where ideals of masculinity and work would be weaker. An important determinant for Danish father's parental leave take up should

thus be the gender construct of their workplace. Studies on on socio-economic determinants of Danish fathers' parental leave take up are however lacking, but as Bloksgaard & Rostgaard (2015) show based on aggregate statistics, fathers with higher education, and those less educated than their partners have been more likely to claim leave, patterns that were found in Sweden, Finland and Norway as well.

2.2   Theoretical Approach

This section concerns theories applicable to the uptake of parental leave among fathers.

2.2.1   Household division of labor

Gary Becker's theories of household utility maximization regard the household as one unit, where the members of the household have a shared utility function. Given biological differences in the contribution to production of children between genders women would have a comparative advantage in household work, making for a lower accumulation of human capital among women, manifesting itself in different specialization of the household members. Since the household is treated as a utility-maximizing unit, the spouse with a comparative advantage at market work will allocate their time there, whereas the spouse with a comparative advantage in household production would allocate their time to this, or divide it between household and market production. (Becker, 1991, chapter II). Parental leave can be assumed to lie within the sphere of household production and wages are commonly the measure applied for labor market efficiency. The spouse with the lower wage is therefore assumed to specialize in household production, or claim most of the parental leave. This framework offers an explanation to the overall higher leave uptake among women, especially given the prevailing higher mean male wages.

Household bargaining theories support this notion, as they suggest that household decisions are the outcome of internal bargaining within the household, recognizing separate utility functions of family members. The outcome of such bargaining would in turn be dependent on the bargaining power of each spouse, which usually is accounted for as ability to survive outside the family unit: that is income or other assets available to each spouse. Social safety nets and social expectations such as gender roles would also affect the bargaining power of spouses (Lundberg & Pollak, 1996).

Since income of parents on parental leave cannot be identified in the data, education is used as a proxy for potential earnings in the labor market. It is thus assumed that the spouse with a higher educational attainment would be the one specializing in market production, as this should translate into higher wages. This also finds support in the literature described in sections 2.1.2-2.1.5. The earnings potential and social status of the mother is identified as a significant determinant of fathers' parental leave uptake (Brandth & Kvande, 2015;

Lappegard, 2006; Sundström & Duvander, 2002; Lammi-Taskula, 2008). Higher earnings potential of the mother has had a positive effect on parental leave participation of fathers. This leads to the hypothesis

H3: Fathers with less education than their spouse are more likely to claim parental leave

Furthermore the replacement system of the countries could reinforce this mechanism, if not the entire wage of the parent on parental leave is replaced, giving the families more of an income loss if the parent with higher income trades market production to household production. The more of the wage that is being replaced, the more likely the father should be to claim parental leave. This is reflected in H2, expecting that Norwegian fathers, with the highest available replacement rate, would be the most likely to claim parental leave.

2.2.2 Organizational culture

Not only household decisions would affect the use of parental leave, but also the place of work would affect the father's possibilities and decision to take leave. The organizational culture at the workplace is deduced from the functioning of the members of the organization, representing their collective beliefs and values. Organizational culture would thus be developed based on the individuals present in it, and also be shaped by the culture of the society it exists in (Bowen & Orthner, 1991 pp. 190). The norms regarding parental leave present in the workplace of the father could thus be expected to have an impact on his probability to claim parental leave. If the workplace has a high share of women, the habits of mothers to take up parental leave would normalize this within the organization, and thus increase the fathers' likelihood of parental leave (Haas et al, 2002; Bygren & Duvander 2006). According to Lehto & Sutela (2004), men in the public sector are more likely to claim parental leave, compared to those employed in the private sector. Long periods of parental leave are more common in the female-dominated public sector of the Nordics, also providing encouragement for men in this sector to claim parental leave.

The gender division at the workplace of the father is thus found to affect his parental leave uptake, in all four countries (Naz, 2010; Bloksgaard & Rostgaard, 2015; Månsdotter et al 2010; Salmi & Lammi-Taskula, 2015). The effect stems from workplace practices and expectations, but also in part to differing benefit rates, depending on sector and collective bargaining power. Danish fathers, being subjected to individual bargaining at their workplace, should thus be more affected by the gender composition at their workplace than their Swedish and Finnish counterparts. Haas et al (2002) find that the values present at the company level affects the employed fathers' likelihood of being on parental leave, and also length of leave. Individual and family level values were however found to be more important determinants, which the authors prescribe to the strong institutionalized rights of fathers to claim parental leave, possibly removing some of the impact from expectations and values from their work environment. This supports the thesis that Danish fathers, whose rights to

parental leave is more dependent on their workplace, also should be more affected by their working environment, compared to Swedish and Finnish fathers.

Based in these theories, the following hypotheses can be formulated

H4: Fathers working in male-dominated professions are less likely to claim parental leave

H4.1: The impact is larger for Danish fathers

Finnish fathers, on the other hand, due to societal expectations and a prevailing male-breadwinner ideal would thus be affected by their individual and family-level values, and be less likely to claim leave. These ideals would however also be strong at the workplace. The average uptake of parental leave is thus expected to be lower, independent of workplace characteristics.

2.2.3   The socio-economic gradient in gender role attitudes

Social values are not static. The spread of postmodern values, going from 'basic needs' to individualism and self-fulfillment have been argued to influence the declining fertility rates of the second demographic transition. The drivers of change were in this case highly educated individuals, argued to be more adaptive to social change in the form of new ideas and values (Lesthaeghe, 2010; Lesthaeghe & Neidert, 2006). It is shown by Geisler & Kreyenfeld (2011), with German data, that higher education also can be associated with more gender-egalitarian values. Fathers with higher education have been found to be more likely to claim parental leave in the Nordic countries as well (see Bloksgaard & Rostgaard 2015; Lappegard 2006; Månsdotter et al 2010; Salmi & Lammi-Taskula 2015). As Brandth & Kvande (in Eydal & Rostgaard, 2015) show parental leave use (in Norway in this case) is also dependent on class relations, with differing conceptions of fatherhood depending on socio-economic class. A difference in values depending on socio-economic position could thus be found, making fathers in white-collar jobs, or fathers' with a higher educational attainment more prone to gender-egalitarian ideas and thus sharing of parental leave. It can therefore be expected that

H5: Fathers with higher education are more likely to claim parental leave

Given the discussed differences in values between the countries, the effect could be expected to be larger for Finnish and Danish fathers, as the male breadwinner-ideology has been found to be stronger in these countries, assuming that gender-egalitarian values display among parents with higher education, that these two countries in a sense are lagging behind the development seen in Sweden and Norway.

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3   Data

To answer the research questions cross-sectional micro level data on persons claiming parental leave in four Nordic countries is used. The data comes from the Luxembourg cross-national data center, specifically their income database (LIS). LIS gathers, standardizes and harmonizes income microdata from upper- and middle-income countries, using data from national surveys or registers. Data provided is thus cross-sectional, with harmonized variables that are comparable across countries. Information on parental leave is recorded in the dataset for Finland in the years 2000 and 2004, Sweden for years 2000 and 2005, Norway years 2004, 2010 and Denmark for the years 2000 and 2004. Access to the data is made available via a remote-execution data access system, where code is submitted to the database and the output returned via email. The data can thus not be viewed, and graphics are not returned.

The data provided by LIS origins from statistical agencies in each country, with the data being cleaned and edited, in order to create the variables provided in the dataset. Consistency checks and removal of improbable values has been performed by the data provider, however no imputation except for that from the original source has been added. The data should thus hold high comparability between different country-contexts and be suitable for the analysis.

3.1 Source Material

Comparing income and social security transfers across countries can prove complicated, given differing definitions and measurements of income in different contexts. The social insurance systems in the Nordic countries are however closely related, and the harmonization of the LIS data should further contribute to making the data comparable across the chosen countries. Since the analysis of social benefits is not centered around the amount transferred but rather on whether or not benefits are received, the comparability of social security transfers across the countries should pose no threat to the internal validity of the study. Some differences in eligibility among the countries is however present, and needs to be accounted for.

Below follows a short description of the data sources LIS has listed for each country[1]. In each case income data refers to annual income in the calendar year of the survey. Age is recorded as the completed age at time of survey, being in the first quarter of the following year.

Denmark

Data is drawn from the 'Law Model' survey, microsimulation models of information from administrative records. A random sample of 1/30 of the total household population as of 1st January the preceding year. Reported response rate is 100%, as register data is used.

Finland

Data comes from the Income Distribution Survey, with a sample drawn from the central population register. Data from administrative records is then combined with interviews, with

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[1] Information as provided by LIS (survey information), see http://www.lisdatacenter.org/our-data/lis-

response rates ranging around 85%. Worth noting that eligibility for the survey changed from 15 to 16 years of age between 2000 and 2004.

Norway

Data from 2004 is from the Income Distribution Survey, and data for 2010 is drawn completely from register data, from which a random sample of 10% of the population has been extracted for the use of LIS. The Income Distribution Survey combines register data with interviews on household composition, but in case of failure of obtaining a response the information has been found in registers or been linked from other surveys.

Sweden

Data is retrieved from the Swedish Income Distribution Survey (HINK), with a sample of individuals aged 18 and over, sampled from the population register. A combination of register data and interviews, where missing interview data has been completed with register data.

3.2   Descriptives

Table 3-1 Summary of variables, fathers with child aged 1-2 years

Variable	Obs	Mean	Std, Dev,	Min	Max
Parental leave uptake	17071	0,27	0,44	0	1
Parental wage replacement	17071	11345,88	25316,62	0	311200
Age	17071	34,95583	5,86	18	65
Age, centered	17071	0,00	5,86	-16,96	30,04
High education	17071	0,36	0,48	0	1
Education of spouse	17071	2,022787	0,77	1	3
Older spouse	17071	0,18	0,38	0	1
Ownership status of dwelling	17071	1,540039	0,78	1	3
Number of household members < age 5	17071	1,448128	0,55	1	3
First child	17071	0,37	0,48	0	1
Country	17071	2,29266	1,03	1	4
Fathers' quota present	17071	0,79	0,41	0	1
Industry	7446	1,933924	0,96	1	3
Age of child	17071	0,45	0,50	0	1

The distribution of the variables within the sample is shown in table 3-1. The parental wage replacement variable has been used to identify fathers on parental leave, recoded into the dichotomous variable denoting parental leave uptake. Variables are, except for parental wage replacement and age, categorical.

Table 3-2 Distribution of parental leave uptake per year country and sex

Country	Fathers			Mothers		
	Frequency, receiving	Percentage, receiving	Mean Amount received, 2011 USD	Frequency, receiving	Percentage, receiving	Mean Amount received, 2011 USD
Denmark 2000	131	3,93	2345	1069	29,22	5431
Denmark 2004	159	4,96	2537	1294	36,41	7344
Finland 2000	91	16,55	1460	461	82,03	6349
Finland 2004	95	20,34	1755	409	83,81	6451
Norway 2004	208	31,8	2755	329	47,41	10707
Norway 2010	3596	37,34	5245	4183	39,76	10841
Sweden 2000	303	54,59	1959	459	79	5908
Sweden 2005	429	62,81	3140	579	81,09	7256
average	626,5	29,04	2649	1097,88	59,84	7536

averages calculated giving equal weight to each country and year

Table 3-2 shows the distribution of parental wage replacement receivers among parents with children aged 1-2 years old, per country and sex, as depicted in the dataset.

The mean amount received for those receiving parental wage replacement is also included. The amount is Purchasing Power Parity adjusted to 2011 international dollars using PPP deflators provided in the dataset, making the different country currencies comparable across years and countries[2].

Comparisons of the average amount received among those receiving parental wage replacement can provide information on the extent of leave claimed by parents. The

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[2] PPPS adjusted as provided at http://www.lisdatacenter.org/data-access/ppp-deflators/

replacement ratio between men and women is especially low for Finland, suggesting that even though many fathers claim some parental or paternity leave, the period is short. The overall trend is that fathers receive considerably less parental wage replacement than mothers.

Overall there seems to have been a positive trend in parental leave participation for fathers over time, also when looking at the average amount received by fathers as a share of what mothers' on average receive, suggesting an overall trend towards a more gender-equal participation in leave. Among the fathers Swedish fathers were the most likely to take parental leave, the mean replacement amount however being considerably less than the mean amount for mothers. More than half of the Swedish fathers did at some point stay at home with their child. Finnish and Swedish mothers had a high leave uptake around 80 per cent, Finnish fathers were however considerably less likely to be on parental leave. Parental leave uptake is significantly lower among Danish parents, especially fathers. Norwegian fathers were almost as likely as Norwegian mothers to claim parental leave. If the average length of leave for Norwegian fathers is estimated using mean wage replacement received, the mean length of leave close to doubled between 2004 and 2010, whereas little change was found for mothers. Between these years the length of the fathers' quota in Norway was prolonged from four to ten weeks, and it is likely that the change is related to the quota. If leave-length is estimated based on parental wage replacement received, it would seem that Finnish parents have the on average shortest leaves. Differences in replacement rates across countries would however also have an effect, and this can thus not be seen as conclusive evidence on length or parental leave claimed.

4 Methods

The relationship between parental leave uptake and covariates is estimated using binomial logistic regression models. In this section the model specification and explanations of key variables are provided.

4.1 The Model

The logistic regression model can be used to predict the probability of the outcome of interest, in this case fathers take up of parental leave, given a set of variables. The dependent variable takes value 1 if the examined event happens, otherwise 0. As the probability of being on parental leave is to be examined a binomial model is preferred over a multinomial logistic model. The logistic model allows for any mix of continuous, discrete and dichotomous variables, which do not need to be normally distributed or linearly related to the dependent variable. The coefficients of the independent variables display the effect of that variable on the changing likelihood of the dependent variable occurring, the bigger the absolute value of the coefficient, the stronger is the effect. A logistic model is preferred over a linear model, given that in a linear model probabilities outside of the spectrum of 0 and 1 are, by definition, estimated, leading to non-normal distribution of the error term and heteroscedastic residuals. No assumptions about the distribution of the independent variables are included in the logistic model, they do not have to be normally distributed or linearly related to the dependent variable, or of equal variance in each group (Tabachnik & Fidell, 2013).

Here results are presented in the form of odds ratios, and are to be interpreted as the change in odds of the dependent variable changing, given a one unit change in the independent variable. Odds ratios are obtained through exponentiating the coefficients and can take on values from 0 to ∞, where a value less than one is interpreted as a negative effect, and a value above one to a positive effect (Tabachnik & Fidell, 2013, 10).

To give equal weight to each country in the model, population weights normalizing to 10.000 by country are applied. Weights are used on the individual level. Rather than normalizing the sample to the whole population size, normalizing to a sample size equally large for each country under comparison makes the different samples more comparable. The use of weights is especially important since the Norwegian sample in comparison to the others is considerably larger.

4.1.1   Limitations

Since the available data only is cross-sectional, no causal relationships can be established in this study.

Income cannot be controlled for in the model, as the data, being cross-sectional, only reports annual earnings of individuals and households. Labor income is affected by uptake of parental leave, those claiming parental leave would thus have consequently lower income than those not claiming it, ceteris paribus. Length of parental leave would also affect income negatively, but the data does not offer another measure of parental leave, than the amount of parental wage replacement transferred. As replacement rate differs depending on length of leave and also is affected by income ceilings and in some cases can be set at different rates depending on the family's preferences, determining the original income levels of parents cannot be done. Instead educational level and whether or not the dwelling of the family is owned are used to proxy socio-economic status.

Age is recorded at time of data collection, which takes place in the first quarter of the succeeding year. It is recorded in numerical form, no information on birth date is given. A discrepancy between age and income is thus present, if age of youngest own child is based on interview data and not registers, as the wage replacement is recorded based on calendar years. Children born during the first three months of the year, compared to those born later the same year are thus recorded as one year older. Since the sample selection is done based on age of youngest own child this might lead to a misestimation: cases where the child was younger during the reference year than it appears in the data. The timing of birth should however be random based on the characteristics of the father, there is however a possibility that part of the parental leave uptake recorded for children age one actually reflects parental leave uptake for children age zero, what in fact is recorded could thus be paternal leave.

4.2   Variables

The following sub-section provides an overview of the variables used in the analysis, starting from the definition of the dependent variable of parental leave uptake. Information on variables and their definition is as found from the Luxembourg Income Project.

4.2.1   Dependent variable & sample

Paternity leave uptake is modeled as a binary variable, denoting whether or not the individual is receiving parental wage replacement, used to describe uptake of parental leave. This information is recorded in the "pitsisma" variable, which in the data set is defined as short-term work-related monetary insurance transfers from maternity, paternity, or parental leave insurance schemes. This includes maternity/paternity schemes, which compensate the insured person or his/her dependents for the loss of income due to absence from work during

the last weeks of pregnancy and during maternity/paternity and in many cases adoption leave as well. Also includes parental leave schemes, which compensate for the interruption of work or reduction of working hours (partial leave) in order to raise a child until a certain age (in some cases can be also fragmented or shared between parents). In the Swedish datasets pitsisma also includes care allowance for disabled children, for parents of children under 16 who require special supervision or care for at least 6 months. Temporary parent's cash benefit (VAB) in Sweden, replacing income of parents taking time off work to care for a sick child is not included, however care allowance for disabled children is included. In the Finnish data the 'child home care allowance', a benefit for parents reducing their working hours to care for children under age 3 is included.

The variable pitsisma is continuous, reflecting the sum transferred to each individual. The most basic definition of parental / paternity leave is thus cases where this value is more than 0, denoting that the individual has received parental wage replacement during the reference year.

Due to the data being cross-sectional the total length of parental leave for parents cannot be measured, as it might span over more than one calendar year. Since the wage replacement amount is not fixed but depending on income or length of parental leave, determining the length of parental leave is not possible. Information on the actual magnitude of parental leave claimed by each individual is therefore not reliable. Identifying fathers who take part of the parental leave and not only the father's quota or paternity leave is therefore troublesome. Instead restricting the sample based on age of own youngest child could be used to distinguish the different types of leave, as paternity leave usually would be claimed during a few weeks around childbirth or immediately upon the maternity leave.

Due to differences in national statistics, benefits for paternity leave in accordance to childbirth is not included for Sweden, Norway and Denmark. It is however included in the Finnish case, making comparisons on leave uptake among fathers in this category ambiguous. Instead the sample is restricted based on age of youngest own child, only including those where age of youngest own child is 1-2 years old. Due to the aforementioned country-differences in recording of paternity leave benefits cases where age of youngest own child equals zero are excluded, to only capture the effect of fathers on parental leave, as paternity leave in all cases is restricted to the period around childbirth. By restricting the study to individuals with children aged 1-2, the focus is instead placed on fathers claiming parts of the shared parental leave, which also provides greater variability in the sample, as paternity leave uptake among fathers is around 90% in all cases (Haataja, 2009).

The analysis is only performed on men, 18 and older, given that the dependent variable is paternity leave and the data for Finland only includes individuals aged 18 or older. Age is recorded as age in completed years at the time of the survey. The analysis is performed on the whole sample of four countries, making one single dataset where the data for each available year and country is appended. The sample is restricted to fathers cohabiting with their spouse. Information on the spouse can then be included in the analysis, and entitlement

to parental leave for fathers in Finland and Denmark has been tied to residing with the child's mother.

4.2.2   Independent variables

Age - Age of the father is included as a continuous variable, recorded in years. The range is from 18-65 years. A test with age as a categorical variable with 10 year intervals was done, the patterns of the results however remain consistent. In its categorical form age shows that younger fathers are more likely to claim parental leave. In the final model age is included as a centered variable, centered around the mean age in the selected sample. Age is recorded at the time of data collection, which could be up to three months after the reference year the income data refers to. There could thus be cases where age of the youngest child, which is used to determine fatherhood, would differ from the actual age of the child at the time parental leave benefits were paid.

Education - controlled for using a 3 category recode provided in the data, dividing education into low: less than secondary education, medium: completed secondary education, and high: completed tertiary education. This is further aggregated into a dichotomous variable, taking the value one if education is coded as high, zero if education is coded as medium or low. Fathers with high education are expected to claim more parental leave.

Industry – industry of employment is classified according to the United Nations International Standard Industrial Classification of All Economic Activities classification. It is an internationally accepted standard for categorizing production units based on production activity, allowing for data comparison at national and international levels (United Nations, 2002). This classification of industry does however not allow for determining earnings potential of individuals, as it shows the production unit, rather than profession. Instead industrial sector is used to identify the gender composition of the father's workplace, categorized as male-dominated, female-dominated or mixed. This was determined using the sex distribution within the original sample, for each country. Cases where 40-60% of the employees are men are coded as gender-neutral, less than 40% as a predominantly female working environment and if more than 60% men as a predominantly male working environment (see appendix A for the distribution within each sector and country). Recoding industry in this way can however only give a very blunt estimate, as the actual sex distribution at the workplace only can be assumed based on averages within the sample. Information on industry is not available in the Norwegian data, a separate model without Norway is used to control for industry. According to organizational culture theory, fathers in workplaces with proportionally more women, should be more likely to claim parental leave.

Education of spouse - The socioeconomic status of the spouse, compared to the father's, is controlled for using educational attainment of both spouses, recorded in the form of highest level of education attained or attended. The variable for education that was used to make comparisons of the spouses' education provides more detailed information compared to

the educational level variable used, but has country-specific classifications, coded into 7-10 categories, as compared to only 3 categories. This variable is however useful to in as much details as possible distinguish between educational attainment of spouses. In order to identify the spouse within the dataset only couples that are living in the same household are considered, as they can be linked to each other based on household level data. This does however restrict the sample to only cohabiting couples. Furthermore it is assumed that one of the spouses is also the head of the household, as the spouse of the head and the head are linked this way. In the data households are defined as individuals living in the same dwelling, sharing housekeeping and meals. The variable is divided into three categories: the father having higher education, the spouses having the same educational level and the spouse being the one with higher education. The spouses having equal education is used as the base line estimate.

Educational attainment of spouse can reflect the earnings potential of each spouse, and is used to test theories regarding household bargaining and household specialization of labor by Becker – it is expected that the spouse with the higher earnings potential would claim less parental leave. It is thus expected that in families where the father has comparatively less education, he would be more likely to be on parental leave.

Age of spouse – Sundström & Duvander (2002) identified a positive relationship between an older spouse and parental leave uptake for fathers. Using the identified spouse in the data, a dichotomous variable with the value one for fathers with an older spouse was created.

Number of household members aged 5 or younger – the information is recoded into a categorical variable, reflecting 1 household member 5 or younger, 2 household members aged 5 or younger and 3 or more household members aged 5 or younger. The expected relationship is negative, given Becker's theoretical suggestions on household specialization, as more children are added, the returns to one spouse specializing in household activities would be increasing.

First child- Whether the child is the first child is also accounted for in the model. It is constructed from the variable denoting number of household members aged 17 or younger, assuming that if the number of children aged less than 17 takes the value one, this would be the first child. The variable is however highly correlated with the variable denoting number of household members aged 5 or younger, and they are therefore run in separate models. Fathers are expected to be more likely to claim leave if it is their first child, as was found by Lappegaard (2008) and Månsdotter et al (2010).

Age of youngest own child – the sample is determined based on age of own youngest child, including only cases where the child is one or two years old. The age of this child is controlled for in the model, assuming that the likelihood of parental leave uptake is lower in cases where the child is older, due to restrictions in available leave length and practices of taking care of the child at home while it is younger. A dichotomous variable with the value one if the child is two years old was created.

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Ownership of dwelling – a dichotomous variable denoting ownership status of dwelling of the household, taking the value one if recorded as owned. The categories 'not owned' and 'rented' are recoded to the value zero. Missing cases are coded as unknown. It is expected that those owning their dwelling have a better socio-economic position, and therefore would be more likely to claim parental leave.

Fathers' quota - previous studies suggest that assigning part of the parental leave for the use of fathers has had a positive impact on fathers' participation in parental leave. A dichotomous variable recording the presence of fathers' quota was created, taking the value one for years when the quota was in place in each country.

Country - a categorical variable denoting country is included in the model, to control for the difference between countries. No separation between the different years for each country is done. By controlling for country, country-specific institutional and cultural differences are controlled for. The magnitude of the changing probability depending on country is estimated.

5 Empirical Analysis

The following chapter will display and discuss the results obtained from the logistic regression.

5.1 Results

Table 5.2 shows the results of logistic regression of covariates on the probability of parental leave uptake for fathers in the sample countries. As a robustness control, a corresponding model with Denmark as the base line is found in appendix B, no relevant change of the results are however visible. Model II is used as the base model on which further covariates and interactions are tested. In model VII, controlling for industry, Norway is excluded and sample size reduced with 9.625 observations. Model I is a test with only basic characteristics of the father.

The relationship between age and parental leave uptake is negative, older fathers are thus less likely to be on parental leave. More educated fathers are more likely to claim parental leave. The educational level of the mother is included in models II-V. As compared to the spouses having equal education, the probability of the father being on parental leave is associated with a 20 per cent increase, if the education of the spouse is higher, however not statistically significant.

Ownership of dwelling is associated with increased likelihood of parental leave for fathers. The variable capturing the effect of a fathers' quota being in place shows a positive effect on the probability of parental leave uptake, it is however not statistically significant. Model III includes a control for the number of household members aged 5 or less. Compared to only one child aged 5 or less, the likelihood of fathers claiming parental leave increased with number of children aged 5 or less, the effect is however not statistically significant.

The country variables shows changing likelihood depending of country of residence. Fathers in Sweden are the most likely to be on parental leave, and are used as the base line estimate. Compared to Swedish fathers Danish fathers are the least likely to be on parental leave: everything else held constant a Danish father is 97% less likely to be on parental leave, compared to a Swedish father. Finnish and Norwegian fathers, compared to Swedish, were also less likely to be on parental leave, the effect was however not as strong. Even within the Nordic countries, the difference between countries is what explains most of the variation in probability of parental leave uptake for fathers, compared to the covariates controlled for in these models.

Table 5.2 The impact of covariates on probability of parental leave uptake for fathers with a child aged 1-2 years

	I	II	III	IV	V	VI	VII
Age	0.99*	0.98*	0.98*	0.98*	0.98*	0.99	0.98*
	(0.0070)	(0.0070)	(0.0070)	(0.0072)	(0.0070)	(0.0071)	(0.0094)
Tertiary education completed	1.13	1.29**	1.29**	1.30**	1.30**	1.29**	1.14
	(0.096)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.16)
Ownership of dwelling: owned	1.59***	1.54***	1.53***	1.53***	1.56***	1.53***	1.25
	(0.17)	(0.16)	(0.16)	(0.16)	(0.17)	(0.16)	(0.17)
Dwelling not owned (ref.)	1	1	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Dwelling unknown	1.10	1.08	1.07	1.07	1.01	1.07	0.96
	(0.19)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.17)
Child age 2	0.25***	0.25***	0.24***	0.24***	0.25***	0.24***	0.31***
Country:	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.031)
Denmark	0.024***	0.024***	0.024***	0.024***	0.028***	0.024***	0.025***
	(0.0026)	(0.0027)	(0.0027)	(0.0027)	(0.0044)	(0.0027)	(0.0030)
Finland	0.13***	0.12***	0.13***	0.12***	0.14***	0.12***	0.12***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.020)	(0.016)	(0.016)
Norway	0.35***	0.35***	0.35***	0.35***	0.35***	0.35***	
	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	
Sweden (ref.)	1	1	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Education of spouse:							
Lower		0.83	0.83	0.83	0.83	0.82	0.90
		(0.090)	(0.089)	(0.089)	(0.090)	(0.089)	(0.13)
Equal (ref.)		1	1	1	1	1	1
		(.)	(.)	(.)	(.)	(.)	(.)
Higher		1.19	1.19	1.19	1.20	1.18	1.11
		(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.14)
Number of hh members age <5: 1			1				
			(.)				
2 hh members age <5			1.04				
			(0.086)				
3 + hh members age <5			0.80				
			(0.20)				
First child				0.94			
				(0.083)			
Fathers' quota					1.29		
					(0.22)		
Older spouse						1.14	
						(0.12)	
Share of men in industry of employment: 60 % or more (ref.)							1
							(.)
40 % or less							1.02
							(0.19)
40-60 %							0.73*
							(0.089)
Constant	2.16***	2.11***	2.10***	2.17***	1.63*	2.07***	2.80***
	(0.22)	(0.26)	(0.27)	(0.27)	(0.34)	(0.26)	(0.45)
N	17071	17071	17071	17071	17071	17071	7446
pseudo R-sq	0.268	0.270	0.270	0.270	0.271	0.270	0.303

Exponentiated coefficients; Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Model V includes a control for the gender composition of industry of employment of the father. Since industry is not available in the Norwegian data this model reflects findings for Sweden, Finland and Denmark only, the sample being considerably smaller. A small positive effect for fathers in a gender-neutral industry was found, however without significance. The effect of being employed in an industry with gender-neutral composition however had a negative impact on the probability of parental leave uptake.

In appendix C the results of interactions between country and age, country and education of spouse, country and ownership status of dwelling, country and industry, country and age of child, and lastly education of spouse and first child. Few significant differences were found.

5.2   Discussion

In this section the results are discussed in relation to the proposed theoretical framework.

The following hypotheses were formulated

H1: The presence of a fathers' quota has a positive effect on the probability of parental leave uptake

The fathers' quota was found to have a positive impact on the probability of parental leave uptake, it does however not hold statistical significance, neither in the model with Sweden as the baseline, nor the one with Denmark. The results still indicate a positive effect of the fathers' quota, in line with what H1 suggests.

H2: Parental leave uptake is the highest among Norwegian fathers

Institutional and cultural differences between the four countries, with strong conceptions of single-breadwinner families in Finland and Denmark, as well as the strong conception of motherhood in Finland lead to the expectation that parental leave participation should be the highest among Norwegian fathers. This is further supported by the possibility for Norwegian fathers to receive up to 100 per cent of previous income, removing economic incentives for families to have the mother at home instead, assuming the husband having a higher wage. The amount of parental leave reserved to the use of the father via quotas is the highest in Norway.

The probability of being on parental leave was however found to be the highest for Swedish fathers, a Norwegian father being 61 per cent less likely to be on parental leave than his Swedish counterpart. The corresponding figure for Finnish and Danish fathers is however at 85 per cent and 97 per cent respectively, the likelihood of parental leave is thus much higher for Norwegian and Swedish fathers, compare to Finnish and Danish. The available length of leave should also affect this outcome, Swedish parental leave being

slightly longer than Norwegian. Parental leave provision is the shortest in Finland, but childcare leave at a lower benefit is available for all families until the child turns three. Parental leave is longer in Denmark but replacement can be received for a shorter time. Workplace practices with the father having to bargain for his right to leave has been identified as a factor affecting leave take up negatively (Bloksgaard in Eydal & Rostgaard, 2015). As described in table 3-2 it however seems like Norwegian fathers, in relation to mothers, especially in year 2010 on average receive a large amount of parental wage replacement, indicating that they claim longer parental leaves than their Swedish counterparts.

5.2.1 Household division of labor

In relation to the theories presented on household division of labor and household bargaining the following hypothesis was formulated

> *H3: Fathers with less education than their spouse are more likely to claim parental leave*

According to theories on household specialization, the spouse with more education, which should equal higher earnings power, should specialize in labor market activities. This is supported by the theories on household bargaining, claiming that the spouse with better earnings power also has a stronger bargaining position. Lammi-Taskula (2008) and Duvander (2014) found that the socio-economic position of the mother was a more important determinant of the father's parental leave uptake, than his own position. The socio-economic position of the spouse is in this study only proxied through educational attainment of the spouse, and it was expected that fathers with less, or the same amount of education as their spouse, would be more likely to claim parental leave.

The reference category is set at the spouses having equal education. Compared to this, cases where the spouse had higher education, the father was found to be more likely to have parental leave. The spouse having less education, in line with theoretical suggestions, had a negative relationship with parental leave uptake. However none of the results hold statistical significance, but support for H4 was found. The interaction between educational attainment of spouse and country did not give significant results, there does thus not seem to be any particular differences in the household specialization and household bargaining function between the countries.

Sundström & Duvander (2002) also identified a positive relationship between an older spouse and fathers' parental leave uptake. Age could also be positively correlated with bargaining power. The variable denoting an older spouse shows a positive impact on parental leave uptake, it is however not statistically significant.

In accordance to household specialization of labor theories, the number of

young children in the household was expected to have a negative association with the dependent variable. The presence of one other child under age five had a small positive impact on the probability of parental leave uptake (4 per cent), but two or more other children under five was associated with a 20 per cent decreasing probability. Neither of the results are statistically significant.

The child being the firstborn was by Lappegard (2006) and Naz (2010), with Norwegian data found to have a positive effect on parental leave uptake. In the model presented here (model IV), it is however associated with a six per cent decreased probability, not statistically significant. It is probable that this variable reflects the same effect found in number of household members aged five or less, compared to only one child under age five, the presence of two children was associated with an increased probability of parental leave uptake. In model VI (Appendix C) an interaction between education of spouse and first child was tested. The effects were however marginal and not significant.

Number of pre-school children present in the household can thus not in a conclusive way be found to affect the probability of parental leave uptake for fathers. An effect in line with what theory suggest might be present if the length of parental leave is analyzed, instead of the mere probability of being on leave at some point, especially given the presence of fathers' quotas.

5.2.2   Organizational culture

In accordance to the theoretical framework and previous studies regarding organizational culture the following two hypotheses were formulated:

H4: Fathers working in male-dominated professions are less likely to claim parental leave

H4.1: The impact is larger for Danish fathers

The results show that, compared to fathers in male-dominated workplaces, fathers working in gender-neutral industries were found to be 27 per cent less likely to be on parental leave. A small positive effect for fathers employed in female-dominated industries was found, however not significant. The interaction between industry and country does not show any statistically significant differences, and compared to fathers in Sweden, fathers in Finland and Denmark are still less likely to claim leave. The impact of sex-composition at the workplace was however slightly larger for Danish fathers, compared to their Finnish counterparts. The results thus seem to support the theoretical suggestions, but significant differences of the effect of sex-composition at the workplace were not found. The model might also be lacking power due to a small sample size, especially given the exclusion of Norway in this model. The finding here go against what was expected in H4, as the only significant effect found shows that fathers in industries with equal shares of men and women employed are less likely to claim leave. The conflicting results might however be due to the

construction of the variable, as only the aggregate sex composition of the industries were included, and the actual situation at the workplace is unknown.

5.2.3 Gender role attitudes

A theoretical framework suggesting that individuals with higher education, but also a better socio-economic position being advocates of new values and thus gender-egalitarianism and sharing of childcare was presented.

H5: Fathers with higher education are more likely to claim parental leave

Fathers with high educational attainment were therefore expected to be more likely to have parental leave. Previous studies have also identified a positive relationship between education and parental leave uptake among fathers (Naz, 2010; Månsdotter et al, 2010; Salmi & Lammi-Taskula, 2015). The findings of this study supports H5, fathers with at least three years of tertiary education were found to be around 30 per cent more likely to be on parental leave, compared to those with less education.

It was however assumed that education can be used as a proxy for earnings for fathers, as income cannot be controlled for in the model. The effect of education can thus not be concluded to be due solely to highly educated fathers displaying different values, as the educational variable also might be capturing some of the positive effect of higher earnings power. If the assumption is broadened to fathers with a better socio-economic position claiming more parental leave, education is perhaps a more accurate measure. This way both values, as well as the effect of higher income, are encompassed. Fathers with higher earnings, or higher socio-economic status have also in the literature been identified as more likely to claim parental leave. In this study socio-economic status has also been proxied using ownership status of dwelling, assuming that families owning their residency are wealthier. The effect of residing in an owned dwelling, compared to not-owned dwelling, increased the probability of parental leave for fathers with 53-59 per cent. A strong, statistically significant relationship between socio-economic status and probability of parental leave uptake of fathers is thus found. Whether this is due to these individuals holding different value systems or having better possibilities due to higher income can however not be determined, but the findings support the theoretical suggestions.

The effect of both high education and ownership of dwelling however decreases significantly, but also become insignificant in model VII, where industry is controlled for. This could be due to the exclusion of Norway, or the fact that employment sector is correlated with socio-economic position or education.

An interaction model for country and ownership status of dwelling was tested. A significant difference was found for Finnish fathers in households with owned dwelling, which had a negative effect. It would thus seem that the effect of socio-economic status on parental leave uptake is smaller for Finnish fathers, when compared to Swedish fathers.

Different motherhood ideologies could be a ground for this, whereas shared parenthood is valued in Sweden, the notion of the mother as the main caregiver is strong in Finland.

Age of youngest own child shows the expected negative relationship to probability of parental leave uptake. If the child is two years old, as compared to being only one year old, the father is around 75 per cent less likely to claim parental leave. The coefficient loses some magnitude when industry is added to the model, only leading to a 69 per cent decreased likelihood of parental leave. This might however be due to the exclusion of Norway in model VII. An interaction testing the effect of country on age of the child shows significant results (Appendix C), the difference in effects of the age of child is thus statistically significant. The child being two years old, as compared to one year old, had the least impact on Swedish fathers. The effect of age of child is however likely to be correlated with the length of leave provisions in each country.

6   Conclusion

6.1   Research Aims & Conclusion

The aim of this study was to identify characteristics of fathers claiming parental leave, and the effect of these characteristics on the fathers' probability to claim parental leave. This was estimated using logistic regression models and data on four Nordic countries. Another aspect was to identify differences between Nordic fathers, given differing institutional frameworks and above all norms and practices in the countries.

The following two research questions were formulated

> What are the determinants of fathers claiming parental leave in the Nordic countries?

> Are there significant differences between fathers claiming parental leave in the Nordic countries?

Differences in parental leave uptake rates among fathers between the countries were found. Fathers in Sweden were the most likely to be on parental leave, and fathers in Denmark the least likely. Due to data restrictions the difference in uptake rates might also reflect differences in leave length provisions by country. No statistically significant differences in the characteristics of fathers' parental leave uptake was found between the countries, socio-economic position however seems to have a smaller effect on the likelihood of parental leave uptake for Finnish fathers, when compared to Swedish. Age of the child was found to have a significant differing effects on parental leave uptake for fathers, this is however likely to be due to differing leave lengths of the countries.

Support for household bargaining theories and household specialization of labor theories was found: the spouse having more education than the father had a positive association with the likelihood of parental leave. A positive association between socio-economic status and probability of parental leave uptake could be identified. Fathers with a minimum of three years of completed tertiary education, and those in households where residency was owned were more likely to at some point claim parental leave. This supports theoretical suggestions regarding fathers with higher education being more adaptive no new values, also the in previous studies identified income as having a positive relationship with the probability of parental leave uptake.

Some form of restriction of parental leave uptake, reserving a period for the use of the father, was found to be positively correlated with parental leave uptake of fathers. The

effect is however not statistically significant, but the presence of fathers' quotas has in the literature been identified as an important influence.

6.2   Future Research

The biggest drawback of this study is lack of precision in measurements. Longitudinal data, allowing to follow fathers and families during the whole period when parental leave can be claimed, and more importantly, to control for income of the parents before childbirth, to get a better estimate of socio-economic position of the household, as well as the spouse's bargaining power. Income is also a determinant of the level of benefits received, and will at higher amounts yield a lower ratio of benefits to previous income, certain thresholds should thus have an impact of the leave uptake. Differentiating fathers depending on length of leave claimed, especially if the leave claimed is beyond the time reserved for fathers in the form of quotas. The inclusion of further covariates could give a more precise estimation of fathers on parental leave. Furthermore a more precise distinction of type of leave in the data, to better identify fathers claiming parental leave during the first period of the child's life would improve the quality of the results. This study did not find a way to measure values regarding gender equality of the parents, which in the literature has been identified as correlated with parental leave uptake. Comparing values regarding gender egalitarian sharing of labor between countries to parental leave uptake could improve the understanding of the characteristics of fathers claiming parental leave, as it is likely to be highly related to personal preferences.

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Appendix A

Tabell 2 Distribution of sample by sex-composition of industry and industrial sector, in each country

Denmark	60 % or more men	40 % or less men	40-60% men	Total
Agriculture hunting and forestry	147	0	0	147
Fishing	8	0	0	8
Mining and quarrying	12	0	0	12
Manufacturing	1,213	0	0	1,213
Electricity. Gas and water supply	24	0	0	24
Construction	610	0	0	610
Wholesale and retail trade; repair	0	0	904	904
Hotels and restaurant	0	0	68	68
Transport, storage and communications	442	0	0	442
Financial intermediation	0	0	209	209
Real estate, renting and business activities	0	0	678	678
Public administration and defense; compulsory social security	0	0	343	343
Education	0	0	307	307
Health and social work	0	277	0	277
Other community, social and personal service activities	0	0	193	193
Activities of private households as employers	0	3	0	3
Total	2,456	280	2,702	5,438

Finland	60 % or more men	40 % or less men	40-60% men	Total
Agriculture hunting and forestry	119	0	0	119
Mining and quarrying	1	0	0	1
Manufacturing	216	0	0	216
Electricity. Gas and water supply	8	0	0	8
Construction	118	0	0	118
Wholesale and retail trade; repair	0	0	97	97
Transport, storage and communications	94	0	0	94
Financial intermediation	0	13	0	13
Real estate, renting and business activities	0	0	105	105
Public administration and defense; compulsory social security	0	0	43	43
Education	0	39	0	39
Health and social work	0	37	0	37
Other community, social and personal service activities	0	28	0	28
Total	556	117	246	919

Sweden	60 % or more men	40 % or less men	40-60% men	Total
Agriculture hunting and forestry	15	0	0	15
Fishing	4	0	0	4
Mining and quarrying	284	0	0	284
Manufacturing	9	0	0	9
Electricity. Gas and water supply	105	0	0	105
Construction	0	0	150	150
Wholesale and retail trade; repair	0	0	26	26
Hotels and restaurant	86	0	0	86
Transport, storage and communications	0	0	26	26
Financial intermediation	197	0	0	197
Real estate, renting and business activities	0	0	37	37
Public administration and defense; compulsory social security	0	31	0	31
Education	0	86	0	86
Health and social work	0	0	33	33
Total	700	117	272	1,089

Appendix B

Table 3 Robustness control: covariates on probability of parental leave uptake, Denmark as baseline

	I	II	III	IV	V	VI	VII
Age	0.99*	0.98*	0.98*	0.98*	0.98*	0.99	0.98*
	(0.0070)	(0.0070)	(0.0070)	(0.0072)	(0.0070)	(0.0071)	(0.0094)
Tertiary education completed	1.13	1.29**	1.29**	1.30**	1.30**	1.29**	1.14
	(0.096)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.16)
Ownership of dwelling: owned	1.59***	1.54***	1.53***	1.53***	1.56***	1.53***	1.25
	(0.17)	(0.16)	(0.16)	(0.16)	(0.17)	(0.16)	(0.17)
not owned dwelling (ref.)	1	1	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
unknown dwelling	1.10	1.08	1.07	1.07	1.01	1.07	0.96
	(0.19)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.17)
Child age 2	0.25***	0.25***	0.24***	0.24***	0.25***	0.24***	0.31***
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.031)
Country: Denmark (ref.)	1	1	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Finland	5.26***	5.15***	5.18***	5.13***	4.93***	5.16***	4.71***
	(0.69)	(0.68)	(0.69)	(0.68)	(0.69)	(0.68)	(0.66)
Norway	14.7***	14.6***	14.6***	14.6***	12.3***	14.7***	
	(1.32)	(1.31)	(1.32)	(1.31)	(1.87)	(1.32)	
Sweden	41.7***	41.5***	41.4***	41.5***	35.4***	41.6***	40.0***
	(4.57)	(4.60)	(4.59)	(4.60)	(5.49)	(4.62)	(4.80)
Education of spouse: less		0.83	0.83	0.83	0.83	0.83	0.82
		(0.090)	(0.089)	(0.089)	(0.090)	(0.089)	(0.13)
Same (ref.)		1	1	1	1	1	1
		(.)	(.)	(.)	(.)	(.)	(.)
higher		1.19	1.19	1.19	1.20	1.18	1.11
		(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.14)
Number of hh members age <5: 1			1				
			(.)				
2 hh members age <5			1.04				
			(0.086)				
3 + hh members age <5			0.80				
			(0.20)				
First child				0.94			
				(0.083)			
Fathers' quota					1.29		
					(0.22)		
Older spouse						1.14	
						(0.12)	
Share of men in industry of employment: 60 % or more (ref.)							1
							(.)
40 % or less							1.02
							(0.19)
40-60 %							0.73*
							(0.089)
Constant	0.052***	0.051***	0.051***	0.052***	0.046***	0.050***	0.070***
	(0.0067)	(0.0071)	(0.0073)	(0.0074)	(0.0072)	(0.0071)	(0.013)
N	17071	17071	17071	17071	17071	17071	7446
pseudo R-sq	0.268	0.270	0.270	0.270	0.271	0.270	0.303

Exponentiated coefficients; Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Appendix C

Table 4 Interaction models on parental leave uptake

	I	II	III	IV	V	VI
High education	1.30**	1.28*	1.34**	1.14	1.36**	1.30**
	(0.13)	(0.13)	(0.13)	(0.16)	(0.13)	(0.13)
Child age 2	0.25***	0.24***	0.24***	0.31***		0.24***
	(0.020)	(0.020)	(0.020)	(0.031)		(0.019)
Ownership of dwelling: owned	1.53***	1.55***	2.36***	1.25	1.51***	1.53***
	(0.16)	(0.16)	(0.35)	(0.17)	(0.16)	(0.16)
not owned (ref.)	1	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)	(.)
unknown	1.07	1.08	1.30	0.95	1.06	1.07
	(0.18)	(0.18)	(0.29)	(0.17)	(0.16)	(0.18)
Education of spouse: lower	0.83	0.91	0.83	0.90	0.85	0.89
	(0.089)	(0.16)	(0.090)	(0.14)	(0.093)	(0.11)
equal (ref.)	1	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)	(.)
higher	1.19	1.29	1.23*	1.11	1.19	1.22
	(0.12)	(0.22)	(0.12)	(0.14)	(0.12)	(0.15)
Denmark	0.023***	0.026***	0.036***	0.024***	0.045***	0.024***
	(0.0026)	(0.0044)	(0.012)	(0.0035)	(0.0052)	(0.0027)
Finland	0.12***	0.13***	0.25***	0.11***	0.25***	0.12***
	(0.016)	(0.027)	(0.052)	(0.019)	(0.037)	(0.016)
Norway	0.35***	0.41***	0.37***		0.89	0.35***
	(0.028)	(0.057)	(0.043)		(0.081)	(0.028)
Sweden (ref.)	1	1	1	1	1	1
	(.)	(.)	(.)	(.)	(.)	(.)
Age (centered)	0.99	0.98*	0.99	0.98*	0.98*	0.98*
	(0.012)	(0.0070)	(0.0070)	(0.0094)	(0.0070)	(0.0072)
Denmark x age	0.97					
	(0.016)					
Finland x age	1.00					
	(0.020)					
Norway x age	1.00					
	(0.012)					
Denmark x spouse less education		0.74				
		(0.18)				
Denmark x spouse more education		1.05				
		(0.23)				
Finland x spouse less education		1.04				
		(0.33)				
Finland x spouse more education		0.85				
		(0.24)				
Norway x spouse less education		0.74				

	(1)	(2)	(3)	(4)	(5)	(6)
		(0.14)				
Norway x spouse more education		0.85				
		(0.15)				
Denmark x owned dwelling			0.52			
			(0.18)			
Denmark x unknown dwelling			0.76			
			(0.30)			
Finland x owned dwelling			0.32***			
			(0.084)			
Norway x owned dwelling			0.82			
			(0.13)			
60 % or more men in industry (ref.)				1		
				(.)		
40 % or less men in industry				0.88		
				(0.20)		
40-60% men in industry				0.73		
				(0.12)		
Denmark x equal industry				1.82		
				(0.59)		
Denmark x female industry				0.98		
				(0.21)		
Finland x female industry				1.26		
				(0.48)		
Finland x equal industry				1.02		
				(0.30)		
Child age 2					0.70**	
					(0.085)	
Denmark x child age 2					0.13***	
					(0.034)	
Finland x child age 2					0.11***	
					(0.040)	
Norway x child age 2					0.082***	
					(0.011)	
First child					1.01	
					(0.15)	
Spouse lower education x firstchild					0.82	
					(0.18)	
Spouse higher education x firstchild					0.94	
					(0.19)	
constant	2.11***	1.98***	1.65***	2.84***	1.27	2.11***
	(0.26)	(0.30)	(0.21)	(0.48)	(0.16)	(0.27)
N	17071	17071	17071	7446	17071	17071
pseudo R-sq	0.270	0.271	0.276	0.304	0.300	0.270

Exponentiated coefficients; Standard errors in parentheses
* $p<0.05$, ** $p<0.01$, *** $p<0.001$

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