



Cash-for-Care use and Union Dissolution in Finland

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Abstract: Prominent theories have long suggested that couples' gendered division of labor decreases the risk of separation. Family policies such as the Finnish cash-for-care (CFC) benefit, which is paid if a young child does not attend public daycare, may encourage a gendered division of labor, at least temporarily. Using Finnish register data, this study examines the effect of receiving the CFC benefit on the short- and long-term risks of separation. Discrete-time event history analyses suggest a lower separation risk while the benefit is taken, but no effect in the long term. Fixed-effects models for non-repeated events indicate postponement of separation during benefit take-up, as well as selection into longer periods of CFC use for couples with higher latent propensity to separate. It is concluded that the CFC benefit use, signaling a gendered division of labor, predicts a lower separation risk during receipt of the benefit but not beyond that period.

Keywords: Cash-for-care, divorce, separation, Finland, division of work, child care policies

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INTRODUCTION

Family policies have various aims, such as the promotion of maternal employment, the compatibility of family life and paid work, gender equality, child development, and poverty reduction (see e.g., Mätzke & Ostner, 2010; Thévenon & Gauthier, 2011). In Europe, affecting family forms or family stability is rarely a stated policy goal. Nevertheless, there are theoretical reasons to expect that by affecting either maternal employment, the couple's division of labor, or family income, such policies may also affect family stability.

The aim of this article is to analyze how use of the cash-for-care benefit (CFC) influences the risk of union dissolution in Finland. CFC can be paid to parents of children under the age of three who are not in publicly provided childcare and is primarily used by mothers to care for their children full time. By subsidizing family-based childcare, CFC decreases the labor supply of mothers of young children (Hardoy & Schøne, 2010; Kosonen, 2014), and promotes a gendered division of labor between partners. It is a controversial policy in a country where men's and women's employment rates are otherwise similar, and it contradicts other policy aims to promote gender equality and maternal employment (Duvander & Ellingsæter, 2016). The effect of CFC use on the risk of union dissolution is theoretically ambiguous (Becker, 1981; Oppenheimer, 1997; Sayer & Bianchi, 2000). Related research on partnered women's employment or income and family stability has also drawn contradicting conclusions (e.g., Cooke et al., 2013; Özcan & Breen, 2012). One study conducted in Norway analyzed the effects of CFC on family stability and found that the introduction of the CFC policy lowered divorce rates during the first 3 years after childbirth (Hardoy & Schøne, 2008).

This study examines (1) whether receipt of the CFC affects union dissolution rates while it is utilized, and (2) whether any such effects extend beyond the years of CFC use. This study

advances the existing literature in the following ways. First, we extend our analysis beyond the first few years after childbirth, when separation rates are relatively low (Lyngstad & Jalovaara, 2010), and distinguish between the effects of current and past CFC use. Secondly, we include cohabitations as well as marriages. A major share of children in Nordic countries are born to unmarried (mostly cohabiting) mothers — 58 percent of first births and 36 percent of subsequent births in Finland in 2016 (Statistics Finland 2018a). Not only do unmarried couples constitute a large part of childbearing unions, they also separate at a much higher rate than married couples (Jalovaara, 2013). The research questions are analyzed using high-quality register data from 1987 to 2009 on 38,093 first childbearing unions (whether married or cohabiting) of Finnish-born women. The analysis is conducted using discrete-time event history models, and fixed-effects models for non-repeated events (Allison, 2009). The present study contributes to understanding the (unintended) short-term and long-term consequences of family policies on union dissolution. It also contributes to the ongoing discussion on women’s employment and family stability by adding to the theoretical landscape, as theories usually focus on the immediate effect of wives’ employment on the risk of divorce and not on whether a temporary arrangement can have long-lasting consequences.

CASH-FOR-CARE IN FINLAND

The cash-for-care benefit promotes a gendered division of labor in a country where maternal employment and the dual-breadwinner family are normative. In Finland, men’s and women’s employment rates are similar and both typically work full-time (Eurostat, 2018; OECD, 2017). The major exception to this gender similarity is that many mothers of young children take long family leaves: both maternity leave and parental leave, followed by receipt of the CFC benefit.

Finland introduced the CFC policy in 1985. Supporters of the policy argued that it gives parents (state-supported) freedom to choose between home-based and institution-based care, and that it extends state childcare support to families that do not benefit from the provision of public daycare (often living in rural areas), reduces the public costs for childcare, and is in the child's best interest, whereas its opponents perceived it as a threat to gender equality. As a result of a political bargain, the CFC benefit was introduced alongside a subjective right to daycare for children under the age of three (Hiilamo & Kangas, 2009).

CFC is paid to parents of children aged 9–35 months who are not in public childcare. The mother is almost always the recipient, and the main caretaker (Salmi, Närvi, & Lammi-Taskula, 2017). The family may use the benefit to pay a private caregiver or a private daycare provider, but this is rare because it can be subsidized by another, more beneficial, allowance (Kosonen, 2014). The CFC benefit comprises a basic payment, a means-tested supplement, possible sibling additions, and municipality top-ups (Salmi et al., 2017; Sipilä & Korpinen, 1998). Importantly, employed parents have the right to return to their job after being on child care leave with the CFC benefit.

At the time of implementation, CFC could be received simultaneously with unemployment benefits (Anders, 2002), but this possibility was abolished during the economic crisis in the 1990s (Sipilä & Korpinen, 1998). Today, CFC can be combined with other social benefits, but the amounts received are generally affected by those other allowances and benefits (Kela, 2017a). In 2017, the average monthly payment per child was €288, and €415 per receiving family (Kela, 2017b). Hence, the income from these transfers usually remains well below women's median earnings of €2,748 in 2016 (Statistics Finland, 2018b). Nevertheless, CFC is used widely; in 2015, 89% of eligible families received it (Salmi et al., 2017). Over time, there

has been a decline in longer CFC use periods and an increase in shorter use periods (Salmi et al., 2017).

Research on the effects of the CFC benefit from Finland and other Nordic countries has reported negative immediate and long-term effects on mothers' employment and incomes (Hardoy & Schøne, 2010; Kosonen, 2014; Naz, 2004; Rønsen, 2009; Schøne, 2004), but no effect on fathers' employment (Rønsen, 2004). Receipt of CFC thus contributes to the relatively low employment rates of Finnish mothers with young children: the rate for mothers of children under the age of seven is near the EU average, although rates for mothers with older children are among the highest in the EU (Eurostat, 2018). This suggests that CFC use strengthens women's reliance on their partners' incomes, and supports the notion that CFC is a male-breadwinner family policy that reinforces an unequal division of paid and unpaid work (Duvander & Ellingsæter, 2016; Morgan & Zippel, 2003; Pettit & Hook, 2005; Rønsen, 2001). In terms of the division of childcare and other domestic work in the long term, however, there is scant evidence of strong effects resulting from long child care leaves (Miettinen, 2008). As mentioned above, only one study has analyzed the effects of CFC on divorce (Hardoy & Schøne, 2008). This study found that the Norwegian CFC reform decreased the probability of divorce by one percentage point within three years, a rather considerable result given that approximately four percent of married couples divorced. A stronger effect among couples who used CFC for a longer period was also reported.

THEORETICAL PERSPECTIVES

CFC use decreases mothers' employment (Kosonen, 2014), can sharpen the partners' division of labor into paid and unpaid work (Duvander & Ellingsæter, 2016; Morgan & Zippel, 2003), and

tends to lower the income level of the mother and the family. These interrelated outcomes can affect the risk of union dissolution in opposing ways. The effect of CFC use on union dissolution risk could be positive or negative, temporary or more permanent, and could affect the timing, rather than the longer-term incidence, of separation.

Prominent theories on women's employment and marital stability have emphasized the importance of the household division of labor. According to Becker's (1981) economic theory of the family, a specialized division of household tasks increases the value of marriage and fosters marital stability. It is argued that the specialization of one partner (usually the husband) in paid work and the other (the wife) in unpaid household tasks maximizes efficiency and fosters the exchange of the products from the different domains. Women's employment is argued to reduce the gains from this specialization and, consequently, increase the risk of divorce (cf. Oppenheimer, 1997).

More recent perspectives provide a different interpretation of the relationship between women's employment and divorce risk, based on the fact that men have not entered the domestic sphere to the extent that women entered the labor market. It has been suggested that women's double burden of paid and unpaid work is a key reason for the higher separation risks of employed women; equality between partners in time spent working, either paid or unpaid, increases marital stability (Cooke, 2004; Cooke et al., 2013). This finding suggests that men's involvement in unpaid work can counteract the possible separation-promoting consequences of women's employment; such a compensation effect has been shown for several societies such as the UK, the US, Germany and Italy (Cooke, 2006; Mencarini & Vignoli, 2017; Sigle-Rushton, 2010). This implies that policies promoting gender equity in dual-earner couples and policies that promote a gendered division of paid and unpaid work could contribute to union stability

(Blossfeld & Müller, 2002). Both Becker's (1981) specialization argument and the dual burden argument lead us to expect a lower separation risk while CFC is received.

For most couples, CFC use means a considerably lower disposable income in comparison to both partners being employed. The family stress model links lower family income to greater economic stress, which can increase conflict between partners and, consequently, the risk of union dissolution (Conger, Conger, & Martin, 2010). Oppenheimer (1997) argued that women's employment improves families' income security and reduces the likelihood of union dissolution, especially if her partner is insecurely attached to the labor market (also, Ono, 1998). This perspective leads to the hypothesis that the income loss that accompanies CFC receipt could increase the risk of union dissolution.

These theoretical arguments lead to opposing predictions for the effect of women's employment on family stability. Empirical studies have yielded mixed results as well, suggesting that the positive association between separation risk and women's employment is only valid under specific circumstances (for reviews, see Özcan & Breen, 2012; Sayer & Bianchi, 2000). The relationship is contingent on the couple's marital satisfaction, as studies have shown that women's employment mainly affects unhappy unions (Sayer, England, Allison, & Kangas, 2011; Schoen, Astone, Kim, Rothert, & Standish, 2002). A woman's employment can likewise decrease marital stability if it leads to a division of labor that is perceived as unfair (Oláh & Gähler, 2014), or if the division of labor contradicts the ideological predispositions of the partners (Greenstein, 1995; Kalmijn, De Graaf, & Poortman, 2004; Ross, Sawhill, & MacIntosh, 1975). In addition to couple characteristics, contextual factors play a role; her employment can increase union dissolution in countries or at times when maternal employment is not fully embraced and supported by the surrounding society (Cooke, 2006; Cooke & Gash, 2010; Cooke et al., 2013;

Killewald, 2016). Cooke and associates (2013) report that, in gender-egalitarian countries including Finland, divorce rates are lower for employed women than for non-employed women, although more detailed analyses on Finland have shown that divorce rates are slightly lower in male-breadwinner couples than in dual-earner couples and are much higher when either or both partners are unemployed (Jalovaara, 2003).

Much of this theory and research has implicitly considered the effect of employment on the union dissolution risk to be immediate. However, (non-) employment can affect the timing of union dissolution, for example, by postponing it, without necessarily affecting its longer-term incidence. A woman's economic dependence on their partner can create barriers to separation (Sayer & Bianchi, 2000; Sayer et al., 2011; Schoen et al., 2002), such as the perceived psychological, social, and economic costs of separation that may keep partners together even when mutual attraction is low (Levinger, 1976). Hence, the economic dependency linked to receipt of CFC can create barriers, but as CFC use is temporary, this could lead to postponement of separation until the time she has (re)entered employment.

CFC use can also trigger more lasting changes in the couple's relationship and behaviors that have long-term effects on their risk of union dissolution. Parenthood tends to result in an increasingly gendered division of housework (Dribe & Stanfors, 2009; Evertsson & Boye, 2016), which can persist beyond the early parenthood years (Baxter, Hewitt, & Haynes, 2008). Policies that promote a gendered division of labor, such as CFC, can help establish such patterns, which are sustained beyond the years of take-up (Chesley & Flood, 2017; however, Miettinen, 2008). After long family leaves, a continued gendered division of housework could lead to role conflicts, decreased equality between partners, and consequent dissatisfaction (cf. Twenge, Campbell, & Foster, 2003). Extended family leaves also lead to a loss in work experience, which can have

negative longer-term consequences on a person's labor market position (Rønsen, 2009). A weaker position in the labor market can increase or decrease the union dissolution risk in the long term, depending on whether the economic barriers to separation or the separation-promoting effects of couples' economic stress are more important. In each of these scenarios, the observed post-CFC use union dissolution rate may be different from that before or without CFC uptake.

METHOD

Data and variables

We used administrative population data from an 11% random sample of Finns born between 1940 and 1995 who had been recorded in the population of Finland between 1970 and 2009. The data were compiled by Statistics Finland by linking information from various administrative registers. They include full monthly histories of co-residential partnerships of the sample persons regardless of marital status (from 1987 onwards; for rules of inference of cohabitations, see e.g., Jalovaara, 2013), monthly histories of childbearing and other vital events, education, and yearly employment and income data from various sources. We focus on unions of Finnish-born women, between 1987–2009, in which they had their first (biological) child. The analyses included 38,093 couples, accounting for 315,501 couple-years at risk.

The dependent variable is the dissolution of the woman's first childbearing union in a given year – defined as partners permanently moving apart or divorcing, whichever comes first. Because families become eligible for CFC once the child is 9 months old, and because we lag the CFC use variable by one year (see below), the couples become at risk of union dissolution on the second calendar year after the first child is born. The unions are right-censored if the woman emigrates, either partner dies, or at the end of the observation period.

Our main independent variable is a time-varying lagged (by one year) measure of CFC use, which is based on the annual received amount. The variable is lagged to avoid confusing the time-ordering of CFC receipt and separation. CFC users were defined as eligible couples (with a child aged 9 to 35 months) who had received CFC payments during the year.

The time-varying CFC use variable includes the following categories: never used CFC (Reference category), current CFC use, and 1 year, 2–4 years, 5–7 years, and 8+ years since the latest CFC receipt. Categories indicating years since the last use were included to estimate whether CFC use affects the union dissolution risk beyond the take-up period.

We also tested an alternative pair of measures consisting of a lagged time-varying dummy variable of CFC receipt during the year and a lagged time-varying variable of the accumulated number of years that CFC has been used (results shown in Appendix Table 1A). Because approximately nine out of ten of eligible families in Finland use cash-for-care for at least a short period of time, this measure is used to differentiate between those who use the benefit for a short period from those who receive it for extended periods of time.

We included three groups of control variables. The first comprises duration (linear and squared), period (calendar year) in groups based on economic cycles, and union duration at the time when the first child was born (in years). The second includes variables measuring the couple's socio-demographic profile: age (of the mother) in 10 year age groups (time-varying); education of both partners (time-varying), categorized as basic, secondary academic, secondary vocational, lower tertiary, and higher tertiary/university; union status prior to first birth (married or cohabiting); region of residence (time-varying), differentiating urban, semi-urban and rural areas; the number of months the mother was employed the year prior to the first birth; and the father's unemployment (time-varying dummy). Third, because CFC eligibility is tied to the age

of the youngest child and the length of the take-up is also related to the number of children, both were included as additional control variables. The age of the youngest child (time-varying) was measured as: less than 1 year (when most mothers are on maternal and parental leave), between 1–2 years (when the couple is eligible for CFC), and 3+ years (not eligible), and the number of children (time-varying) was measured as 1, 2, 3, and 4 or more children. All time-varying control variables were lagged by one year. Table 1 shows the distributions of these variables over the 315,501 person-years of the 38,093 couples in the sample.

Analytical Strategy

Our analysis followed three stages. First, we used logistic regression to estimate the effects of CFC use on the union dissolution risk using yearly discrete-time event history data. We estimated three models: The first controlled for duration, period, and duration of the union prior to the first birth. The second added controls of the couple's socio-demographic characteristics. The third model added the age of the youngest child and the number of children. Given how our CFC use variable is constructed, the analysis describes whether the union dissolution risk differs during and after CFC is used from those who had not used CFC by that year.

Second, we predicted survival functions based on the estimates from the discrete-time event history regressions. These were estimated using (e.g., Singer & Willett, 1993)

$$\hat{S}_{it} = \prod_{s=1}^{15} (1 - \hat{h}_{is}) \quad (1),$$

where \hat{S}_t is the estimated probability that couple i survives till duration t , and \hat{h}_t is the estimated hazard of union dissolution at t for couple i . To illustrate how CFC use affects union dissolution probability in the longer term, we estimated survival rates until 15 years after the first birth for

two hypothetical couples who varied in CFC use but were otherwise similar. Both hypothetical couples had two children, born two years apart, and had the reference values of the control variables. One couple used the median three years of CFC (one year after the first child was born, and two after the second), and the other couple did not use any CFC. Comparison of the predicted survival of these two hypothetical couples provides information on the effects of CFC use on the incidence of long-term separation. It also shows whether any CFC use effects affect the timing of separation only – its postponement or advancement – or whether CFC users differ in their separation incidence up to 15 years later.

The results from the event history analysis can be biased, however, due to direct and indirect self-selection. Direct selection, or reverse causation, could mean that mothers (re)enter the labor market sooner in anticipation of a separation (e.g. Oppenheimer, 1997; Özcan & Breen, 2012; Rogers, 1999; Vignoli, Matysiak, Styr, & Tocchioni, 2016). Indirect selection, with regard to unmeasured characteristics, refers to factors that influence both cash-for-care use and separation risk, such as values and family orientation. For example, women that use CFC for a long time may be a select group in terms of traditional values and stronger family orientation, which makes them more likely to use CFC and less likely to separate.

To control for indirect selection, we used fixed-effects discrete-time event history models for non-repeated events in the third stage of the analysis. This method, introduced to the social sciences by Allison & Christakis (2006; see also Allison, 2009), applies the “case-time control” design (Suissa, 1995) to control for unobserved heterogeneity in data with non-repeated events. Fixed-effects estimation on discrete-time event history data – in which events always occur at the last observation for each unit of analysis – is impossible if one includes any time variables (this is known as the “complete separability problem”). The “case-time control” design solves this

problem by switching the position of the dependent variable (union dissolution) and a binary independent variable (CFC use) and estimating the model using conditional logistic regression. Because odds ratios are symmetric-reversing, the estimates can be interpreted as statistical effects of CFC use on union dissolution.

Similar to standard discrete-time event history models, we used fixed-effects models to analyze union dissolution risk during CFC use and in subsequent years. We follow the strategy of Allison and Christakis (2006) and estimate separate models for each sub-episode (i.e., during CFC use, 1 year after, 2–4, 5–7 and 8–10 years after) using the same categorization as in the ordinary event history models. These models estimate the union dissolution risk at each specific episode compared to that of all other episodes (cf. Allison & Christakis, 2006). We included a series of time-varying control variables; although their estimates lack a meaningful interpretation because CFC use is the operational dependent variable, they adjust the estimates of cash-for-care use effects on separation (Allison, 2009). Due to collinearity in ascending time-varying variables such as age, number of children, and length of cash-for-care use, the control variables included in the model were narrowed down to age, age squared, the education of both partners, the age of the youngest child, region, and whether the partner was unemployed.

The estimates from the fixed-effects models generalize to a different population than those of ordinary discrete-time event history models and, thus, the results between these models are not directly comparable. The fixed-effects estimates generalize to couples that have ever used CFC *and* separated during the observation window (Allison, 2009). These estimates are best interpreted as how CFC use affects the timing of the union dissolution of these couples; that is, whether CFC use leads to a temporary increase or decrease in their union dissolution risk. To assess the presence of unobserved heterogeneity, we estimated a series of ordinary discrete-time

event history models with the same sample as for the fixed-effects estimation and compared the results from the two models. Because the estimation sample does not include couples who did not use CFC, there is only variation in how many years couples used the benefit. Therefore, the differences between the estimates from the ordinary and fixed-effects discrete-time models indicate selection into the length of CFC use by time-constant unobserved characteristics. Despite the lack of direct comparability, the results from this stage of the analysis complement those from the regular discrete-time event history models by assessing the selectivity bias from time-constant unobserved factors that affect both CFC use and the risk of separation.

Table 1. Descriptive Statistics of first childbearing unions of Finnish women born between 1987 and 2009, in person years. All time-varying (tv) independent variables are lagged by one year.

		Number of Person Years in 100s	Percent
CFC use & time since CFC use (tv)	no CFC	317	10.0
	CFC used	1227	38.9
	1 year since CFC	347	11.0
	2-4 years since CFC	627	19.9
	5-7 years since CFC	338	10.7
	8+ years since CFC	300	9.5
Use of CFC in the previous year	No	1928	61.1
	Yes	1227	38.9
Period (tv)	1987-1990	26	0.8
	1991-1994	153	4.9
	1995-1997	315	10.0
	1998-2000	655	20.8
	2000-2004	894	28.3
	2005-2009	1112	35.2
Age (tv)	Under 21	14	0.5
	21-30	979	31.0
	31-40	1697	53.8
	41-50	441	14.0
	51+	24	0.8
Women's Education (tv)	Basic	285	9.0
	Secondary academic	207	6.6
	Secondary vocational	1131	35.8
	Low tertiary	1084	34.4
	High tertiary / University	448	14.2
Partner's Education (tv)	Basic	511	16.2
	Secondary academic	166	5.3

	Secondary vocational	1340	42.5
	Low tertiary	726	23.0
	High tertiary / University	411	13.0
Union Status prior to 1st birth	Cohabiting	1565	49.6
	Married	1590	50.4
Region (tv)	Urban	2125	67.4
	Semi-urban	533	16.9
	Rural	497	15.8
Months employed prior to 1st birth	0 Months	633	20.1
	1-5 Months	1776	56.3
	6-11 Months	180	5.7
	12 Months	566	18.0
Partner unemployed (tv)	no	2937	93.1
	yes	218	6.9
Number of Children (tv)	1	1010	32.0
	2	1510	47.9
	3	495	15.7
	4+	139	4.4
Age of the youngest child (tv)	0	389	12.3
	1-2	1104	35.0
	3+	1661	52.7
	Mean		s.d.
Union Duration in years prior to 1st birth		2.93	2.31
Event: Separation	no	3063	97.1
	yes	92	2.9
Person Years		315,501	
Total Individuals		38,093	

Source: Finnish Register Data, own calculations

RESULTS

DESCRIPTIVE FINDINGS

Approximately 9 percent of women in our sample never received the CFC benefit by the end of the observation time or date of separation. This is consistent with previous findings that a large majority of Finnish mothers use the benefit for at least some time following a birth. Table 2 displays the length of CFC use of our sample for selected background variables included in the models. The median length represents how many calendar years the benefit was received in; therefore, the medians are somewhat higher than they would be when calculated from more detailed data, e.g., monthly data, for CFC use periods. In our sample of mothers that received the CFC benefit in their first childbearing union, the median length of total CFC use is 3 years and is dependent on the number of children. Overall, there is not much variation in the median years of

CFC use by socio-demographic characteristics. Rural families use CFC for longer periods than families in urban or semi-urban areas and couples that eventually separate used CFC shorter than those that stayed intact. The largest variation was observed according to the duration of the mother's pre-birth employment, with a clear negative gradient in CFC use (see Salmi, Lammi-Taskula, & Närvi, 2009). The length of CFC use increases with the number of children and there is more variation in the other socio-demographic factors when categorized by the number of children.

Table 2. Median years of CFC use for selected background variables of first childbearing unions of Finnish women born between 1987 and 2009

		Median CFC use length in years			
		Overall	1 Child	2 Children	3+ Children
Separation					
	no	3	2	3	6
	yes	2	1	3	5
Women's Education					
	Basic	3	2	3	6
	Secondary academic	3	1	3	5
	Secondary vocational	3	2	3	6
	Low tertiary	3	2	3	5
	High tertiary / University	3	1	2	4
Partner's Education					
	Basic	3	2	3	6
	Secondary academic	3	1	3	5
	Secondary vocational	3	2	3	6
	Low tertiary	3	2	3	5
	High tertiary / University	3	1	3	5
Union Status previous year					
	Cohabiting	3	2	3	6
	Married	3	2	3	6
Region					
	Urban	3	2	3	5
	Semi-urban	3	2	3	6
	Rural	4	2	3	6
Months employed prior to 1st birth					
	0 Months	4	2	3	7
	1-5 Months	3	2	3	6
	6-11 Months	2	1	2	4
	12 Months	2	1	2	4
Total		3	2	3	6

Source: Finnish Register Data, own calculations

DISCRETE-TIME EVENT HISTORY MODELS

Table 3 presents the results from the discrete-time event history models on CFC use and the risk of union dissolution. The first model includes controls for duration, period, and the length of the union prior to the first birth; the second model also controls for the partners' socio-economic characteristics; and the third model adds controls for the number of children and the age of the youngest child.

The results from the first model show that couples using CFC have an approximately 20% lower rate of union dissolution than couples that never used CFC. The union dissolution rate is higher during the years after CFC use and exceeds that of couples who never used CFC. This main result remains when controlling for the partners' socio-demographic characteristics (Model 2). The difference between couples currently using CFC and those who never used it increased (odds ratio = 0.71), suggesting that couples who are more likely to use CFC (and use it longer) have characteristics that also increase their union dissolution rate. Lower age and educational attainment are prime candidates of such characteristics (Jalovaara, 2003). The estimates for the years after CFC use are smaller in Model 2 than in Model 1. The positive and significant estimates for 5 or more years after CFC use suggest a postponement effect, which would mean that, although CFC users have lower union dissolution rates while using the benefit, they “catch up” later.

The third model adds controls for the number of children and the age of the youngest child. The estimates show that couples who use CFC have an approximately 13% lower rate of union dissolution than couples who never used CFC, which is lower than the estimate from Model 2. Furthermore, the estimates for the years since CFC use were no longer significant, refuting the idea that CFC use merely postpones union dissolution. The results from Model 3

suggest that a major reason for why couples who use CFC have lower dissolution rates is that they have younger and more children, which suppresses their separation rate. The results also suggest that the earlier finding of a “catch-up” effect was a function of the age and number of children. The results from Model 3 suggest that CFC use has a small suppressing effect on the union dissolution rate. Robustness checks with an alternative model specification in which the years since CFC use were replaced by cumulative years of CFC use yielded similar results (see Appendix, Table A1).

Table 3. Cash-for-care (CFC) use and union dissolution risk, odds ratios from discrete-time event history models.

		Model 1	Model 2	Model 3
CFC use (time-varying)	Never	1	1	1
	While using CFC	0,82 ***	0,71 ***	0,87 ***
	1 year ago	1,07	0,98	1,02
	2-4 years ago	1,16 ***	1,07	0,99
	5-7 years ago	1,28 ***	1,19 ***	1,03
	8+ years ago	1,28 ***	1,22 **	0,97
	Duration	0,91 ***	0,96 ***	0,98
Duration squared		1,00 *	1,00	1,00
Period (time-varying)	1987-1990	0,92	0,80 *	0,79 *
	1991-1993	0,86 **	0,80 ***	0,80 ***
	1994-1996	0,78 ***	0,73 ***	0,74 ***
	1997-2000	0,79 ***	0,76 ***	0,76 ***
	2001-2004	0,82 ***	0,80 ***	0,80 ***
	2005-2009	1	1	1
	Union Duration prior to 1st birth	0,87 ***	0,94 ***	0,93 ***
Age (time-varying)	Under 21		1,96 ***	1,92 ***
	21-30		1	1
	31-40		0,75 ***	0,72 ***
	41-50		0,62 ***	0,54 ***
	51+		0,47 ***	0,37 ***
	Women's Education (time-varying)		1,52 ***	1,48 ***
Partner's Education (time-varying)	Basic		1,11 *	1,10 *
	Secondary academic		1	1
	Secondary vocational		0,82 ***	0,83 ***
	Low tertiary		0,76 ***	0,78 ***
	High tertiary / University		1,33 ***	1,32 ***
	Basic		1,00	1,00
	Secondary academic		1	1
	Secondary vocational		0,78 ***	0,80 ***
	Low tertiary		0,72 ***	0,74 ***
	High tertiary / University			

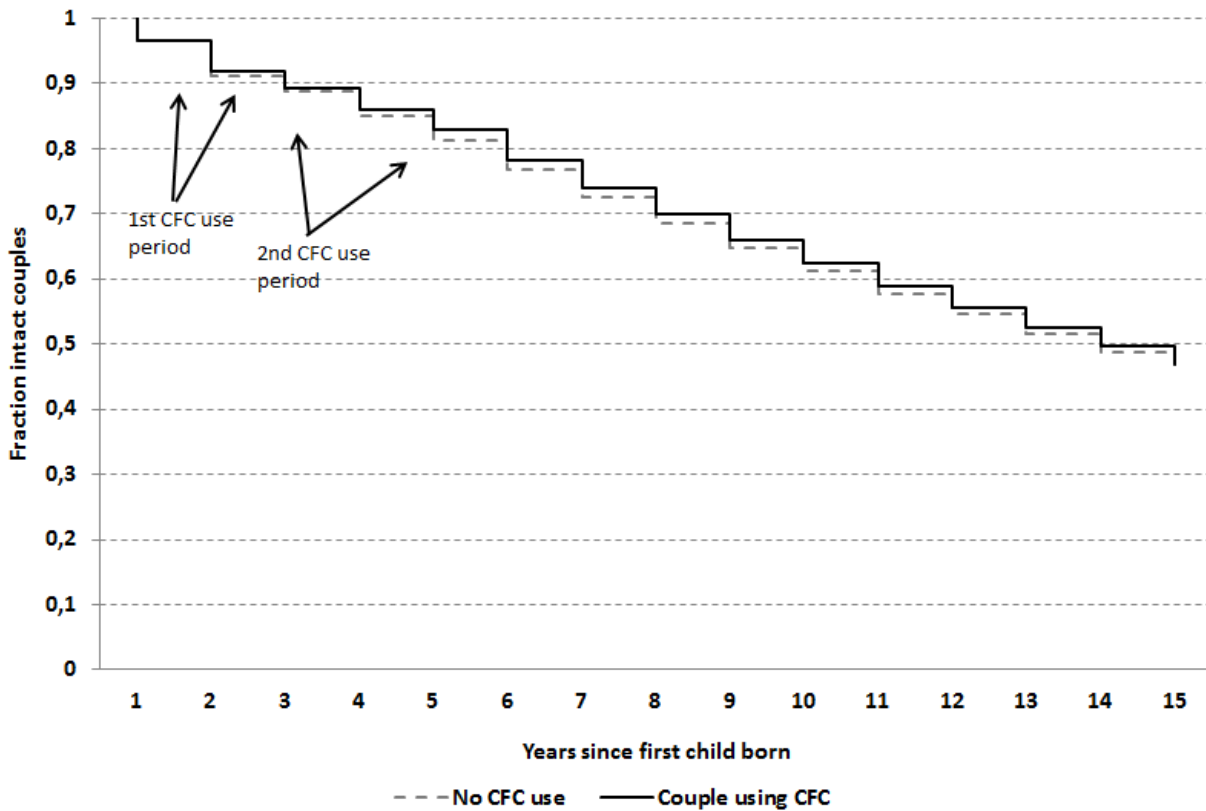
Union Status prior to first birth	Cohabiting	1,30 ***	1,25 ***
	Married	1	1
Region (time-varying)	Urban	1	1
	Semi-urban	0,77 ***	0,77 ***
	Rural	0,67 ***	0,68 ***
Months employed prior to 1st birth	0 Months	1,26 ***	1,25 ***
	1-5 Months	1,03	1,03
	6-11 Months	1,05	1,05
	12 Months	1	1
Partner unemployed (time-varying)	0	1	1
	1	1,49 ***	1,48 ***
Age of the youngest child (time-varying)	0		0,50 ***
	1-2		0,77 ***
	3+		1
Number of Children (time-varying)	1		1
	2		0,79 ***
	3		0,67 ***
	4+		0,60 ***
Constant		0.07783 ***	0.06306 ***
Log-Likelihood		-40972,39	-39848,65
LR chi2			2247,48 ***
Observations		315.501	315.501

* p<0.05; ** p<0.01; *** p<0.001

Source: Finnish Register Data, own calculations, Note: all time-varying variables are lagged

How does this suppressing effect influence union dissolution probabilities in the longer-run? To assess the longer-term effects of CFC use on union dissolution, we estimated the survival functions for two hypothetical couples with two children born two years apart using the reference values of the independent variables, but varying CFC use. In the first case, the couple did not use CFC; in the second case, the couple used CFC for 3 years – a year between the two children and two years after the birth of the second child. Figure 1 presents the union dissolution survival curves for these two couples using estimates from Model 3. The graph shows that although CFC use has a small suppressing effect on union dissolution rates, there is practically no difference between the groups in the longer term (approximately 1 percentage point). Thus, it appears that the suppressing effect of CFC use is weak and temporary, and the contribution of CFC use to the incidence of union dissolution in the long-term is negligible and overshadowed by other factors that affect union dissolution rates.

Figure 1. Union dissolution survival curves of an average couple between 21 and 30, with secondary vocational education, that is married and with a union duration of two years prior to their first child. Discrete time event history analysis, estimates from Model 3.



Note: controlled for duration, duration squared, period (time-varying), union duration prior to 1st birth, age (time-varying), education (time-varying), partner's education (time-varying), union Status prior to first birth, region (time-varying), months employed prior to 1st birth, partner unemployed (time-varying), age of the youngest child (time-varying), number of children (time-varying).

Source: Finnish register data, own calculations

FIXED-EFFECTS MODELS

A limitation of the results from the above models is that the estimates can be biased by unmeasured factors. Table 4 presents the results from two models; the upper panel presents results from a series of fixed-effects discrete-time event history analyses for non-repeated events,

which control for time-constant unobserved factors. As discussed in the methods section, these estimates describe the timing of union dissolution; that is, the risk of separation during the year when the CFC benefit was used (compared to other years), one year after CFC use, and later. The lower panel presents estimates for the same sample – couples who used CFC and eventually separated – without controlling for the couple-fixed effects.

The results from the fixed-effects models show that CFC use suppresses the union dissolution risk when it is used and that the union dissolution rate increases during subsequent years and later stabilizes. Because the union dissolution rate first increases and then stabilizes after the CFC use period—rather than remaining stably elevated throughout these years—the fixed-effects results suggest that CFC use postpones union dissolution till years after the benefit take-up period. As discussed in the methods section, these estimates generalize to couples who ever used CFC and separated. Therefore, these results are not directly comparable to those reported in Table 3 and it is unclear whether a similar temporal pattern exists in the overall population.

The fixed-effects models suggest a stronger negative effect of CFC use than the regular event history model estimate (lower panel), which is not significant. The fixed-effects models also suggest a stronger pattern of “catch-up” after use of the benefit. Because all couples in this sample separated eventually and received CFC at some point, these data vary only in the number of years that CFC was used. Hence, this finding suggests unmeasured selection into the number of years CFC is used, suggesting that couples with a higher unobserved separation risk also use CFC more.

Table 4. Logistic and fixed-effects results for non-repeated events models (odds ratios) with varied measures of the timing of CFC use on the risk of union dissolution.

		Union dissolution after CFC receipt			
	Union dissolution during CFC receipt	1 year	2-4 years	5-7 years	8-10 years
Fixed-Effects Estimates					
Odds ratio	0.59	1.18	1.30	1.29	0.89
p Value	.00	.00	.00	.00	.26
Conventional Estimates					
Odds ratio	0.98	1.07	0.97	1.17	1.19
p Value	.60	.06	.39	.00	.00

Controlled for use of CFC previous year, age, age squared, both partners' education, age of the youngest child, region, and male partner unemployed

Source: Finnish Register Data, own calculations

CONCLUSIONS

The relationship between women's employment and separation has been the focus of many studies. In a gender-egalitarian context such as Finland, women's employment rates are close to those of men, and policies affecting maternal employment negatively — such as the CFC benefit — can contradict policy aims of gender equality. The CFC policy indirectly promotes a gendered division of labor within couples and leads to longer periods out of the labor market that can result in loss of economic and human capital. This study used Finnish register data from 1987–2009 to analyze the differences in separation risk of couples that used the CFC benefit compared to those that did not, and examined the lasting effects in the years after CFC use.

We estimated discrete-time event history models, with and without fixed-effects that control for unobserved time-constant factors. The results from the regular models without fixed effects show that, net of the effects of all control variables, separation rates are lower while CFC is received, but there is no effect in the years following the take-up. This suggests that any effect

of CFC use is temporary and does not alter couples' separation rates in the longer-term. Neither does this result suggest a timing effect, in which couples merely postpone their separation beyond the CFC use period. The survival curves predicted from the regression model show that over 15 years, couples who used CFC had practically the same probability of being separated as those who did not receive it. Hardoy and Schøne (2008) estimated that the introduction of CFC reduced the union dissolution risk by 25% in the short term (3 years). Our results suggest that this effect is only temporary and overshadowed by other factors that affect union dissolution in the long term.

These results could, however, be biased due to direct and indirect selection into CFC use. To control for the latter, we estimated fixed-effects models for non-repeated events, which control for time-constant unobserved factors. The estimates from these models generalize to a different population – couples that ever used CFC and eventually separated, rather than all couples – and cannot be directly compared to those from the regular event history models. Unlike the regular event history models, the results from the fixed-effects models suggest that CFC use postpones union dissolution: couples have a lower dissolution risk during CFC use, but the dissolution risk increases during subsequent years. Given the sample used in the fixed-effects estimation, it is unclear whether CFC use also affects couples' long-term separation probability or merely its timing. However, a comparison of the fixed-effects estimates with conventional event history model estimates for the same data suggested an unmeasured selection into CFC use, in which couples with higher union dissolution risk are more likely to use the CFC benefit for longer periods. A likely explanation for this unexpected result is unmeasured socioeconomic characteristics: couples with a weak socioeconomic profile are more likely to use CFC and are also more likely to subsequently separate (cf. Jalovaara, 2003). This interpretation is in agreement with the results from the conventional event history models, in which controlling for

observed socioeconomic characteristics increased the effect of CFC use. Although the fixed-effects models control for unmeasured stable characteristics, the estimates could remain biased if, for example, decisions on CFC use are driven by anticipation of separation.

Our results are in line with theories suggesting a lower separation risk when work time is equally divided, such as Becker's specialization argument or the double burden of paid and unpaid work argument (Cooke, 2006; Sigle-Rushton, 2010). We are not able to disentangle why CFC use leads to a lower separation risk when the benefit is received. Nevertheless, Becker's specialization hypothesis has been widely contested; it has been shown for instance that the separation-promoting effect of women's employment on separation risks can be counteracted by men's larger share of unpaid work (Cooke, 2006; Mencarini & Vignoli, 2017; Sigle-Rushton, 2010), or that the lack of specialization may only affect couples who are already unsatisfied (Schoen et al., 2002). It is questionable whether a temporary change such as that induced by CFC use would create the type of gains that specialization theory predicts. The fixed-effects results imply higher risks in the years following CFC receipt for couples that eventually separate, which corresponds to the idea that the effect is temporary and disappears when mothers (re)enter employment (Sayer & Bianchi, 2000). However, we cannot determine whether the temporary effect is due to economic barriers to separation during CFC use, or a double burden of paid and unpaid work after it. Our results suggest that the CFC use does not affect unions beyond the take-up period. Furthermore, our results show that the effect of CFC use appears to be limited, especially for the incidence of union dissolution in the long term. Future policy research should address the underlying mechanisms of the reduced separation risk during family leave and potential postponement effects. More precise data on mother's labor market attachment, marital satisfaction and values might be useful to disentangle whether economic barriers temporarily

lower separation risks. There is also uncertainty in how gendered the division of work is and how bargaining within a couple or the perception of fairness affects the division of labor and therefore the union.

The findings of this study contribute to the ongoing discussion of women's employment and union dissolution, especially because temporary changes in employment have not been explicitly addressed by the dominant theories. By focusing on the short- and long-term effects of a specific policy on union dissolution, we underline the potential influence that policy makers have on families. A temporary reduction in separation risk while receiving the CFC benefit can be both beneficial and unfavorable. Lower separation rates during these years might be favorable for children, parents and their bond, given the children's young age. However, if there is a postponement effect due to mothers' lack of economic resources, which prevents the partners from dissolving a high-conflict union, the well-being of all family members may be decreased (Sayer & Bianchi, 2000). Thus, even in a country context in which employed women are less likely to separate, policies that affect the division of paid and unpaid labor have the potential to affect families and union dissolution risks.

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Appendix

Table A1. Alternative measures - Results of the discrete time event history models on separation

risk, odds ratios

		Model 1		Model 2		Model 3	
Duration		0.93	***	0.99		0.98	
Duration squared		1.00	*	1.00		1.00	
Use of CFC in the previous year (time-varying)	no	1		1		1	
	yes	0.74	***	0.72	***	0.88	***
Length of CFC use (time-varying)	0	0.90	*	0.95		1.01	
	1	1		1		1	
	2	1.05		1.01		1.06	
	3	1.07		0.98		1.02	
	4	0.94		0.87	**	0.97	
	5	0.97		0.83	***	0.93	
	6+	0.85	*	0.71	***	0.85	**
Period (time-varying)	1987-1990	0.95		0.71	*	0.80	*
	1991-1993	0.86	**	0.80	***	0.80	***
	1994-1996	0.78	***	0.73	***	0.74	***
	1997-2000	0.79	***	0.76	***	0.76	***
	2001-2004	0.83	***	0.81	***	0.80	***
	2005-2009	1		1		1	
Union Duration prior to 1st birth		0.87	***	0.94	***	0.93	***
Age (time-varying)	Under 21			1.95	***	1.93	***
	21-30			1		1	
	31-40			0.75	***	0.72	***
	41-50			0.60	***	0.53	***
	51+			0.43	***	0.36	***
Women's Education (time-varying)	Basic			1.52	***	1.49	***
	Secondary academic			1.11	**	1.10	*
	Secondary vocational			1		1	
	Low tertiary			0.81	***	0.83	***
	High tertiary / University			0.74	***	0.77	***
Partner's Education (time-varying)	Basic			1.33	***	1.32	***
	Secondary academic			1.00		1.01	
	Secondary vocational			1		1	
	Low tertiary			0.78	***	0.80	***
	High tertiary / University			0.72	***	0.74	***
Union Status prior to first birth	Cohabiting			1.29	***	1.25	***

	Married			1		1	
Region (time-varying)	Urban			1		1	
	Semi-urban			0.77	***	0.77	***
Months employed prior to 1st birth	Rural			0.67	***	0.68	***
	0 Months			1.27	***	1.25	***
	1-5 Months			1.03		1.02	
	6-11 Months			1.04		1.04	
	12 Months			1		1	
Partner unemployed (time-varying)	0			1		1	
	1			1.49	***	1.48	***
Age of the youngest child (time-varying)	0					0.48	***
	1-2					0.76	***
	3+					1	
Number of Children (time-varying)	1					1	
	2					0.81	***
	3					0.74	***
	4+					0.70	***
Constant		0.08154	***	0.05967	***	0.07948	***
Log-Likelihood		-4.10E+04		-4.00E+04		-4.00E+04	
LR chi2				2276.85	***	487.52	***
Observations		315,501		315,501		315,501	

* p<0.05; ** p<0.01; *** p<0.001

Source: Finnish Register Data, own calculations

Note: all time-varying variables are lagged

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