

Stockholm University Linnaeus Center on Social Policy and Family Dynamics in Europe, SPaDE

Cash-For-Care, Couple Economic Circumstances and Marriage in Norway

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Working Paper 2011: 6

## Cash-For-Care, Couple Economic Circumstances and Marriage in Norway

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# April 2011

**Abstract:** This study considers how couple economic dependency affects marital behavior. In 1998, the Norwegian government introduced a Cash-for-Care benefit scheme to reimburse parents for the cost of private care or providing childcare in the home. The program disproportionally encouraged home-based care, thereby incentivizing increased dependency and potentially making marriage more desirable. Analyses of program participation, union status and union dynamics using Norwegian population registers demonstrate that more formalized unions are associated with higher rates of long-term program participation. Benefit receipt is also associated with an increased pace of marriage among cohabiting parents. This pace differential mirrors an increased pace of childbearing among long-term Cash-for-Care beneficiaries, suggesting that marriage may be a marker of particular stages in the family life-course rather than an institution of economic security among unmarried Norwegian parents.

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## 1. INTRODUCTION

The economic situation of partners has long been established as a key determinant of marriage. However, the decision to marry is increasingly taken on by couples that already share a history, a home and, often, a child (Axinn and Thornton 2000; Heuveline and Timberlake 2004; Timberlake and Heuveline 2005; Wiik, Bernhardt and Noack 2009). It is likely that there are new economic dimensions affecting the timing of marriage among those in long-term, stable partnerships. Where it increasingly comes after the establishment of a household and childbearing, a key component of the modern day marriage decision may be the balancing of long-term economic risks between partners.

Potentially salient economic risks confronted over the family life-course are the opportunity costs associated with childbearing and childrearing. Lost wages, human capital deterioration and disruptions of career trajectories constitute economic risks for parents. Marriage provides an insurance mechanism through which individuals can pool risk and make claims on each other's future economic capacity. This may be particularly important when the opportunity costs of parenthood are not shared equally between partners, resulting in the economic dependency of one partner.

To explore the relationship between economic risks and dependency associated with childbearing and the transition to marriage, this study exploits a critical juncture in social policy when the Norwegian government introduced a Cash-For-Care benefit scheme in 1998. Initially the Cash-for-Care (CFC) program provided a direct cash payment equal to the value of the care subsidy to parents who are not offered a place in a publicly subsidized childcare center or if parents wish to opt out of out-of-home care. This money can be used to pay for private care (for child-minder services) or may be retained by the parents should they prefer to remain at home to care for their children. To the extent that parents use the benefit to provide care in the home, the program is an indicator of changing economic balance between partners: the benefit lowers the short-term, direct costs of childbearing but may increase opportunity costs and economic dependency between parents as one parent, most often the mother, reduces their labor-force participation to care for the child.

If marriage offers couples more economic security, we would expect an increased likelihood of marriage at the time of childbearing as women drop out of labor force and take-up the CFC benefit. The degree to which couples base their decision to marry on economic

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incentives will provide insight into the meaning of marriage: does marriage continue to be an economic institution or is it merely a lifestyle choice?

#### 2. THEORETICAL BACKGROUND

## **2.1.** Dependency and marriage

Interdependence, risk sharing and maximizing household utility through the pursuit of economies of scale are broadly noted as key aspects of long-term, married partnerships (e.g. Becker 1981; Brines and Joyner 1999; Kotlikoff and Spivak 1981; Waite and Gallagher 2000). Marriage is distinct from alternative states, such as cohabitation or dating, in that it is both a legal and symbolic commitment to a long-term partnership. Cohabitation without marriage places few legal bonds on individuals and, even in the Nordic countries, it is considered indicative of a lower level of commitment between partners (Bernhardt 2002; Noack 2001; Wiik, Bernhardt and Noack 2009). Furthermore, cohabiting couples do not enjoy all of the same rights and responsibilities as married couples, particularly with respect to economic distributions after separation or if one partner should die (Noack 2001; Noack 2010; Waaldijk 2005; Wiik, Bernhardt and Noack 2010). Through a marriage contract an individual formally establishes an economic bond to their partner. In the case of unequal economic standing of partners, marriage offers greater protection to the more economically vulnerable partner (Noack 2001; Noack 2010; Waaldijk 2005; Wiik, Bernhardt and Noack 2010). In the case of divorce, courts may require alimony payments (in addition to child support) if it is determined that one partner's financial circumstances were weakened as a result of marriage or caring for children (BLD 2010). Nonmarital cohabiters are not subject to common ownership and maintenance obligations; in the case of dissolution of a cohabiting partnership, each partner retains individual ownership rights of individual property (BLD 2009).

The additional economic security offered by marriage is particularly salient for couples at the time of childbearing. It is increasingly common for both members of a couple to pursue labor-market careers, particularly within the Nordic context (Gornick and Meyers 2003). However, gender equality in the public sphere is not perfectly mirrored with respect to the private sphere. Women's increased labor force participation has not been matched with increased male participation in the home (Brines 1994; Greenstein 2000; Hochschild 1989). This imbalance is particularly striking once couples have children together (Rønsen 2001). A shared child creates new costs of care that the couple must negotiate. These costs are direct, in the form of the increased financial burden of an additional family member to feed, clothe and diaper. The costs are also indirect, particularly associated with the time required to care for the new child. Within dual-earner couples, the time burden of childrearing represents an opportunity cost for parents: one or both parents must often forego earnings in order to care for their children. In addition to short-run reduction in earnings, reduced labor force participation is associated with long-run opportunity costs as well: dropping out of the labor force or dramatically reducing working hours may result in human capital deterioration and disruptions to life-course career and earnings trajectories (Sigle-Rushton and Waldfogel 2007).

Typically the opportunity costs of childbearing and childrearing are not equally distributed between parents. Although fathers are increasingly taking on caregiving roles, even in Scandinavia the largest share of the opportunity costs of care are taken on by women via a disproportionate uptake of parental leave and longer-term reductions of hours spent in paid work (Duvander 2008; Duvander and Johansson 2010; Lappegård 2010; Sigle-Rushton and Waldfogel 2007). The prevalence of economic dependency during the childbearing and childrearing years suggests a continued role for marriage in the family life course. To the extent that it offers greater economic security, marriage may continue to be an attractive option for couples in long-term committed partnerships, particularly when they are faced with opportunity costs of childbearing and childrearing and inequality in the distribution of long-run economic risk taking across partners.

#### 2.2. The Norwegian context

#### 2.2.1. Marriage in Norway

Over the past half-century there have been dramatic changes in the context, timing and character of marriage in Norway and in European countries more generally. Cohabitation has long been an institutionalized, stable, long-term union in Norway (Noack 2001). Nearly all unions begin as cohabitations and almost no marriages occur without a period of co-residence (Wiik 2009). A majority of people approve of childbearing and childrearing within cohabiting unions and since the early 2000s, the majority of first births occur in non-marital, co-residential partnerships (Bernhardt 2002; Heuveline and Timberlake 2004; Kiernan 2001; Noack 2010).

Although co-residence and childbearing increasingly occur outside of marriage, marriage continues to be a distinct and desired state and the majority of Norwegians do eventually marry (Bernhardt 2002; Bernhardt 2004; Noack 2010; Wiik, Bernhardt and Noack 2009; Wiik, Bernhardt and Noack 2010). Married couples tend to be more serious about and satisfied with their relationships, more committed to their relationships, and less likely to dissolve their unions (Liefbroer and Dourleijn 2006; Wiik, Bernhardt and Noack 2009). Married and cohabiting couples do not have the same guarantees of economic security should the couple separate or if one partner should die (Noack 2001; Noack 2010; Waaldijk 2005; Wiik, Bernhardt and Noack 2010). Only through marriage can an individual formally establish their right to make economic claims on their partner and gain the right to inherit their partner's wealth and assets.

#### 2.2.2. Gender, Work, Care and Family Policy

The decision to marry in Norway takes place in a context of high gender equality: men and women have equal access to education and occupational opportunities and benefits and taxes are individualized, aiming to reduce dependency between partners. The gender wage gap in Norway is among the narrowest in the world. By the mid 1990s, women earned on average 87% of men wages (Waldfogel 1998). However, these numbers are dramatically different when we consider differences by marital status: while non-married women in Norway earn 90% of non-married men, married women only earn only 68% of married men's wages (Waldfogel 1998). The most important factor driving these differences is the proportion of mothers in each category: married women are much more likely to be mothers and, therefore, more likely to have reduced their working hours or to have sorted into lower-paying, "family friendly" jobs (Gornick and Meyers 2003; Petersen, Penner and Hogsnes 2007; Stier, Lewin-Epstein and Braun 2001; Waldfogel 1998).

In Norway, policies promote "dual-worker, dual-caring" families by allowing for sharing of the costs of care between families and the state (Gornick and Meyers 2003): there is generous extended family leave with wage replacement after the birth of a child and an extensive high-quality, state-run childcare system. During the period of analysis, the parental leave program provided 54 weeks (with 80% wage compensation) or 44 weeks (with 100% wage compensation) of leave after the birth of a child, with a cap on the maximum amount of benefit paid (approximately €40,020 in 2001) (Lappegård 2010). Receipt of parental leave is contingent

upon mothers' employment in 6 out of 10 months prior to the birth of the child; if mothers to do not qualify for leave, they receive a lump sum payment at the birth of the child (approximately  $\notin$ 4,700 or \$6,700 in 2007) (Lappegård 2010). Part of the leave is reserved for the father, however their eligibility is contingent upon the mother's eligibility (i.e. her employment status in the 10 months prior to birth); in the period of analysis, 4 weeks of leave were reserved for the father (Lappegård 2010). As well as providing a direct payment proportional to pre-birth wages during the child's first year, the Norwegian parental leave program gives leave taking parents the right to return to her or his pre-birth job for two years after the birth of a child (Lappegård 2010).

The Norway government has also invested in an extensive publicly funded childcare system. The costs of the childcare program is shared by the state, municipalities and parent, however, the parental co-payments are quite substantial (approximately  $\notin$ 440 or \$704 per month in 1998; the parental share was subsequently reduced in 2006, but this is after the period considered in this analysis) (Lappegård 2010). While children are eligible for publicly subsidized childcare at the end of the parental leave period and universal access to childcare is a priority, there is no entitlement for care until school age (age 6). In addition to shortages in the number care centers during the period of analysis, regulations regarding the number of children per supervising adults for children under age three further contributed to a shortage of childcare places for young children. Access to publicly subsidized childcare services varied greatly by location and in some locales supply shortages created a private, unregulated "black market" for services (Gornick and Meyers 2003).

In 1998, the government introduced a Cash-For-Care (CFC) benefit scheme to pay for private care for those parents whose children were not offered a place in government-subsidized care (Aassve and Lappegård 2009; Aassve and Lappegård 2010; Gornick and Meyers 2003). Parents who preferred to remain at home to care for their children could also claim this benefit. Parents may claim the benefit after the parental leave period, typically beginning when the child is 13 months old, for up to 24 months. Benefit amounts are granted on a sliding scale relative to the proportion of time children are in publicly subsidized childcare, with a maximum of \$4,293 per year (Aassve and Lappegård 2009). The high cost of care and the availability of a cash benefit for parents who opt to remain at home create a strong disincentive for employment, particularly among women: nearly 96% of benefit recipients are mothers and there is evidence of

lower labor force participation of mothers after the introduction of the cash benefit (Aassve and Lappegård 2009; Rønsen 2001; Schøne 2004).

Take-up of the CFC benefit increased from the introduction of the policy until 2003, when as many as 72% of parents received some cash benefit (Aassve and Lappegård 2009). In subsequent years take-up declined as access to publicly subsidized childcare has increased and the share of parental payment for childcare has decreased (Aassve and Lappegård 2009). In 2002, 33% of all children aged 1-2 were in public or private kindergarten care and 44% received parental care; children who's parents received a cash benefit were less likely to receive kindergarten care (14%) and more likely to be cared for by parents (56%) (Pettersen 2003).

Aassve and Lappegård (2009; 2010) evaluate how take-up of the CFC benefit varies across subpopulations in Norway. Among one-child couples, married parents are 28% more likely to take-up the benefit, relative to cohabiting parents. The socioeconomic status of parents is also related to take-up. More highly educated parents are less likely to receive the benefit. Mothers with middle- and high-incomes before the birth are less likely to take the benefit, however there is an 'inverted U-shaped' relationship for father's pre-birth income: the lowest and the highest income fathers are less likely to take the benefit. With regard to the genderbalance of income prior to birth, rates of take-up are similar across the spectrum of parents' relative income, with one exception: the most gender unequal couples ("Mother's income less than 25% of father's income") are more likely to take-up the benefit than all other relative income groups. Overall these trends suggest that CFC benefits are less attractive to high socioeconomic status parents, perhaps due to the high opportunity costs associated with reduced labor force participation for home care. Additionally, there is some indication that the program does not serve the needs of those parents with the lowest incomes: having two earners may be an economic necessity for these couples and the benefit does not adequately compensate for lost wages should one parent remain home to care for the children. Finally, Aassve and Lappegård's (2009; 2010) finding of increased uptake among couples with economically dependent mothers suggests that selection into benefit receipt may be associated with couple's gender ideology.

The CFC program and childcare shortages in Norway provide an ideal context for evaluating the relationship between economic risks and dependency associated with childbearing and marriage. Broadly, if marriage offers couples more security and acts to compensate mothers for the opportunity costs incurred by reducing labor force participation to care for their children in the home, we would expect an increased likelihood of marriage with take-up of the CFC benefit.

#### **3. HYPOTHESES**

In two sets of analyses I consider relationships between union status and economic risk taking and dependency between partners, as proxied by participation in the CFC program. In the first analyses I consider the relationship between union status at the end of the birth year and subsequent take-up of the CFC benefit. In analysis two I consider union dynamics in relation to program receipt among parents cohabiting at the end of the birth year.

## 3.1. Analysis 1: Is marriage associated with higher benefit take-up?

If marriage allows for greater economic risk taking with respect to withdrawal from the labor force to care for children in the home, we would expect differential patterns of CFC benefit takeup by parental union status. Parents who have married by the end of the birth year should be most likely to take the CFC benefit, as compared to cohabiting parents and parents living apart. While both cohabiting and non-co-resident parents lack legal rights to economic claims on their partners, there may still be differences in CFC program participation. Parents living apart, who have either not yet made the decision to co-reside or who have dissolved their union by the end of the birth year, are likely to be in the least committed relationships and therefore would be expected to be least likely to take-up the cash benefit.

H1a: Married parents will be most likely to take CFC benefits; parents living apart will be least likely to take the benefit.

Among parents who marry in the year following the birth of the child, the decision to marry may be directly related to anticipating program participation. Parents unmarried at the time of the birth who intend to participate in the CFC program may anticipate the mother's continued reduced labor force participation and pursue more secure and stable union status in advance CFC program participation. Couples who marry in the months between childbirth and CFC eligibility would therefore be more likely than either their married or unmarried counterparts to take the benefit.

H1b: Recently married parents will be most likely to take CFC benefits as compared to all other parents.

It is possible that the relationship between union status and the duration of benefit receipt may not be linear. Aassve and Lappegård (2010) find evidence that there are differences in transition to second birth by duration of benefit receipt and the authors identify three types of benefit recipients. Work-oriented parents receive only short-term CFC benefits (1 to 6 months). These beneficiaries use CFC as a stop-gap to cover the period from the end of the parental leave period until a place opens up in public childcare (typically by the beginning of the subsequent school year). These parents fully intend to return to the labor force, but the unavailability of childcare requires that they reduce their hours or stop working until childcare can be secured. Mixed-orientation beneficiaries, who take medium-term benefits (7-12 months), have preferences for both home-based care and labor market participation. In effect, mixedorientation beneficiaries use the benefit to extend the parental leave period for an additional year (thought the period of job protection) even though, in most cases, the value of the CFC benefit is lower than the parental leave benefit. Finally, family-oriented beneficiaries take longer-term CFC benefits (13 to 24 months). Because these parents forgo the right of return to their previous employment position, they take on the most risk and are the least attached to the labor force.

As these categories are associated with particular economic risk taking strategies, they may also be salient for an analysis of marriage. Job protection and differences in parental expectations regarding the return to paid employment may mean the different durations of benefit are associated with higher or lower levels of economic risk for couples. Consequently there may be differential associations between union status and the duration of CFC program uptake. Because there are higher opportunity costs associated with longer benefit receipt, differences in patterns of long-term take-up (13 to 24 months) would likely be more pronounced among parents married at the end of the birth year as compared to cohabiting or non-co-resident parents. On the other hand, short-term benefit take-up may be due to exogenous factors (rather than family orientation), such as the lack of an opening in public childcare. Therefore, there may be smaller differences in uptake by union status for short benefit durations (1 to 6 months).

H1c: Differences in uptake by union status will be more pronounced among longterm than among short-term beneficiaries.

#### 3.2. Analysis 2: Does receipt affect the marital behavior of unmarried cohabiting couples?

If marriage is compensatory for economic risk taking associated with childcare, we would expect differential marriage behavior among parents conditioned upon their receipt of the CFC benefit. We would expect higher marriage risks among parents during periods when the CFC program increased incentives for mothers to reduce their labor force participation and care for their children in the home. Parents of children aged 1 to 3 should experience higher risks of marriage concurrent with the receipt of the CFC benefit, as compared to parents of similarly aged children who do not take-up the benefit.

H2: Marriage risks are higher among Cash-for-Care recipients than non-recipients.

## 4. DATA

Data for these analyses come from Norwegian population registers covering the period 1997 to 2005. Firstly, all live first births in Norway between 1997 and 2000 are identified and the children linked to their parents. The sample includes only singleton births that are the first common child of the couple and the first birth of the mother. While marriages are entered into vital registers, there is no residential register of non-married cohabiters in Norway nor do the registers contain information on partnership status of individuals sharing a common address (i.e. no differentiation between roommates and cohabitors). However, once couples have a shared child, parents' cohabitation status can be determined based on each parent sharing a common address with the child. Although some parents registered as living apart may be romantically involved, the population registers do not capture relationship status and thus we cannot distinguish parents who have dissolved their unions from those simply living apart. Residential information is updated annually in December.

Parents' demographic data are then merged with economic and education information from the tax and educational registers, respectively. Finally, information on cash benefit take-up and parental leave receipt is drawn from the Norwegian Labor and Welfare Organization databases. Because some measures, including union status, are only captured once a year, in order to have uniform exposure durations the sample is restricted to parents with children born in January (6,986 parents).

Because the outcome of interest in analyses 2 is the transition to marriage, the sample for this analyses is restricted to unmarried parents co-residing at the end of the birth year (2,884 cohabiting parents, approximately 41.3% of the total 6,986 January births between 1997 and 2000).

#### 5. MODELS AND RESULTS

## 5.1. Analysis 1: Union Status and Benefit Take-up

#### 5.1.1. Models and key covariates

For the analysis of the relationship between union status and CFC benefit receipt I estimate competing-risk models (multinomial logistic regression). The model takes the form

$$\ln \frac{\hat{\pi}_{ij}}{\hat{\pi}_{ij}} = a_j + \boldsymbol{X}_i \beta_j \tag{1}$$

where the dependent variable is the log of the odds of particular durations of CFC benefit receipt (j = 1 to 6 months of benefit, 7 to 12 months of benefit, 13 to 24 months of benefit) relative to no benefit taken (reference category *J*),  $a_j$  is a constant and  $\beta_j$  is a vector of regression relative odds ratios for individuals *i*. The duration of CFC benefit receipt is measured as the sum of the months of benefit taken by the parents when the first born child is eligible (13 to 36 months old). The measurement design requires two assumptions. First, it is assumed that any benefits taken during these months are for the first born child. It is possible that, if children are closely spaced, with a subsequent birth taking place within 24 months of the first, the CFC benefit could be taken for the second child. However, because the CFC uptake measure in this study is used as a marker of dependency between partners, whether the benefit is taken in the name of the first or second born child will not change out interpretation of the measure: these long term beneficiaries are still experiencing a long-term break from the labor force. The second assumption made by this measure of CFC duration is that people only enter the CFC program at the end of the parental leave period (when the child is 13 months old) and once the parent leaves the program, there is no re-entry. Therefore, we assume that a parent cannot enter the CFC program in the

second year if they did not receive the benefit in the first year. This assumption is reasonable because, as a result of childcare shortages during the period of analysis, once a child receives a spot in publicly subsidized childcare parents are very unlikely to give it up. As a result, parents do not typically cycle on and off of the CFC program.

The analysis sample consists of all parents of children born in January between 1997 and 2000, and thus eligible for the full 24 benefit months of benefit. The key independent variable of interest captures parental union status at the end of the birth year: married previous to birth (reference category), married during the year of birth, cohabiting at the end of the birth year and living apart at the end of the birth year (a heterogeneous category that includes both romantically involved and separated parents).

#### 5.1.2. Additional covariates

Beyond the key indicator discussed above, I include a variety of covariates to capture the heterogeneity of union status and cash benefit uptake. I include demographic indicators for mother's age at birth and age at birth squared. While the registers do include information on parents' foreign-born status, very few couples with at least one foreign-born parent were observed to be cohabiting at the end of the birth year (<6%). Because including foreign-born status in these models produced unstable estimates, this variable was omitted from the final models.

It has been widely demonstrated that patterns of marriage, cohabitation and union dissolution vary across aspects of socioeconomic status, such as education and economic attainment (Becker 1981; Holland 2008; Manning and Smock 1995; Oppenheimer, Kalmijn and Nelson 1997; Smock and Manning 1997; Sweeney 2002; Wiik 2009). Further, Aassve and Lappegård (2009; 2010) demonstrate that use of the CFC program varies dramatically by socioeconomic status, as proxied by educational attainment.

A set of categorical variables for each parent captures the highest level of schooling completed at the time of the first birth: less than secondary, secondary (reference category), lower tertiary, upper tertiary (including advanced professional and academic degrees) and an indicator for missing educational attainment information. Because patterns of parent's labor force participation may be disrupted in the year of birth, I include a logged measure of the threeyear average pre-birth income of the couple to capture parent's broader-term economic status.<sup>2</sup> This income includes earnings as well as income from non-employment sources (rental properties, pensions, etc.) and government transfers such as family leave and unemployment benefits. I tested several specifications of the measure, including separate specifications of parental income, father's only and mother's only as well as non-linear (spline) specifications. I found that a quadratic, joint-income specifications produced the best fitting model (log-likelihood, AIC and BIC tests; results not shown).

In order to differentiate the individual contribution of each partner to household income, I construct a measure of relative income. Previous studies have demonstrated strong associations between relative economic standing of partners and particular union statuses and transitions (Brines and Joyner 1999; Clarkberg, Stolzenberg and Waite 1995; Duvander 1999; Heckert, Nowak and Snyder 1998; Kalmijn, Loeve and Manting 2007; Kravdal 1999; Ono 1998; Ono 2003; Wiik, Bernhardt and Noack 2010). The relative income measure used here is constructed based on Sørensen and McLanahan's dependency ratio (Sørensen and McLanahan 1987),

$$RINC = INC_{M}/(INC_{M} + INC_{W}) - INC_{W}/(INC_{M} + INC_{W})$$

$$\tag{2}$$

where INC<sub>M</sub> and INC<sub>w</sub> are the man's and woman's three-year average pre-birth income, respectively. A relative income ratio of 1 indicates that all of the couple's income is contributed by the man, while a relative income ratio of -1 would indicates that all of the couple's income is contributed by the woman. A ratio of 0 would indicate equality of incomes. From this relative income measure, I create a set of categorical variables indicating: mother contributes much more than father (RINC  $\leq$  -0.55), mother contributes a little more than father (-0.55 < RINC < -0.1), mother and father contribute equally ( $-0.1 \leq RINC \leq 0.1$ ), father contributes a little more than mother (0.1 < RINC < 0.55), father contributes much more than mother ( $RINC \geq 0.55$ ), and an indicator for missing mother's and/or father's income.

There may be particular underlying characteristics of parents that make them both more likely to marry, reduce their labor force participation and take-up the cash benefit. While it is

<sup>&</sup>lt;sup>2</sup> Because the registers only capture non-marital cohabitation once the couple has a shared child, we do not know if the couple was indeed cohabiting or romantically involved over the entire 3-year period previous to birth. Despite this drawback, the variable is still informative about parents' economic prospects over the life-course and allows for smoothing of annual income differentials.

impossible to fully capture all such unobserved characteristics of parents, I include two sets of variables to better distinguish parental disposition toward particular union statuses and the CFC benefit. It is likely that parents with traditional gender-role orientation will be more likely to marry and to care for children in the home. I account for differences in gender-role preferences by including an indicator for father's uptake of parental leave, differentiating between those couples in which the mother took all of the parental leave and those in which the father took part of the leave.<sup>3</sup>

Parents' preferences for home-care and marriage may also be linked by other underlying dimensions beyond gender-role orientation. In order to better identify treatment effects of the CFC benefit, I use regional variation in availability of childcare. In municipalities with childcare shortages, couples receiving the cash benefit are less selected than those parents that take the benefit in a context where public childcare is widely available. I proxy for childcare shortages using an indicator for the proportion of children aged 1-2 in publicly subsidized care in the parents' municipality of residence: less than 25%, 26-35%, 36-45%, 46-55% and 56% or more. While it is possible that low coverage indicates regional preferences for home-based care, given strong preferences for publicly subsidized childcare centers in Norway overall, low coverage is more likely to indicate that capacity is not meeting demand (Lappegård 2010).

## 5.1.3. Descriptive statistics

Table 1 provides descriptive statistics for the analysis of the level of CFC benefit take-up. CFC benefit take up-was wide-spread among parents with children born in 1997 and 2000. The vast majority of parents took some benefit and 63% receiving taking more than one year of benefit. Only 15% of parents took no benefit in the period of observation. A majority of parents married at the end of the birth year were also married at the time of the first birth (33% of all parents and 82% of parents married at the end of the birth year). Overall the distribution of birth years is balanced and the majority of mothers were in their twenties when they had their first birth (68.1%). Similar proportions of both mothers and fathers had completed had completed at least

<sup>&</sup>lt;sup>3</sup> I also tested a specification that differentiating couples in which the mother took all of the leave, those in which the father took only the "father quota" and those in which the father took more than the "father quota." In relation to marriage, the main effect seems to stem from whether the father took any leave at all, not in the amount of leave taken by the father.

secondary education by their first birth (about 73%), while mothers were slightly more likely to achieve a tertiary education than fathers (34% versus 28%, respectively).

The median average income of the parents in the three years previous to birth was approximately 343,000 NOK. Fathers were more likely to contribute the larger share of that income: fathers contributed a little more (0.1 < RINC < 0.55) or much more ( $\text{RINC} \ge 0.55$ ) income than the mother in 58% of the cases. Parents contributed about equal shares of income in the three years previous to birth in about one-fifth of the cases. About half of all fathers took some parental leave in the birth year, while mothers took all of the leave in about a fifth of couples and 28% of couples took no leave. Finally, with respect to childcare coverage of 1 to 2 year old children, 15% of parents live in municipalities with very low coverage (<25%), 32% with 26 to 35% coverage, 24% with 36 to 45% coverage, 20% with 46 to 55% coverage and only 7% with high coverage (>55%).

#### 5.1.4. Competing-risk models of categories of CFC benefit no benefit take-up

Tables 2a and 2b present relative odds ratios from competing-risk models of benefit duration categories conditioned upon union status at the end of the birth year as well as additional covariates.

Table 2a presents relative odds ratios for categories of CFC benefit take up conditioned only on parental union status at the end of the birth year (Model 1) and union status and age at birth (Model 2). In the bivariate model of CFC take-up and union status, we find a uniform reduced risk of benefit receipt among parents who are non-residential or separated at the end of the birth year. These parents are about half as likely (and in the case of long term benefits, only 60% less likely) to take CFC benefits as parents married prior to the birth of the child. Apart from these parents we find little variation in the bivariate relationship between take-up and union status, apart from a somewhat surprising higher risk of long-term take-up among parents cohabiting at the birth year. However, this positive relationship disappears once we take into account parental age at birth. The underlying age distribution of long-term beneficiaries who are cohabiting at the end of the birth year (skewed toward younger mothers) seems to be driving this bivariate result. After accounting for mother's age at birth, the negative association between take-up and non-residential or separated status remains and is even enhanced among long-term beneficiaries (now only 75% less likely to take up 13 to 24 months of benefit as compared to parents married at birth).

Models presented in table 2b build upon Model 2, incorporating parents' socioeconomic characteristics (Model 3) and gender orientation and childcare availability (Model 4). Parents' socioeconomic status accounts for a large portion of the variation in short- and medium-term take up among non-residential and separated parents: once accounting for these characteristics, these parents are now only 30% less likely to take short-term benefits and the negative relationship with medium-term benefits is reduced to non-significance. A strong negative relationship remains with respect to long-term benefits, however, with non-residential and separated parents 64% less likely to take-up as compared to parents married at birth. Once accounting for all couple demographic, socioeconomic, ideational and contextual characteristics (Model 4), we find a clear negative association between the level of union formalization and long-term CFC benefit receipt: couples in the most formal unions (married at birth or married in the birth year) are the most likely to take long-term benefits; cohabiting couples are 20% less likely to take the benefit (as compared to couples married at birth); and parents living apart are least likely to take long-term benefit (65% less likely than couples married at birth). The association between non-residential or separated status and short-term benefit up-take and the absence of differentiation by union status in relation to medium-term benefit up-take are both robust to the inclusion of gender orientation and childcare availability (Model 4). It is also notable that across benefit levels in all models, recently married couples remain indistinguishable from couples married at birth.

#### 5.1.5. Covariates

In general, few covariates on demographic, socioeconomic, gender ideology and regional context are associated with the uptake of short-term CFC benefits (1 to 6 months) versus taking no benefit (Model 4a). However, we do find that families living in municipalities with the highest level of childcare coverage for 1 and 2 year old children are less likely to receive short-term CFC benefits. This result is unsurprising as parents who take the benefit for 6 months or less are typically work-oriented, using the benefit until a place in childcare can be secured. Indeed it is likely that parents in these high-coverage municipalities do not face childcare shortages and parents are able to easily arrange for placement at the end of the family leave period. Higher

income couples are marginally more likely to take short-term benefits. It is notable that apart from this marginal effect, other educational and relative income measures are not associated with short-term benefit take-up. Finally, there is a puzzling result on the relationship between short-term CFC and family leave take-up: those parents who take no family leave in the birth year of the child are 62% more likely to take the cash benefit for short durations.

In the analysis of medium-term CFC benefit receipt (Model 4b) we see the emergence of differences in take-up by socioeconomic status. There is a negative overall association between education and medium-term benefit uptake, but only the relative odds ratio on women's higher tertiary education reaches even marginal significance (37% lower risk of medium-term take-up). Further there is a positive association between women's relative income and take-up, but only the relative odds ratio indicating couples with the most dependent women reaching marginal significance (32% higher risk of medium-term take-up). We find continued evidence of the role of childcare availability: as with short-term take-up, parents living in municipalities with the highest level of childcare coverage for 1 and 2 year old children are less likely to receive medium-term CFC benefits as compared to those in municipalities with the lowest levels of coverage. Interestingly, there is also a higher level of uptake among parents in municipalities with 26 to 35% coverage as compared to municipalities with 25-or-lower percentage of young children receiving childcare.

Differences in take-up by socioeconomic status are most pronounced when comparing long-term (13 to 24 month) recipients versus non-recipients (Model 4c). A dramatic negative relationship between educational attainment at birth for both mothers and father is evident. There is a positive but diminishing relationship between couple income previous to birth and long-term CFC benefit receipt, consistent with Aassve and Lappegård's (2009; 2010) findings on income. Additionally, there is a pronounced positive relationship between women's relative income and long-term take-up: as compared to couples with about equal incomes, couples are 26% and 113% more likely to take long-term benefits if the father contributes a little more (10% to 55% more) or much more (greater than 55% more than his partner) of the income, respectively. There is little evidence of a gender ideology effect when comparing couples in which the father takes some leave versus those where the mother takes all of the leave. However, among couples that take no parental leave, there is markedly lower take-up for longterm CFC benefits. Finally, with respect to long-term benefits versus no benefits taken, the relationship between the childcare coverage of 1 and 2 year old children in parents' municipality of residence is strongly negative.

#### 5.2. Analysis 2: Benefit Receipt and Union Transitions

## 5.2.1. Models and key covariates

For the analysis of the relationship between CFC benefit take-up and union transitions I estimate competing-risk models, also of form shown in equation (1). Here the dependent variable is the log of the odds of categories of union status (i = marriage, separation) relative to continued nonmarital cohabitation at the end of the following year (n+1). The analysis sample consists of all cohabiting parents of children eligible for CFC benefits (aged 13 to 36 months) and born in January between 1997 and 2000. Because each cohabiting couple can contribute up to two observation periods to the analysis (when their children are 13 to 24 and 25 to 36 months old), standard errors are corrected for clustering. The key independent variable within the vector  $\beta_i$  is an indicator for any CFC benefit received in the previous year. Again, this measure is calculated based on the duration calculation discussed above. Parents with any benefit are identified as having received when the child was one year old. Parent with 13 or more months of benefit were identified as having received when the child was two years old. Again, because of the assumption that parents do not cycle on and off of CFC benefits (as discussed above), all parents who received benefits in the child's second year are assumed to have received during the child's first year. While the registers do contain information on which parent (mother or father) receives the benefit, the proportion of fathers receiving the benefit is small (<2%, overall) and gender differentiated models produce unstable estimates. In addition to taking account of benefit receipt, I distinguish if it was the first (1-12 months) or second (13-24 months) year of receipt.

#### 5.2.2. Additional covariates

As with the analysis of uptake, I include a variety of covariates to capture the heterogeneity of CFC program participation and union transitions. As above, I include indicators for mother's age at birth and age at birth squared. In these models I also include a variable to indicate if the couple has had a subsequent birth. In order to capture variation across socioeconomic status I include measures of both parents educational attainment at birth, income and dependency as discussed in reference to the previous analysis. In addition to the measure of three-year average

pre-birth income, I include a measure of logged previous year combined-couple income and a squared term to allow for nonlinearities in the relationship between income and union transitions. As with the three-year average pre-birth income, the annual income measure includes earnings, income from non-employment sources and government transfers. In this analysis, the relative income measure is constructed in the same fashion as presented in equation 2, but now captures relative income in the previous year rather than prior to birth.

Changes in economic interdependence, likely generated by women's changing labor force participation after birth, may be associated with both union status transitions and CFC uptake. The Norwegian registers do not include reliable information on employment status or job characteristics. Instead, for the analysis of union transitions conditioned on benefit receipt I generate a proxy measure of mother's labor force participation using information about pre- and post-birth income. I calculate the ratio of previous year's income to the pre-birth three-year average income and generate an indicator variable for mothers with income ratios of greater than 0.75. While there is no way to determine if a mother returned to her previous job, changed jobs or changed her working hours, this measure will likely identify women that return labor force with at least a similar level of earnings.

Finally, to capture some of the unobserved characteristics of parents that might make them more likely to marry, reduce their labor force participation and take-up the cash benefit, I include the measures of gender-role orientation, as proxied by father's uptake of parental leave and regional variation in availability of childcare as discussed above. With respect to genderrole orientation, it is notable that in this analysis of union transitions of cohabiting parents and CFC benefit receipt, some proportion of parents with more differentiated gender roles may be selected out of the sample if they are also more likely to marry before the birth.

#### 5.2.3. Descriptive statistics

Table 3 presents descriptive statistics for the analysis sample in models of the relationship between CFC benefit receipt and the risk of marriage or separation versus continued cohabitation among parents cohabiting at the end of the birth year. Approximately 20% of cohabiting couples marry in the first 12 months and an additional 17% marry in the second 12 months. About 12% of cohabiting unions dissolve in each of the two years of observation. Nearly ninety percent of parents cohabiting at the end of the birth year take some cash benefit in the first year of

eligibility, while a smaller proportion of parents continue taking benefits into the second year (70%). The two year sample is equally distributed across the birth years and age of mother at birth, with three-quarters of mothers in their twenties at birth. Across the two years, nearly a quarter of parents have a subsequent birth in the period of observation: 10.7% in the first year and nearly 37% in the second year.

About a fifth of parents (both mothers and fathers) have not completed secondary schooling and about half have a secondary degree. Mothers are slightly more educated than fathers, with about 30% and 23% holding a tertiary degree, respectively. Three-year average earnings previous to birth across the two periods is 359,172 NOK (approximately \$40,766); however because average pre-birth earnings rise over the two years of observation, we might conclude that economic status previous to birth may be associated with selection out of cohabitation (either through marriage or separation). The average previous year's earnings across the two periods is 410,379 NOK (approximately \$46,578). There is an increase in previous year combined couple earnings in the two years of observation; however we cannot conclude if this is due to selection out of the pool of cohabiters or increased earnings trajectories over the life course. Among most couples, the father contributes a larger proportion of earnings in the previous year and this distribution is quite stable over the two years observed: the father contributes the majority of income in 77% of families in the two periods, mother and father contribute approximately equal proportions of income in about 13% of families and the mother contributes the majority of income in 8-9% of families in the two time periods observed. This overall picture does mask one change between the two years: between the first and second years of observation there is a shift from fathers contributing a little more income to fathers contributing much more of the couple's income. There is evidence that more women are employed at levels similar to those prior to first birth in the second as compared to the first year samples: when their firstborn child is 13 to 24 months old, approximately 65% of women in cohabiting couples have incomes equal to at least 75% of their 3-year average pre-birth income; this proportion increases to 74% in the following year.

Most fathers in the sample take some parental leave in the year after their first shared birth (about 60% of fathers in each of the two year subsamples), although a non trivial proportion of parents take no leave at all (about 18% and 16.5% in the age 1 and age 2 subsamples, respectively). Finally, child care coverage for 1-2 year olds in the municipality of residence

varies dramatically across the sample but little between the two age subsamples: about 12% of parents live in municipalities in which 0-25% of children in this age range have slots in childcare, 35% have 26-35% coverage, one-quarter have 36-45% coverage, one-fifth have 46-55% coverage and only 7% have more than 55% coverage.

#### 5.2.4. Marriage versus continued cohabitation

Table 4 presents relative odds ratios on marriage versus continued cohabitation from competingrisk models of union transitions conditioned on CFC program receipt. Model 1 includes only relative odds ratios on CFC benefit receipt and year of birth. Cash benefit receipt is associated with a higher risk of marriage, but only in the first year of receipt (when the child is aged 13 to 24). These beneficiary parents are at a 21% higher risk of marriage relative to parents who did not take the benefit when their child was 13 to 24 months old. One year later, however, nonrecipient parents "catch-up" to their beneficiary peers: during these months non-recipients are 41% more likely to marry relative to non-recipients in the previous year and 64% more likely (1.41 / 0.86 = 1.64) then beneficiary parents with similarly aged children. It should be noted that these patterns are net of selection into stability for all parents, regardless of beneficiary status: this second-year subsample includes only those parents who were observed cohabiting at both the end of the birth year and when the child was 24 months old.

This pattern of earlier marriage among CFC benefit recipients and later marriage for nonbeneficiaries is robust to the addition of covariates on couple socioeconomic status, gender orientation and regional childcare coverage (Models 2 and 3). When including all additional characteristics in the models (Model 3) we find that first year beneficiaries are at a 26% higher risk of marriage. However, non-beneficiaries continue to have a higher risk of marriage in the following year as compared to both non-beneficiaries in the previous year (1.36, marginally significant at the 90% level) and beneficiaries with similarly aged children (1.36 / 0.77 = 1.77).

#### 5.2.5. Separation versus continued cohabitation

Table 4 also presents relative odds ratios on separation versus continued cohabitation from competing-risk models of union transitions conditioned on CFC program receipt. In the bivariate model (Model 1) we find few differences across beneficiary status, excepting a marginally higher risk of union dissolution among those couples who did not receiving the benefit when their

children were 25 to 36 months old (relative to those who did not take benefits when the child was 13 to 24 months old). After including covariates on couple socioeconomic status, gender orientation and regional childcare coverage (Models 2 and 3), we find that patterns of union dissolution by take-up status seem to mirror the findings on marriage. As take-up in the first beneficiary year is associated with higher transitions to marriage, it is also associated with a lower rick of separation. However, this lower risk of separation in the first year is counterbalanced by a higher risk after the second benefit year, perhaps suggesting a delay in union dissolution among CFC beneficiaries. Once accounting for socioeconomic status differentials among cohabiting couples, the positive coefficient on risk of dissolution among non-beneficiaries is reduced to non-significance.

#### 5.2.6. Covariates

Table 4 also presents information on the relationship between couple characteristics and union transitions. Marriage and separation risks are stable across child's birth year. Mother's age at birth is positively associated with marriage and negatively associated with separation, although both associations are diminished at higher ages. Experiencing a subsequent birth increases marriage risks and is protective against separation. There is a positive relationship between education and marriage and a negative relationship between education and separation, relative to continued cohabitation, for both mothers and fathers (although not all categorical indicators reach statistical significance).

The relationship between couple income and marriage is non-linear, varying across the income distribution. Previous year's income is negatively associated with marriage, but the positive squared term suggests a 'U-shaped' relationship. While the relative odds ratio on prebirth economic status suggests a positive relationship to marriage, it is not statistically significant. There are no significant association between either of the absolute income measures and separation.

Relative income and women's return to the labor force are not significantly associated with marriage or separation. There is little change in relative odds ratios on CFC participation and in the  $R^2$  measure after adding these two components to the model so we may conclude that they explain little of the relationship between CFC and union status or the variation in marriage patterns over this period. We find a statistically significant association between only the mother

taking parental leave and separation (41% higher risk). Also there seems to be a positive relationship between childcare coverage of 1 and 2 year old children in the municipality of residence and separation, although only the coefficient on 46 to 55% coverage reaches significance. Gender orientation (as proxied by father's take-up of parental leave) and regional context of childcare coverage also explain very little of the variance in marriage behavior. Although relative odds ratios are not independently statistically significant with respect to the risk of marriage, these characteristics do absorb some of the association with CFC program participation when the child is 13 to 24 months old, suggesting that indeed some of the association between cash benefit receipt and marriage may be driven by selection on linked preferences for childcare in the home and marriage.

#### 6. **DISCUSSION**

This study considered how economic risk-taking and the balance of the opportunity costs of childbearing and childrearing are associated with marriage in modern-day Norway. I focus on a particular policy intervention that offers a cash benefit to compensate parents for the cost of private childcare or for parental care of children in the home. It has been demonstrated elsewhere that the majority of parents who take the benefit do indeed opt for home-based care (Aassve and Lappegård 2009; Rønsen 2001). Consequently, although the CFC benefit may offset short-run costs of care, it is a marker of increased dependency and higher individual opportunity costs in the long run for the parent who opts to reduce labor force participation to stay home to care for their children (almost universally the mother) (Aassve and Lappegård 2009; Schøne 2004).

I use CFC program participation as a proxy for increased economic risk taking of the recipient parent and increased economic dependency. I considered two key questions: 1) if more formal unions and recent marriage are associated with greater benefit uptake and longer durations of benefit receipt and 2) how CFC program receipt relate to marriage among cohabiting couples.

Differences between union status and uptake were most pronounced in models of the risk of long-term (13 to 24 months) benefit receipt. It is notable that after the first year of benefit (the child's second year), parents no longer enjoy job protection under Norwegian parental leave laws. Furthermore, longer term absences from the labor market may be associated with higher

levels of skill deterioration. As a result, we would expect these beneficiaries to privilege marriage in order to share economic risks across the couple and insure against the higher opportunity costs associated with longer benefit receipt. In part consistent with hypothesis 1a, there was a clear gradient in the risk of benefit uptake across categories of union status at the end of the birth year, but only with respect to long-term benefit receipt: married parents were most likely to take-up long-term CFC benefits, parents living apart were least likely to take the benefit and cohabiting parents' risk of uptake fell in-between. There was no evidence of differences between recently married parents and parents who married before the birth of the child, as hypothesized (1b). This finding was consistent across duration categories, suggesting that it is marital status itself, not the timing of the marriage, which seems to matter for benefit uptake.

The union status gradient in take-up was indeed most pronounced among long-term beneficiaries, consistent with hypothesis 1c. Differences between union status categories and take-up were not as dramatic when considering short- and medium-term benefit take-up. Only those parents living apart could be distinguished as having a lower risk of short-term benefit take-up (as compared to no benefit taken), partially confirming hypothesis 1a. Inconsistent with hypothesis 1a, cohabiting couples were no less likely to take short-term benefits versus parents married prior to the birth. Short-term take-up of CFC benefits may to a larger extent be due to exogenous factors, such as the unavailability of public childcare, as opposed to family orientation. The largely null findings on the relationship between short-term take-up and socioeconomic status also support the conclusion that these beneficiaries are a less selective Apart from a marginal positive effect of couple's pre-birth income, measures of group. socioeconomic status (such as education and relative income) were not associated with shortterm benefit take-up. Socioeconomic differences only emerge at higher benefit duration levels. This is consistent with the idea that work-oriented parents, who use the benefit only to bridge the gap from the end of the parental leave period until a spot opens in public childcare, are less selected on characteristics (specifically socioeconomic status) as compared with mixed- and family-oriented parents, who remain at home to care for their children for longer durations.

There were no differences across union status in the risk of taking medium-term benefits, a finding inconsistent with hypothesis 1a. Medium-term beneficiaries are likely to be mixedorientation couples, with preferences for extending the parental leave period to care for their children in the home but not at the expense of the right to return to the job held before the childbearing period (Aassve and Lappegård 2010). Take-up of 7 to 12 months of the CFC benefit was largely contingent upon socioeconomic status. The diminishing returns to income with respect to uptake suggests that for the lowest income couples, reducing labor force participation to care for children in the home is simply not affordable. However, with increased couple income, parents can increasingly afford to take advantage of the CFC program. Continued absence from the labor force seems to be less attractive to the highly educated (women) and higher income couples. While the CFC benefit and legal rights to job protection in the child's second year may offset some of the opportunity costs associated with home care for middle-income families, the benefit is not sufficient wage compensation for the most well-off. Additionally, it is possible that preferences for public or private care may vary by socioeconomic status, although I was not able to measure such preferences with these data.

The second set of analyses focused on how the program participation affects union dynamics, considering transitions to marriage among couples cohabiting at the end of the birth year. Analyses of the relationship between benefit take-up (i.e. receipt) and marriage, rather than showing an overall increased risk of marriage as predicted in hypothesis 2, indicate a substantial pace differential in the transition to marriage among beneficiary parents: parents taking the cash benefit when their child is 13 to 24 months old are 26% more likely to marry; however, parents still unmarried and taking the benefit when their child is between the ages of 25 and 36 months are 43% less likely to marry as compared to parents of similarly aged children who do not take the benefit. This lower risk of marriage in the second benefit year may be partially explained by a faster transition to the second birth among longer-term Cash-for-Care recipients (demonstrated by Aassve and Lappegård 2009; Aassve and Lappegård 2010). Beneficiary parents seemingly choose to either marry quickly between births (as evidenced by the higher rate of marriage after the first year of benefit receipt), or (if they marry at all) they wait until completing their childbearing, not marrying after the second year of benefit receipt when they may be more likely to be pregnant or to have just given birth to their second child.

In general these results suggest that union status is only somewhat linked to economic dependency and risk taking generated by the process of childbearing and childrearing in the Nordic context. More formal unions are indeed associated with longer CFC program take-up, as demonstrated in the first analysis. However, the largest differentiation is between co-resident and non-co-resident parents, as demonstrated by the low risk of take-up among parents living

apart at the end of the birth year. This result is further evident in the weak findings on the transition to marriage among cohabiting parents in the analyses of CFC receipt and union transitions. Indeed, with respect to analyses two, increased economic dependency associated with reductions in labor force participation and take-up of the CFC benefit are not strongly related to the timing of marriage among cohabiting parents in Norway.

In this context, with respect to perceived union security and stability, the differences between cohabitation and marriage may only be negligible, particularly when the couple has expressed their commitment to one another by having a child together. Furthermore, to the extent that couples plan their births and have particular expectations about who will take on the larger share of economic opportunity costs associated with childrearing, the association between dependency and union status may already be apparent before the birth of the child. Models of union transitions fail to capture marriage that occur in anticipation of child birth; such an analysis would be impossible to conduct with register data, as one cannot identify cohabiting couples without shared children nor do they include childbearing intentions. Furthermore, extensive governmental supports for families in Norway may reduce the perceived risks associated with reduced labor force participation in the childbearing years. Through generous family support policies, the state may somewhat "crowd-out" the marital union as an institution insuring against long-term risk and economic dependency.

What then is the role of modern day marriage in Norway? One possible answer comes from the analysis of the relationship between CFC benefit receipt and union transitions. There is some evidence of an indirect effect of the program on marriage timing through changes in the pace of childbearing. These results lend support to the idea that modern-day marriage in Norway is less an institution valued for the economic protection it offers but rather may be a marker of particular stages of the family life-course.

# 7. TABLES

Table 1 Characteristics of parents, January first births, Norway 1997–2000					
	Te	stol			
	N N	Dor cont			
Cash far Care hanaft taka un		Fei ceili			
N <sub>a</sub> CEC	1052	15 1			
	1052	13.1			
	4/2	0.8			
7-12mCFC	1038	14.9			
13-24m CFC	4424	03.3			
Union Status at end of birth year	0215	22.1			
	2315	33.1			
Married in birth year	489	/.0			
Conabiting	2884	41.3			
Non-residential/separated	1298	18.6			
Year of birth	1070	26.0			
1997	18/3	26.8			
1998	1753	25.1			
1999	1684	24.1			
2000	1676	24.0			
Age of mother at birth					
< 20	322	4.6			
20 to < 25	1938	27.7			
25 to < 30	2820	40.4			
30 to < 35	1484	21.2			
35 +	422	6.0			
Socioeconomic characteristics					
Mother's education at birth					
Missing	493	7.1			
Less than secondary	1398	20.0			
Secondary	2707	38.7			
Lower tertiary	2007	28.7			
Higher tertiary	381	5.5			
Father's education at birth					
Missing	487	7.0			
Less than secondary	1430	20.5			
Secondary	3088	44.2			
Lower tertiary	1435	20.5			
Higher tertiary	546	7.8			

Та	able 1 continued		
		To	otal
		N	Per cent
	Three-year average couple income previous to birth (2000NOK)		
	Mean	341,605	
	25th percentile	192,000	
	50th percentile	343,000	
	75th percentile	465,000	
	Three-year average relative income previous to birth		
	No couple income	338	4.8
	Mother contributes much more income (RINC $\leq$ -0.55)	399	5.7
	Mother contributes a little more income $(-0.55 < RINC < -0.1)$	) 803	11.5
	Mother and father contribute equally $(-0.1 \le \text{RINC} \le 0.1)$	1393	19.9
	Father contributes a little more income $(0.1 < RINC < 0.55)$	2765	39.6
	Father contributes much more income (RINC $\geq 0.55$ )	1288	18.4
G	ender orientation		
	Family leave take up		
	No leave taken	1944	27.8
	Mother only	1513	21.7
	Father takes some leave	3529	50.5
	Father takes "daddy days"	3144	45.0
	Father takes more than "daddy days"	385	5.5
Re	egional context		
	Child care coverage in municipality (1 and 2 year olds)		
	0-25%	1112	15.9
	26-35%	2259	32.3
	36-45%	1703	24.4
	46-55%	1430	20.5
	56+%	482	6.9
N	/ %	6986	100.0
Sc	ource: Norwegian Population Registers.		

Ta birt	<b>ble 2a</b> Competing-risk models of categories of tal th year (M1) and age at birth (M2), parents of chil	ke-up Cash ldren born 1	-for- 997	Care benefit -2000, Nor	t vs wa	s. no benefit con V	nditioned on par	ental union statu	as at end of
		Model 1	a	Model 1b	)	Model 1c	Model 2a	Model 2b	Model 2c
		Relative F	Risk	Relative Ris	sk	Relative Risk	Relative Risk	Relative Risk	Relative Risk
		1 to 6m	vs.	7 to 12m v	s.	13 to 24m vs.	1 to 6m vs.	7 to 12m vs.	13 to 24m vs.
		none		none		none	none	none	none
De	mographic Characteristics								
	Union Status at end of birth year								
	Married prior to birth	1.00		1.00		1.00	1.00	1.00	1.00
	Married after birth	0.71		1.04		1.01	0.71	0.98	0.85
	Cohabiting	0.84		1.18		1.29 **	0.83	1.10	1.02
	Non-residential/separated	0.50	***	0.53 *	***	0.40	0.49	0.48	0.25 ***
	Age of mother at birth						0.95	1.03	0.82 **
	Age of mother at birth <sup>2</sup>						1.00	1.00	1.00
Ν		6986		6986		6986	6986	6986	6986
R2		0.0136	5	0.0136		0.0136	0.0306	0.0306	0.0306
df		12		12		12	18	18	18
AI	C	14354	5	14354.5		14354.5	14119.43	14119.43	14119.43
BIC	C	14436.7	2	14436.72	2	14436.72	14242.76	14242.76	14242.76
+p	<0.1; *p < 0.05; **p < 0.01; ***p < 0.001.								
Soi	urce: Norwegian Population Registers.								

Table 2b Competing-risk models of categories of take	e-up Cash-for-Care benefit vs. no	o benefit condit	ioned on parenta	al union status a	t end of birth ye	ear,	
socioeconomic characteristics (M3) and gender orient	ation and childcare availability (M	14), parents of c	children born 19	97–2000, Norv	way	1	
	Model 3a	Model 3b	Model 3c	Model 4a	a Model 4b	Model 4c	
	Relative Risk	Relative Risk	Relative Risk	Relative Risk	Relative Risk	Relative Risk	
	I to 6m vs.	7 to 12m vs.	13 to 24m vs.	I to 6m vs.	7 to 12m vs.	13 to 24m vs.	
Demographic Characteristics	none	none	none	none	none	none	
Union Status at end of birth year							
Married prior to birth	1.00	1.00	1.00	1.00	1.00	1.00	
Married after birth	0.80	1.19	1.00	0.81	1.21	1.06	
Cohabiting	0.81	1.02	0.81 *	0.84	1.03	0.80 *	
Non-residential/separated	0.70 *	0.84	0.36	0.68 *	0.83	0.35 ***	
Age of mother at birth	0.98	1.12	1.08	1.02	1.14	1.06	
Age of mother at birth <sup>2</sup>	1.00	1.00	1.00	1.00	1.00	1.00	
Socioeconomic characteristics							
Mother's education at birth							
Missing	0.66	0.32 ***	0.46	0.65	0.35	0.48 ***	
Less than secondary	1.00	1.00	1.00	1.00	1.00	1.00	
Secondary	1.13	0.97	0.95	1.13	0.94	0.89	
Low Tertiary	1.13	0.92	0.58 ***	1.10	0.90	0.55 ***	
High Tertiary	0.77	0.68 +	0.29 ***	0.75	0.66 +	0.27 ***	
Father's education at birth							
Missing	0.75	0.84	0.45	0.73	0.82	0.44 ***	
Less than secondary	1.00	1.00	1.00	1.00	1.00	1.00	
Secondary	0.99	1.03	0.82 +	0.99	1.00	0.79 +	
Low Tertiary	1.01	0.99	0.50	1.01	1.00	0.54 ***	
High Tertiary	1.12	0.79	0.33 ***	1.12	0.81	0.38 ***	

Table 2b continued						
	Model 3a	Model 3b	Model 3c	Model 4a	Model 4b	Model 4c
	Relative Risk					
	1 to 6m vs.	7 to 12m vs.	13 to 24m vs.	1 to 6m vs.	7 to 12m vs.	13 to 24m vs.
Combined couple income 3yr pre-birth avg	1.47	1.28	2.32 ***	1.43 +	1.25	2.38 ***
Combined couple income 3yr pre-birth avg <sup>2</sup>	0.95	0.97	0.91	0.97	0.97	0.89
Three-year average relative income previous to birth						
No couple income	1.51	0.51	1.20	1.50	0.52	0.86
Mother contributes much more income (RINC $\leq$ -0.55)	1.03	0.78	0.87	1.04	0.80	0.84
Mother contributes a little more income $(-0.55 < \text{RINC} < -0.1)$	0.98	0.87	0.92	1.03	0.91	0.97
Mother and father contribute equally (-0.1 $\leq$ RINC $\leq$ 0.1)	1.00	1.00	1.00	1.00	1.00	1.00
Father contributes a little more income $(0.1 < \text{RINC} < 0.55)$	0.89	0.98	1.22 +	0.88	0.99	1.26 *
Father contributes much more income (RINC $\ge$ 0.55)	1.19	1.29 +	1.57 **	0.96	1.32 +	2.13 ***
Gender orientation						
Family leave taken						
Father takes some leave				1.00	1.00	1.00
Mother only				1.06	1.03	0.96
None taken				1.62 *	1.05	0.58
Regional context						
Childcare coverage in municipality, age 1-2						
0-25%				1.00	1.00	1.00
26-35%				1.24	1.70 **	0.89
36-45%				0.83	1.29	0.53 ***
46-55%				1.29	1.16	0.39 ***
56%+				0.58 *	0.52 **	0.16
N	6986	6986	6986	6986	6986	6986
R2	0.0796	0.0796	0.0796	0.1021	0.1021	0.1021
df	63	63	63	81	81	81
AIC	13497.3	13497.3	13497.3	13205.77	13205.77	13205.77
BIC $\downarrow_n < 0.1: *n < 0.05: **n < 0.01: ***n < 0.001$	13928.96	13928.96	13928.96	13/00./5	13/00./5	13/60./5
Source: Norwegian Population Registers						

Table 3 Characteristics of cohabiting parents of children aged 1 and 2, January first births, Norway 1997–2000					
	Age	e 2			
	Ν	%	Ν	%	
Union Status end of the subsequent year					
Marries	581	20.1	389	17.3	
Continues to cohabit	1,944	67.4	1,590	70.7	
Separates	359	12.4	269	12.0	
Cash-for-care received in previous year					
None taken	325	11.3	670	29.8	
Any taken	2,559	88.7	1,578	70.2	
Year of birth					
1997	790	27.4	630	28.0	
1998	726	25.2	587	26.1	
1999	707	24.5	499	22.2	
2000	661	22.9	532	23.7	
Age of mother at birth					
< 20	96	3.3	63	2.8	
20 to < 25	966	33.5	726	32.3	
25 to < 30	1,194	41.4	938	41.7	
30 to < 35	502	17.4	415	18.5	
35 +	126	4.4	106	4.7	
Subsequent birth (2nd + birth)	308	10.7	829	36.9	
Socioeconomic characteristics					
Mother's education at birth					
Missing	28	1.0	17	0.8	
Less than secondary	598	20.7	455	20.2	
Secondary	1,380	47.9	1,094	48.7	
Lower tertiary	772	26.8	597	26.6	
Higher tertiary	106	3.7	85	3.8	
Father's education at birth					
Missing	44	1.5	29	1.3	
Less than secondary	618	21.4	470	20.9	
Secondary	1,542	53.5	1,229	54.7	
Lower tertiary	522	18.1	395	17.6	
Higher tertiary	158	5.5	125	5.6	

Table 3 continued				
	Ag	ge 1	Ag	je 2
	N	%	N	%
Three-year average couple income previous to birth (2000 NOK)				
Mean	357,652		361,122	
25th percentile	242,000		246,000	
50th percentile	351,000		355,000	
75th percentile	453,000		455,000	
Couple income in previous year (2000 NOK)				
Mean	408,307		413,037	
25th percentile	301,000		304,000	
50th percentile	400,000		398,000	
75th percentile	483,000		493,500	
Relative income in previous year				
No couple income	11	0.4	7	0.3
Mother contributes much more income (RINC $\leq$ -0.55)	97	3.4	69	3.1
Mother contributes a little more income $(-0.55 < \text{RINC} < -0.1)$	158	5.5	112	5.0
Mother and father contribute equally $(-0.1 \le \text{RINC} \le 0.1)$	376	13.0	313	13.9
Father contributes a little more income $(0.1 < \text{RINC} < 0.55)$	1,665	57.7	1,067	47.5
Father contributes much more income (RINC $\geq 0.55$ )	577	20.0	680	30.2
Mother's return to the labor force				
Mother's income at least 75%+ of pre-birth 3-year average	1,862	64.6	1,654	73.6
Gender orientation				
Family leave take up				
No leave taken	516	17.9	368	16.4
Mother only	650	22.5	503	22.4
Father takes some leave	1,718	59.6	1,377	61.3
Father takes "daddy days"	1,560	54.1	1,244	55.3
Father takes more than "daddy days"	158	5.5	133	5.9
Regional context				
Child care coverage in municipality (1 and 2 year olds)				
0-25%	358	12.4	277	12.3
26-35%	1,022	35.4	793	35.3
36-45%	727	25.2	569	25.3
46-55%	575	19.9	447	19.9
56+%	202	7.0	162	7.2
N	2,884	100.0	2,248	100.0
Source: Norwegian Population Registers.				

Table 4 Competing risk models of the risk of marriage or separation vs	. continued cohabitat	ion in t+1 conditi	oned on Cash-fo	or-Care program	receipt	
Cohabiting parent of children aged 1 and 2, Norway 1997-2000						
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
	Relative Risk	Relative Risk	Relative Risk	Relative Risk	Relative Risk	Relative Risk
	Marriage vs.	Separation vs.	Marriage vs.	Separation vs.	Marriage vs.	Separation vs.
	Cohabitation	Cohabitation	Cohabitation	Cohabitation	Cohabitation	Cohabitation
Cash-for-care program participation by age of child						
No benefit, child aged 13-24m	1.00	1.00	1.00	1.00	1.00	1.00
CFC benefit, child aged 13-24m	1.21 +	0.84	1.31 *	0.56 ***	1.26 *	0.59
No benefit, child aged 25-36m	1.41 *	1.39 +	1.35 +	1.29	1.36 +	1.27
CFC benefit, child aged 25-36m	0.86 *	0.93	0.78	1.21 *	0.77	1.22 *
Demographic Characteristics						
Year of first birth	1.05	1.04	1.02	1.09	1.02	1.09
Age of mother at birth			1.29 +	0.66 ***	1.30 *	0.66
Age of mother at birth <sup>2</sup>			0.99 *	1.01 ***	0.99 *	1.01 **
Subsequent birth (at least 2nd)			1.37 ***	0.34 ***	1.38	0.34 ***
Socioeconomic Characteristics						
Mother's education at birth						
Missing			1.58	1.41	1.66	1.31
Less than secondary			1.00	1.00	1.00	1.00
Secondary			1.12	0.73 *	1.12	0.72 *
Low Tertiary			1.54 **	0.73	1.54 **	0.71 +
High Tertiary			1.03	0.94	1.04	0.86
Father's education at birth						
Missing			2.26 +	3.78 ***	2.46 *	3.40 ***
Less than secondary			1.00	1.00	1.00	1.00
Secondary			1.24 +	0.85	1.25 +	0.86
Low Tertiary			1.30 +	0.74	1.35 +	0.70 +
High Tertiary			1.22	0.39 *	1.27	0.39 *
Combined couple income in previous year			0.41 **	1.10	0.41 ***	1.09
Combined couple income in previous year <sup>2</sup>			1.12 ***	0.96	1.13 ***	0.96
Combined couple income 3yr pre-birth avg			1.52	1.60	1.60	1.41
Combined couple income 3yr pre-birth avg <sup>2</sup>			0.96	0.93 +	0.96	0.95

Table 4 continued						
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
	Relative Risk	Relative Risk	Relative Risk	Relative Risk	Relative Risk	Relative Risk
	Marriage vs.	Separation vs.	Marriage vs.	Separation vs.	Marriage vs.	Separation vs.
	Cohabitation	Cohabitation	Cohabitation	Cohabitation	Cohabitation	Cohabitation
Relative income in previous year						
No couple income			0.12	0.62	0.11 +	0.61
Mother contributes much more income (RINC $\leq$ -0.55)			1.16	1.00	1.00	0.95
Mother contributes a little more income $(-0.55 < RINC < -0.1)$			0.89	1.07	1.21	1.00
Mother and father contribute equally $(-0.1 \le \text{RINC} \le 0.1)$			1.00	1.05	0.90	1.00
Father contributes a little more income $(0.1 < \text{RINC} < 0.55)$			1.08	0.84	1.07	0.85
Father contributes much more income (RINC $\ge 0.55$ )			1.37 +	0.79	1.30	0.84
Mother's return to the labor force						
Mother's income <75% of pre-birth 3 yr avg			1.00	1.00	1.00	1.00
Mother's income 75%+ of pre-birth 3 yr avg			0.98	0.77 +	0.96	0.81
Gender orientation						
Family leave taken						
Father takes some leave					1.00	1.00
Mother only					1.01	1.41 *
None taken					1.23	1.03
Regional context						
Childcare coverage in municipality, age 1-2						
0-25%					1.00	1.00
26-35%					1.11	1.12
36-45%					0.96	1.20
46-55%					0.78	1.85 **
56%+					0.83	1.41
N	5132	5132	5132	5132	5132	5132
Couples	2884	2884	2884	2884	2884	2884
K <sup>2</sup>	0.0031	0.0031	0.0684	0.0684	0.0742	0.0742
	8500 972	8500 972	8029 653	8029.653	8004.03	8004.03
BIC	8566.405	8566.405	8369.902	8369.902	8422.798	8422.798
+p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001.						
Source: Norwegian Population Registers.						

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