

Marit Rønsen

**Market work, child care and
the division of household
labour**

Adaptations of Norwegian
mothers before and after the
cash-for-care reform

Rapporter

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Abstract

Marit Rønsen

Market work, child care and the division of household labour

Adaptations of Norwegian mothers before and after the cash-for-care reform

Reports 2001/3 • Statistics Norway 2001

This study assesses the short-term effects of the recent Norwegian cash-for-care reform ("kontantstøtte") in three areas: mother's employment, the use of childcare and the division of household labour. Based on cross-sectional data from two sample surveys carried out just before and just after the reform, multivariate analyses indicate that there has been a small decline in the work probability of most mothers after the reform, except among those at the highest educational level. Further there has been a shift from work combined with subsidised care to work combined with non-subsidised care, as well as a shift from full-time to part-time work.

The impact differs according to educational level. As expected, the choices of mothers at the upper university level have become more dissimilar to the choices of mothers with low education, but somewhat surprisingly, the choices of mothers at the middle university level, and especially with teacher training background, have become more similar to the lowest educational group. Hence, there are increasing differences in behaviour even among university educated mothers.

Analyses of individual changes in adaptations based on the panel part of the data provide added evidence that the reform may have discouraged transitions to full-time work in particular and that it has reduced shifts from non-subsidised to subsidised care.

The division of household labour is found to be more equal the longer hours the mother works in the market. Further, if the mother reduces her market hours, the division becomes more unequal. Hence, if the short-term pattern of reduced employment activity on behalf of mothers should prevail, there may be reason for concern about setbacks in gender equality in a longer perspective

Acknowledgement: This research is part of a larger evaluation project of the Norwegian cash-for-care reform, and is financed by the Norwegian Research Council. Parts of the report were presented at the 14th Annual Conference of the European Society for Population Economics, Bonn, 15-17 June 2000 and have been published as Documents 2000/13, Statistics Norway. Thanks are due to conference participants and colleagues for earlier comments, and especially to Ragni Hege Kitterød for helpful reading and fruitful discussions.

Sammendrag

Marit Rønsen

Jobb, barnepass og arbeidsdeling

Småbarnsmødres valg og tilpasninger før og etter kontantstøtten

Rapport 2001/3 • Statistisk Sentralbyrå 2001

Denne rapporten formidler resultatene fra et delprosjekt som inngår i Forskningsrådets omfattende evaluering av kontantstøtten. Rapporten tar for seg konsekvenser på tre sentrale områder: mødres yrkesaktivitet, valg av barnetilsyn og arbeidsdelingen i familien.

Utgangspunktet for analysene er en modell der mødre antas å velge yrkestilpasning og barnetilsyn samtidig. Det skilles mellom fem ulike valgalternativer: heltid/barnehage, heltid/ikke barnehage, deltid/barnehage, deltid/ikke barnehage og ikke i arbeid. Formålet er å studere hva som forklarer mødres ulike tilpasninger og hvordan valgene kan ha blitt påvirket av innføringen av kontantstøtten. Datagrunnlaget for analysene er to representative utvalgsundersøkelser om Barnefamiliers tilsynsordninger, yrkesdeltaking og økonomi som SSB gjennomførte for Barne og familiedepartementet våren 1998 og 1999.

Som en første tilnærming estimeres modellen basert på et tverrsnitt av mødre med barn i kontantstøttealder (1-2) år i henholdsvis 1998 og 1999, dvs. rett før og rett etter innføringen av kontantstøtten. Analysene tyder på at effektene av enkelte forklaringsfaktorer har endret seg en del i perioden. Det kan, alt annet likt, tas som et tegn på at kontantstøtten har hatt betydning, og det gjelder spesielt for effekten av utdanning.

Om vi holder alle forklaringsvariabler konstante, viser analysene at sannsynligheten for å være i jobb er gått noe ned i alle utdanningsgrupper, bortsett fra blant dem med høyest utdanning (mer enn 4 år på universitet eller høyskole). Det har også vært et generelt skift fra arbeid kombinert med barnehagebruk til arbeid kombinert med annet barnepass, så vel som et skift fra heltidsarbeid til deltidsarbeid. I alle utdanningsgrupper har sannsynligheten for å jobbe heltid og bruke barnehage gått ned, mens sannsynligheten for å jobbe deltid og bruke annet barnetilsyn har gått opp. Relativt sett har nedgangen i heltid kombinert med barnehagebruk vært størst blant mødre med 2-3 års videregående skole og blant mødre med 3-4 års høyere utdanning, mens den største relative økningen i deltid kombinert med annet barnetilsyn har vært blant mødre med henholdsvis kort og lang høyere utdanning. I den sistnevnte gruppen var imidlertid dette en svært uvanlig tilpasning i utgangspunktet.

Innen gruppen med 3-4 års høyere utdanning har spesielt mødre med lærerutdanning hatt en sterk nedgang i sannsynligheten for å jobbe heltid og bruke barnehage. Selv om denne nedgangen i noen grad er blitt erstattet av både mer heltid og deltid kombinert med annet pass, har resultatet blitt en forholdsvis stor nedgang i sannsynligheten for å være i arbeid. Blant mødre med helsefaglig eller annen bakgrunn har ikke nedgangen i heltid koplet med barnehage vært like stor, og har derfor i langt større grad blitt kompensert av arbeid, og spesielt deltidsarbeid, i kombinasjon med andre tilsynsordninger.

Alt i alt tyder tverrsnittsanalysene på at kontantstøtten har medvirket til å redusere arbeidstilbudet til mødre med barn under tre år på kort sikt, både ved at en noe mindre andel er i jobb, og ved at de som er i jobb, i større utstrekning arbeider deltid. Samtidig har det vært en viss overgang fra barnehage til andre tilsynsordninger. Vi ser også konturene av endrede, og til dels større, sosiale skillelinjer mellom kvinner.

Som en neste tilnærming studeres individuelle endringer i tilpasning basert på paneldelen av datamaterialet (mødre som er med på begge tidspunkt). Panelanalysene viser at det er en stor grad av stabilitet i småbarnsmødres tilpasninger. Over 90% av dem som var i jobb eller brukte barnehage i 1998, gjør det fremdeles i 1999. Gruppene som endrer atferd er derfor ganske små, noe som har gjort det nødvendig å studere endringer i arbeidstilbud og barnehagebruk hver for seg i disse analysene. Den vanligste endringen i yrkestilpasning er å gå over fra å være yrkespassiv til å jobbe deltid, og den nest vanligste å gå fra deltid til heltid, mens den vanligste endringen i tilsynsbruk er å skifte fra annet pass til barnehagepass.

Å vurdere kontantstøttens betydning for endringer i tilpasning er ikke helt enkelt, fordi det som slår sterkest ut for samtlige mødre i panelet, er at de har barn som er blitt ett år eldre. All tidligere forskning tilsier at det i seg selv vil føre til både økt yrkesinnsats og økt barnehagebruk. Ideelt sett burde man derfor hatt en kontrollgruppe å sammenligne med for å vurdere kontantstøttens effekt. Datagrunnlaget gir ikke slike muligheter, men i mangel av en "ekte" kontrollgruppe er andre mødre med barn i førskolealder benyttet som sammenligningsgrunnlag. Hvor brukbart dette er, er avhengig av om effekten av at det yngste barnet blir ett år eldre, er noenlunde lik i de to gruppene. Egne beregninger basert på 1998-dataene kan tyde på at det ikke er slik, idet effekten ser ut til å avta når barnet blir eldre, både for arbeidstilbud og barnehagebruk.

Dette må tas med i betraktning i tolkningene av resultatene. De viser at mødre med barn i kontantstøttealder er noe mer tilbøyelige enn andre småbarnsmødre til å gå fra å være yrkespassive til å jobbe deltid, men noe mindre tilbøyelige til å gå fra deltid til heltid. Det første er som forventet ut fra en hypotese om at arbeidstilbudet øker mest når barna er yngst. Det andre resultatet, derimot, stemmer ikke med en slik antakelse, og kan tas som et tegn på at kontantstøtten har virket negativt på arbeidstilbudet. Når det gjelder barnehagebruk, viser det seg at mødre med barn i kontantstøttealder er noe mindre tilbøyelige til å begynne å bruke barnehage og noe mer tilbøyelige til å slutte å bruke barnehage enn mødre med større barn. Dette stemmer også dårlig hvis det er slik at etterspørselen etter barnehageplasser øker mest når barna er yngst, og er derfor et ytterligere tegn på at kontantstøtten har hatt effekt.

Arbeidsdelingen mellom foreldrene henger nøye sammen med mors yrkesinnsats, noe som er vel kjent både fra tidligere forskning og fra analyser av dette datamaterialet. I den grad kontantstøtten fører til at mor jobber mindre, må en også forvente at den indirekte fører til en skjevare arbeidsdeling i hjemmet. I rapporten er sammenhengen mellom endringer i mors arbeidstilbud og endringer i arbeidsdelingen i familien studert ved hjelp av konstruerte indekser for den relative fordelingen av henholdsvis husarbeid, omsorgsarbeid og vedlikeholdsarbeid. Resultatene viser at dersom mor reduserer yrkesinnsatsen, blir spesielt husarbeidet mer skjevt fordelt. For omsorgsarbeid og vedlikeholdsarbeid er det ingen signifikante endringer. Videre viser det seg at jo skjevare fordelingen av husarbeidet er, jo mindre fornøyd er mor med arbeidsdelingen hjemme. Alt i alt er det derfor mye som taler for at kontantstøtten indirekte vil kunne bidra til en skjevare arbeidsdeling, som også vil oppfattes som dårligere av mødre generelt.

Avslutningsvis minner vi om at denne rapporten er basert på data som ble samlet inn bare noen få måneder etter at kontantstøtten var innført. Ettersom all tilpasning tar tid, er det mulig at resultatene ikke fanger opp alle korttidsvirkningene. Det vil derfor være viktig å overvåke den fremtidige utviklingen. En avgjørende problemstilling som det ikke har vært mulig å belyse med dataene til nå, er virkningene for mødres tilpasninger over en lengre del av livsløpet. Men hvis det kortsiktige mønsteret vedvarer, er det naturlig å forvente lengre yrkesavbrudd blant kvinner og en mer ulik arbeidsdeling mellom kjønnene. På noe lengre sikt kan derfor de likestillingsmessige konsekvensene gi grunn til bekymring.

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1. Introduction

This report presents results from one of the projects included in a large-scale evaluation of the recent Norwegian cash-for-care reform. The evaluation was initiated by the Ministry of Children and Family Affairs and has been co-ordinated by the Norwegian Research Council. The present project addresses impacts in three areas: the labour market, the day-care sector and gender equality in the home.

The cash-for-care benefit ("kontantstøtte") was introduced in Norway in August 1998. All parents of 1-2 year olds who do not use subsidised day-care are entitled to the benefit, and parents who use part-time care may receive a reduced amount proportional to the hours of attendance. The purpose of the reform was threefold: (i) to enable parents to spend more time with their children, (ii) to give parents more flexibility in their work and child care choices, and (iii) to distribute public transfers more equally between users and non-users of subsidised care. Prior to introduction the reform was fiercely debated, and opponents warned of several possible negative effects, mainly related to setbacks in gender equality, a reduction of female labour supply and a shift of child care demand from high quality professional day-care to more informal arrangements based on private childminders.

Since the cash-for-care program is quite an innovation also internationally, there is little previous knowledge of its consequences. One exception is from Finland where a similar program was launched in 1985 and fully established in 1990¹. Analysing the effects of the Finnish cash-for-care scheme on childcare demand, Ilmakunnas (1997) finds that increasing benefit levels increase maternal care and decrease the use of public day-care, but that private day-care options are less affected by the size of the benefit. Other aspects of childcare demand are more abundantly researched. In

an analysis from another Nordic country, Gustafsson and Stafford (1992) examine the effects of childcare subsidies in Sweden. They find that subsidised child care encourages the market work of mothers of pre-school children, and when spaces are not rationed, a lower price encourages the use of public day-care. In addition there are several studies from quite different institutional settings where the role of public policies is generally weaker and informal modes of child care are more important (see e.g. Blau and Robins 1988, Hoffert and Wissoker 1992, and Ribar 1992).

In Norway, the cash-for-care benefit is the latest addition to a family policy package that has been greatly improved and extended since the late 1980s. We therefore start out by briefly reviewing the current family policy setting. Before moving on to the empirical analyses, we introduce the conceptual framework for the analyses and present the data that have been used together with some descriptive statistics. We further discuss hypotheses that may be derived from the theoretical basis and give more details about the explanatory variables included in the model. Finally, we provide a comprehensive report of the estimation results and conclude by a short summary and discussion.

¹ The Finnish and the Norwegian schemes have many similarities, but there are also several differences. The main component of both programs is a flat rate basic payment, but the Finnish system also has a means-tested component and a siblings supplement. Besides many municipalities pay an additional amount that varies considerably. Unlike the Norwegian system, the Finnish cash-for-care benefit is taxable.

2. Family policy environment

In a European comparative perspective, the Norwegian family policy programme is quite generous, and maternal employment is high. In 1997, the labour force participation rate among married and cohabiting mothers was 75 percent if the youngest child was 0-3 years and 83 percent if it was 3-6 year olds (Statistics Norway 1998). This is higher than among women in general and also higher than among single women (mothers and non-mothers).

No doubt, the availability of long parental leaves and an increasing supply of high quality, subsidised day-care have made it easier for women to stay in touch with the labour market when they become mothers (Rønsen and Sundström 1999). In Norway, working parents have, since 1993, been entitled to 52 weeks leave with 80 per cent wage compensation or 42 weeks with full compensation in connection with childbirth². The father may share most of the leave, except three weeks before birth and six weeks after delivery that are reserved for the mother. In addition, fathers are entitled to two weeks of unpaid paternity leave immediately after birth.³

Traditionally, most fathers have taken the two weeks of paternity leave, but very few have used the opportunity to share parts of the common parental leave period. To encourage the involvement of both parents in child care, an amendment in 1993 reserved four weeks of the leave extension for the father - the so called "daddy quota". These weeks are generally not transferable to the mother, and are lost if the father does not make use of them. Hence there is a strong incentive for fathers to take the leave, and judged by experience, the reform has been a success. In 1996, three years after introduction, almost 80 per cent of entitled fathers used the "daddy quota", and furthermore, the proportion of fathers who shared some of the common parental leave period had risen from four to 12 percent (Brandth and Jensberg 1998).

² Eligibility requires employment during 6 of the last 10 months prior to birth.

³ Wage compensation is now often granted, following local negotiations.

When the cash-for-care scheme was introduced in August 1988 only one-year olds were eligible for the benefit, but from January 1999 all children aged 12 to 36 months were included in the programme. The benefit is a monthly, tax-free flat rate payment of NOK 3.000 (approximately EUR 360), and is roughly equivalent to the state subsidy for a place in a day-care centre. To be eligible for the full benefit, the child must not attend a publicly funded day-care centre on a full-time basis (more than 32 hours per week). Parents of children that attend part time may receive a reduced benefit (80, 60, 40 or 20 percent of the full amount), depending on stipulated weekly attendance. The right of a partial amount for part-time users is regarded as an important device to fulfil one of the main intentions of the program, to give parents more flexible work and child care arrangements. Based on a similar reasoning, there is no obligation for parents who claim the benefit to stay at home and care for the children themselves. They are quite free to buy any other form of child care, as long as it is not publicly subsidised.

One of the concerns of the opponents of the cash-for-care program was the perceived shift in family policy from incentives that encouraged the father's involvement in child care to incentives that were believed to mainly affect mothers (see e.g. Leira 1999 for a discussion). The experience so far shows that the new scheme is very popular in the sense that a large majority of parents with children in the eligible age group claims the benefit. In the spring of 1999, about four months after the scheme was fully established, parents of 75 percent of 1-2 year olds received the benefit (Reppen and Rønning 1999). In August 1999 the proportion had increased to more than 80 percent. However, only five percent of the recipients were fathers (Dagsavisen, 26.08.1999).

Another concern of the opponents has been its effect on the childcare market, as subsidised day-care centres have always been in short supply in Norway. However, following quick expansions during the 1980s and the 1990s, the coverage rate reached 50 percent at the end

of 1997 (Statistics Norway 1999)⁴. There is still a large geographical variation in coverage, and while some municipalities may be close to full supply, others are still far off⁵. The coverage rate increases with the age of the child, and at the end of 1997 it was 40 percent among 1-2 year olds and 73 percent among 3-5 year olds.

Day-care centres may be owned and run either as public or private enterprises. However, both forms of ownership receive state subsidies as long as the centre is publicly approved. The municipality is responsible for approving and supervising private day-care centres, and in many cases (almost 50 percent) it also supports these enterprises financially (NOU 1996:13). In the 1990s, private day-care centres have accounted for most of the expansion, and today they constitute about half of all day-care centres in the country (Statistics Norway 1999). Since, however, private centres are usually smaller than public centres, the proportion of children in private care is lower, about 40 percent.

The expenses for a publicly approved day-care place are thus shared between the state, the municipalities and the parents. At the end of the 1980s, the stated intentions were for the state to pay 40 percent of the cost, while the remaining 60 percent should be divided equally between parents and municipalities (Stortingsmelding nr. 8, 1987-88). Because of the fast expansion in private centres, the average municipality share has, however, been lower and the average parental share higher. In 1994, for example, parents paid 44,5 percent of the cost in private day-care centres and 28,8 percent in public centres. The owner, i.e. the municipality or the private enterprise, sets the parental price. Traditionally, municipality prices have depended on family income, while private centres charge flat rates. Today, about half the municipalities also charge flat rates. In 1998 average parental payment in large cities and suburbs was about NOK 3500 (about EUR 420) per month in private centres and slightly less in public centres (Statistics Norway 1998b). The price for a toddler may be higher than for older pre-school children, and there is usually a siblings discount.

One of the consequences of the cash-for-care reform was to substantially raise the relative price of subsidised care, since parents who buy that kind of care forego a sizeable cash benefit. Hence, there were fears that parents would switch from professional care to

other more informal arrangements. Consequently, further expansions of the day-care sector could come to a halt, and in the worst case, some centres might even have to close down. In this scenario parents could end up having fewer child care choices instead of more, since it may become even harder to get a place in a day-care centre for those who wish so.

So far there is little evidence of a downsizing of the professional day-care sector. Even if figures for 1999 do point to a slight reduction in the number of 1-2 year olds in day-care centres, this has almost been compensated for by a similar increase in the attendance of 3-5 year olds (Risberg 2000)⁶. The long-term trend of increasing coverage rates in all age groups has, however, now been broken.

⁴ The coverage rate is defined as the proportion of pre-school children with a subsidised place. If leaving out children who are usually cared for by parents on parental leave (0-12 month olds), the coverage rate was 60 percent.

⁵ Between counties, coverage in 1997 varied from 44 percent to 61 percent, with Oslo, Sogn og Fjordane and Finnmark having the highest rates. Between municipalities, the difference in coverage is even larger. In 1995-96 the Ministry of Children and Family Affairs estimated the demand for day-care services to comprise 70 percent of 3-5 year olds and 65 percent of 1-2 year olds (NOU 1996:13).

⁶ Compared to December 1997, the figures for December 1999 show a reduction about 4 300 children or about 9 percent in the age group eligible for cash-for-care benefit, children 1-2 years old.

3. A framework for impact assessment

The cash-for-care benefit obviously changes the opportunity structure of parents in a significant manner, by enlarging the budget restriction and changing the relative price of day-care. To assess the effects on mothers' work and child care choices, my point of departure is a simple, standard time allocation model in which the father's labour supply is regarded as predetermined and, hence, exogenous⁷. The mother maximises her utility with respect to market goods, "child quality" (or "child well-being") and home time or leisure, given her time constraint and the budget constraint. The time constraint is the total time available for paid work, child care and other home-time or leisure activities, and the budget constraint is the sum of non-labour income (typically partner's income or benefits) and the mother's own earnings net of taxes minus total expenses for childcare.

Child quality is produced by inputs of caring time and market and non-market goods. Time for childcare can be supplied by the mother, by other unpaid sources (family members or relatives) or by services bought in the market. For our purposes and for simplicity we only distinguish between two caring modes: subsidised day-care and all other, non-subsidised care.

Hours that are not spent on childcare or other home time or leisure are offered to the labour market. Labour supply may theoretically range from zero hours to the maximum of the time constraint. However, institutional or other regulations normally imply that the choice of working hours is restricted. Here we shall assume that the mother's labour supply decision is limited to choosing between full-time work, part-time work or no market work. We further assume that her demand for hours of non-maternal care is directly related to her working hours, i.e. given the choice of working hours, we only distinguish between different modes of childcare, not between different hours of attendance. Finally, we disregard possible childcare use among non-working mothers, and are left with the following five alternatives:

1. Full-time work / subsidised care (FS)
2. Full-time work / non-subsidised care (FNS)
3. Part-time work / subsidised care (PS)
4. Part-time work / non-subsidised care (PNS)
5. Not working (NW)

Each alternative is associated with a certain utility, and the mother chooses the alternative with the highest utility. If utility is formulated as the sum of a non-stochastic function of explanatory variables and unknown parameters (v_j) and an unobservable random term, it can be shown that, under certain assumptions, the probability of choosing alternative j , P_j , satisfies

$$(1) \quad P_j = \frac{\exp(v_j)}{\sum_k \exp(v_k)}$$

(see e.g. Amemiya, 1981)⁸. The probability function in (1) may contain both individual-specific and alternative-specific characteristics. In our case, child care costs and labour income typically differ across alternatives, and so does labour-free income since the cash-for-care benefit is directly linked to the use or non-use of subsidised care. However, due to missing wage and price data it is not possible to take alternative specific characteristics into account in the empirical specification. Instead, I estimate a reduced form of (1) with only individual-specific characteristics, i.e. I estimate the ordinary multinomial logit model:

$$(2) \quad P_j = \frac{\exp(X\beta_j)}{\sum_k \exp(X\beta_k)}$$

where X is the vector of individual-specific covariates and β_j is the vector of coefficients. In this formulation the coefficients are allowed to differ across alternatives, i.e. individual characteristics may affect each alternative differently.

⁷ A more formal presentation of the model can be found in Documents 2000/13, Statistics Norway.

⁸ The assumptions are that the random term has a Type 1 extreme value distribution and is independent across alternatives.

To assess the short-term impact of the cash-for-care reform, my first approach is to estimate (2) based on a cross-section of mothers at two time points, one just before and one just after the reform was initiated. As the intermediate time was a period of great stability in the economy, and there were no other significant family policy reforms, changes in the estimates from one point to the other may be a first sign of policy impact. This is pursued by a closer analysis of changes at the individual level based on the panel part of the available data (see chapter 4).

Decisions on the division of household labour are assumed to succeed the employment and childcare decisions, and will thus largely be determined by the adaptations made in the other areas. In particular, mother's employment is believed to be a strong determinant of the father's relative contribution to household work. The analysis of the division of household labour will therefore mainly focus on the bivariate relationship to mother's labour market activity.

4. Data and descriptive statistics

The data are from two sample surveys among parents with pre-school children, the first conducted in April/May 1998 and the second in April/May 1999. The 1998 survey was carried out as a postal inquiry among a representative sample of 3500 mothers with pre-school children aged 0-5 years. Replies were obtained from 2436 mothers, a response rate of 70 percent. The 1999 survey was conducted as a telephone interview, comprising all mothers in the 1998 sample who still had a pre-school child as well as new mothers who had not been included previously, and who had given birth to a child between the surveys. The final sample totalled 3872 mothers, of whom 3334 were interviewed - a response rate of 87 percent. The panel constituted about 60 percent of the net sample. In 1999, fathers of 1-2 year olds were also asked a few questions. In addition, the mother supplied basic information about the father in each round.

Results from the two surveys have previously been published in Rønning (1998), Reppen and Rønning (1999), Hellevik (1999) and (2000), and Langset, Lian and Thoresen (2000). Reppen and Rønning (1999) report that the cash-for-care benefit is claimed for a large majority of eligible children (76 percent). Albeit popular in use, when asked what they considered the best initiative to give families with small children more time together, only about ten percent of mothers as well as fathers ranked the present cash-for-care scheme the highest. About twice as many ranked a similar scheme highest, whereby only parents who stay at home and care for their own children would receive the benefit. However, the initiative that was favoured by the largest group of parents was an extension of the parental leave period from one to two years. Mothers state that an important reason for using the benefit is to "spend more time with the children", while most fathers regard an important reason to be that "the mother wants to stay at home". In families who receive the benefit, mothers have lower employment activity than other mothers, while fathers' employment activity is hardly affected at all. About 40 percent of mothers who receive the benefit and who are either employed or studying, report that they have reduced their work

or study activity after the reform, but about half of them state that they would have done so anyway.

Hellevik (2000) looks closer at *changes* in behaviour from 1998 to 1999. She reports that the proportion of mothers of 1-2 year olds who actually worked (i.e. who was employed and not temporarily on leave) did not change, but that there was a shift from full-time to part-time work. Surprisingly, the reduction in working hours mainly seems to concern mothers with high education (university level), while mothers with lower education were less affected. Parental care was more common in 1999 than in 1998, as non-parental care had been reduced with almost 2.5 hours per week. There was a slight decrease in the proportion of 1-2 year olds in day-care centres, and a slight increase in the proportion of 1-year olds looked after by private childminders.

Finally, Langset, Lian and Thoresen (2000) estimate that the cash-for-care reform may have reduced labour supply among mothers with children in the eligible ages with approximately 3500-4500 man-years (or rather woman-years). The largest reduction appears to be in the public sector, and especially in the health- and educational sector.

The first part of this study is a multivariate analysis of mothers' joint employment and child care choices, focusing on the determinants of their decisions. The analysis is limited to mothers with children in the eligible age, i.e. to those who had at least one child aged 12-35 months at the time of response. Due to a few observations with missing or incomplete data, the total analysis sample consists of 1214 mothers in 1998 and 1690 mothers in 1999. The samples include single as well as cohabiting and married mothers. When partners' characteristics are included in the analysis, the estimates are based on sub-samples of married and cohabiting mothers with non-missing information on the partner. The sub-samples constitute about 85 percent of the total analysis samples, and consist of 1025 and 1441 mothers in 1998 and 1999, respectively.

Table 4.1. Combinations of work and child care. Mothers with children aged 1-2 years. 1998 and 1999

Variable	Label	All mothers				Married and cohabiting mothers ¹			
		1998		1999		1998		1999	
		N	%	N	%	N	%	N	%
I. Work/child care:		1214	100,0	1690	100,0	1025	100,0	1441	100,0
Work / Subsidised care	WS	347	28,6	445	26,3	311	30,3	398	27,6
Work / Non-subsidised care	WNS	410	33,8	611	36,2	350	34,1	539	37,4
Not working (Ref.group)	NW	457	37,6	634	37,5	364	35,5	504	35,0
II. Working hours/child care:		1214	100,0	1690	100,0	1025	100,0	1441	100,0
Full-time / Subsidised care	FS	213	17,5	243	14,4	191	18,6	220	15,3
Full-time / Non-subsidised care	FNS	161	13,3	225	13,3	138	13,5	198	13,7
Part-time / Subsidised care	PS	134	11,0	202	12,0	120	11,7	178	12,4
Part-time / Non-subsidised care	PNS	249	20,5	386	22,8	212	20,7	341	23,7
Not working (Ref.group)	NW	457	37,6	634	37,5	364	35,5	504	35,0

¹Sub-sample with non-missing information on partner's characteristics.

In addition to models with five response levels, distinguishing between full-time and part-time work, I also report results from models where full-time and part-time have been collapsed. Work is defined as being employed and at work, i.e. women with paid or unpaid leave are regarded as not working. If a mother has more than one child, her childcare choice is related to the child that is eligible for the cash-for-care benefit. If she has more than one child in this age group (applies to about 4 percent), the choice is related to the youngest of them. Descriptive statistics for the two different aggregation levels of the dependent variable are given in table 4.1. In addition to the results already reported in Hellevik (2000) of stable employment proportions, but less full-time work, we also note that there has been a shift from subsidised care to non-subsidised care. The lower proportion of full-time work in 1999 can fully be accounted for by a lower proportion who combine full-time and subsidised care, while the higher proportion of part-time work can primarily be ascribed to a higher proportion who combines part-time and non-subsidised care.

The panel analyses of individual changes in part two include all mothers with pre-school children, as mothers with non-eligible children are used as a "control group". The usefulness of this approach is discussed in more detail in section 6.2. To distinguish a possible policy effect, and to keep the sample as homogenous as possible, mothers who experience other events that may have large behavioural effects are excluded. This especially concerns mothers who had a new baby and mothers who had a child that turned one during the one-year interval. While the former event generally leads to a transition from work to leave, the latter is very likely to lead to a transition from leave to work following the expiry of the parental leave⁹. Likewise, a break up of marriage or cohabitation or a new family formation may involve changes in adaptations. The final analysis sample therefore only includes mothers who were continuously married or

⁹ In all analyses in this report leave is defined as not working.

Table 4.2. Changes in working hours from 1998 to 1999. Panel of continuously married or cohabiting mothers with youngest child 1-5 years¹

1998	Label	N (100%)	1999		
			Full-time	Part-time	Not working
All mothers:		1072			
Full-time	FT	364	80,1	14,4	5,5
Part-time	PT	419	18,8	74,0	7,2
Not working	NW	289	13,3	26,9	59,8
"Cash-for-care" group²:		469			
Full-time	FT	155	78,1	16,8	5,2
Part-time	PT	152	15,8	72,4	11,8
Not working	NW	162	11,7	35,2	53,1
"Control" group³:		603			
Full-time	FT	209	80,8	13,7	5,5
Part-time	PT	267	19,6	74,4	6,0
Not working	NW	127	14,3	21,9	63,8

¹Age at time of interview in 1998. Weights have been used in the proportion estimates as mothers with children below age three were over-represented in the survey (see Reppen and Rønning 1999 for more details). ²Mothers with children that were eligible for benefit (1-2 years in 1999). ³Mothers with older pre-school children (≥ 3 years in 1999).

cohabiting and whose youngest child was at least one year old at the time of survey, leaving a total analysis sample of 1084 mothers¹⁰. The panel sub-sample of mothers with non-missing information on the partner consists of 896 individuals.

Taking the five alternative combinations of working hours and childcare in the cross-sectional analyses as basis, there are 20 possible changes to consider. Among these, several are quite rare and involve only a few individuals, which makes a closer analysis at this level difficult. In the panel analyses I have therefore chosen to study changes in working hours and child care separately. Descriptive statistics for the two dependent variables are displayed in tables 4.2 and 4.3. The main impression is that individual behaviour is very stable. As many as 80 percent of all mothers

¹⁰ Due to some missing information on working hours or childcare use the final analyses include a slightly smaller number (see tables 4.2 and 4.3).

Table 4.3. Changes in child care from 1998 to 1999. Panel of continuously married or cohabiting mothers with youngest child 1-5 years¹

1998	Label	N (100%)	1999	
			Subsidi- sed care	Non- subsidi- sed care
All mothers:		1081		
Subsidised care	SC	497	95,0	5,0
Non-subsidised care	NSC	584	40,7	59,3
"Cash-for-care" group²:		475		
Subsidised care	SC	134	88,1	11,9
Non-subsidised care	NSC	341	31,7	68,3
"Control" group³:		606		
Subsidised care	SC	363	96,1	3,9
Non-subsidised care	NSC	243	46,7	53,3

^{1,2,3}See footnotes 1-3, table 4.2.

who worked full time in 1998 still do so in 1999, and 74 percent of those who worked part time still have part-time work. Stability is somewhat lower among those who did not work in 1998, but 60 percent of them is still not working in 1999. The most frequent change is from not working to part-time work, while the next most frequent change is from part-time to full-time work. Only about six per cent have quit work altogether (either from full-time or part-time).

Looking at the groups of mothers with eligible and non-eligible children separately (the "cash-for-care" vs. the "control group"), stability is slightly lower in the former group, especially among those who did not work in 1998 (53 vs. 64 per cent). Correspondingly,

Table 4.4. Descriptive statistics. Explanatory variables - cross-sectional analyses

Variable	Label	All mothers		Married and cohabiting mothers ¹	
		1998	1999	1998	1999
Mother's age (years)	AGE	30,4	31,6	30,7	31,9
Mother's education:					
7-10 years ² (Ref.group)	—	23,2	23,6	19,1	20,8
11-12 years	EDUS2	40,0	40,7	40,6	40,1
13-14 years	EDUU1	10,7	10,4	11,0	11,3
15-16 years	EDUU2	21,1	20,9	23,8	22,8
- Teacher training programs	EDUU2T	7,7	8,2	8,7	9,0
- Medical programs	EDUU2M	6,0	6,0	6,8	6,6
- Other programs	EDUU2O	7,4	6,7	8,3	7,2
17 years or more	EDUU3	5,4	4,5	5,8	5,1
No. of pre-school children:					
One (Ref.group)	—	52,8	54,6	51,8	52,7
Two	NOCH2	42,3	40,1	43,2	41,8
Three or more	NOCH3	4,8	5,3	5,0	5,5
Age y. eligible child (months)	AGEYEC	21,9	23,8	21,9	23,8
Siblings 0-11 months:					
Yes	SIBLO	9,8	8,6	10,4	9,1
No (Ref.group)	—	90,2	91,4	89,6	90,9
Marital status:					
Single (Ref.group)	—	5,4	7,9	—	—
Cohabiting	COHAB	30,0	30,7	31,0	32,3
Married	MARR	64,7	61,4	69,0	67,7
Partner's education:					
Primary school (Ref.group)	—			12,3	12,7
Secondary school	PEDUS			42,5	47,3
University	PEDUU			42,1	40,0
Missing	PEDUMISS			3,0	
Partner's work status:					
Not employed (Ref.group)	—			1,8	3,1
Employed	PEMPL			98,2	96,9
Partner's work arrangement:					
Normal daytime	PDAY			66,0	68,7
Other hours (Ref.group)	—			34,0	31,3
Partner's job sector:					
Health / school	PHSSEC			10,1	10,4
Other sector (Ref.group)	—			89,9	89,6
Partner's income (10 000 kr.)	PINC			27,03	28,70
Household debt (10 000 kr.)	DEBT			64,44	64,37
Region:					
Oslo/Akershus (Ref.group)	—	20,1	21,1	19,8	21,3
Rest of the East	EAST	23,7	23,8	22,6	24,9
South-West	SWEST	35,4	33,0	36,7	32,8
North	NORTH	20,8	22,1	20,9	21,0

¹Sub-sample with non-missing information on partner's characteristics. ²Incl. missing.

Table 4.5. Descriptive statistics. Explanatory variables - panel analyses

Variable ¹	Label	All included mothers	Sub-sample with partner characteristics
Mother's age (years)	AGE	32,4	32,5
Mother's level of education:			
7-12 years ² (Ref.group)	—	63,3	60,0
> 12 years	EDUU	36,7	40,0
Mother's field of education			
Teaching / Medical programs	EDUTM	22,3	24,0
Other programs (Ref.group)	—	77,7	76,0
No. of pre-school children:			
One (Ref.group)	—	68,0	67,7
Two or more	NOCH2	32,0	32,3
Marital status:			
Married (Ref.group)	—	74,4	74,9
Cohabiting	COHAB	25,6	25,1
Entitled to cash-for-care:			
Yes (child 1-2 years) (Ref.group)	CFC	25,7	25,1
No (child >2 years)	—	74,3	74,9
Partner's education:			
Primary school (Ref.group)	—		12,9
Secondary school	PEDUS		44,5
University	PEDUU		42,5
Partner's work arrangement:			
Normal daytime	PDAY		67,1
Other hours (Ref.group)	—		32,9
Partner's job sector:			
Health / school	PHSSEC		9,2
Other sector (Ref.group)	—		90,8
Partner's income (10 000 NOK)	PINC		28,28
Change of partner's income	PINCCH		3,41
Household debt (10 000 NOK)	DEBT		62,83
Change of household debt	DEBTCH		0,54
Region:			
Oslo/Akershus (Ref.group)	—	18,7	18,3
Rest of the East	EAST	25,9	25,9
South-West	SWEST	35,7	36,3
North	NORTH	19,8	19,5

¹ Status in 1998 for variable levels. Changes in variables are defined as value in 1999 minus value in 1998.

there is a higher proportion that changed from no work to part-time work in the "cash-for-care group" (35 vs. 22 per cent). However, when transitions to full-time are concerned (either from part-time or no work), the proportions that changed adaptation are highest in the "control group".

Stability in childcare choice is particularly high among those who already used subsidised care in 1998, of whom 95 five per cent of all mothers still do so one year later (table 4.3). However, a quite common change is to move from other care to subsidised care in the course of the year, as 41 per cent have done so. Mothers with eligible children are somewhat less inclined to make this move than mothers in the "control group" (32 vs. 47 per cent), but somewhat more inclined to switch from subsidised care to other care (12 vs. 4 per cent).

Descriptive statistics of the explanatory variables are given in table 4.4 for the cross-section analyses and table 4.5 for the panel analyses. The covariates include human capital variables, demographic variables and a set of regional dummies, and for the subgroup of

married and cohabiting mothers also partner's characteristics, including his income and total household debt (mortgage and other loans). Unfortunately, there is no survey information on the mother's wage¹¹ - the shadow-price of not working. When child care costs are concerned, there is detailed price information in the 1999 data, but in 1998 it is not possible to distinguish the price of different types of child care, as total child care costs were reported as one single sum¹².

In the panel analyses, the covariate values in 1998 have been used, i.e. the model reflects the initial state of the explanatory variables. In addition, changes in variables have been included if possible. As this requires a certain number of changes and most

¹¹ There is information on the mother's annual income the previous year, but no record of her employment activity that year. Using normal working hours at the time of response to estimate the wage rate would no doubt introduce large measurement errors and render subsequent wage predictions rather futile.

¹² Even if available, there is the additional difficulty of income-dependent day-care prices. As mothers' earnings are included in the income basis, the actual price paid is really endogenous in the model.

explanatory variables are very stable, only changes in economic variables could be included. All panel analyses condition on the mother's status in 1998, i.e. separate analyses have been performed for changes from full-time, part-time and not working and from subsidised and non-subsidised care, respectively. This implies that each analysis sample becomes relative small (see tables 6.8-6.10), and that some categories of variables that are used in the cross-sectional analyses had to be collapsed in the panel analyses (cf. table 4.4 and 4.5).

5. Covariates and hypotheses

Since the mother's wage is not included in the model, her age and educational level will also reflect behavioural differences related to differences in earnings potential. As wage is normally positively correlated with age and education, the estimated indirect effects of these proxies on employment are expected to be positive. As older and more highly educated women may also be more attached to the labour market, the direct effects of age and education pull in the same direction, leading to a clear hypothesis of positive effects on employment of these variables.

In the debate preceding the introduction of the cash-for-care reform, an argument often encountered was that it would mainly be mothers with low education that would use the benefit to stay home and look after the children, and hence reduce their labour supply. If this were the case, we should expect larger educational differences in employment activity in 1999 than in 1998. When childcare is concerned, previous evidence indicates that highly educated mothers are more likely than other mothers to use day-care centres (see e.g. Ilmakunnas 1997, Hellevik 1999). This difference seems to increase with increasing coverage level, which is probably a result of a higher unmet demand for day-care among the well educated in a situation with stricter rationing. The information on *mother's age* and *mother's educational level* is extracted directly from administrative registers and linked to the survey data. Educational level is classified according to the stipulated time needed to obtain a certain level.

Prior to introduction, it was further argued that sectors with relatively low pay and extensive part-time opportunities would face larger reductions in female labour supply than other sectors, and that especially the health and social sector would be at risk. At the same time the employers in this sector often run their own day-care centres, implying that employers face a more ample day-care supply. Thus, if mothers become more inclined to stay at home after the cash-for-care reform, there may also be a larger reduction in the demand for subsidised care in this sector. On the other hand, if easy access to day-care primarily induces mothers to work part-time, subsidised care may be less

affected. Job sector is therefore an interesting variable in our analysis. However, it is not an exogenous variable, since job sector is determined together with the employment decision. It is therefore only known for mothers who were employed at the time of interview. As a proxy for the *potential* job sector I instead use *field of education*, as these variables are usually highly correlated. Field of study is available for all mothers from the educational information extracted from administrative registers.

A well-established finding from numerous studies in many countries is that female labour supply decreases with the *number of children* and increases with the age of the youngest child. From official statistics (e.g. Statistics Norway 1997) we also know that the use of day-care centres increases with the age of the child. Even if this could partly be a result of shorter supply and more rationing among the youngest, several surveys also indicate that the demand for day-care increases with the age of the child (Schytte Blix 1993, Rønning 1998). We therefore expect a positive effect of the child's age on employment in general, that is likely to be stronger for the work/subsidised care option than for the work/non-subsidised care option.

In the cross-sectional analyses all mothers have at least one child aged 1-2, but some may also have younger children (and/or of course older pre-school children). In these analyses the age-of-child effect is captured by two variables: (i) *age of youngest eligible child* measured in months (i.e. 12-35 months) and (ii) a dummy for *younger siblings* (i.e. 0-11 months). In the panel analyses mothers with children below the age of one are excluded, and mothers with only older, non-eligible children are included as "control group". As age of youngest child is the sole determinant of whether the family is entitled to benefit or not, the indicator, *entitled to cash-for-care*, is in effect a categorisation of the former variable. Age of youngest child could therefore not be used in any specification as a separate variable in the panel analysis.

Marital status is primarily an indicator of different economic opportunities as single mothers cannot draw

on the income of a partner. However, in Norway single mothers with pre-school children may receive a relatively generous transitional allowance ("overgangs-stønad") for a maximum of three years if they are not able to support themselves. The allowance is income dependent, as earnings over a certain (low) amount lead to a deduction of the allowance corresponding to 40 percent of the earnings. On top of the ordinary marginal tax this results in very high gross marginal rates (up to 70 percent, see e.g. Rønsen and Strøm 1993). As a result, part-time work has not been as common among single mothers as among mothers in general, and single mothers also have a lower total employment rate (Kjeldstad and Rønsen, forthcoming)¹³. On the other hand, single mothers often get priority to rationed day-care places and pay a reduced rate. They may therefore in particular be less likely to combine work and non-subsidised care compared to other mothers. I further distinguish between married and cohabiting mothers, as previous research indicates that cohabiting mothers have a stronger labour market attachment than married mothers (see e.g. Rønsen 1995).

Regional dummies are the final covariates common to all models. Apart from cultural differences, *region* also picks up differences in employment patterns and day-care coverage. The South-West is usually regarded the area with the most traditional family values. It also has the lowest average day-care coverage. The highest coverage level is found in the metropolitan area (Oslo/Akershus) and in the North, which are both areas with less traditional family values. We therefore expect mothers to be more likely to work and to use subsidised care in these regions.

When estimating the model on the sub-group of married and cohabiting women I also include partner's characteristics. Constituting a large component of the mother's budget restriction, *partner's income* is an important variable. Like other labour free income it is assumed to increase consumption of normal goods, including home time and childcare, and hence to reduce labour supply. The negative effect may be stronger for work combined with non-subsidised care, as families with higher income can better afford to pay the relatively high price of professional day-care. This is especially relevant after the cash-for-care reform which almost doubled the cost of subsidised care in real terms when taking the potential loss of benefit into account. Partner's income refers to his annual pre-tax labour income the previous year. Also important in the

budget restriction is the family's *household debt*, which reduces consumption possibilities and therefore has the opposite effect of partner's income. When changes in working hours and childcare are concerned, changes in income and debt may also be relevant determinants, and these variables have been included in the panel analyses.

After controlling for partner's income, the effect of his education is probably weaker. However, I also include *partner's education*, as it may reflect differential attitudes among fathers toward mothers' employment and child care that would not be captured otherwise. Partner's education is based on survey information supplied by the mother and is reported in four response categories: primary school, secondary school, 1-3 years of university studies, and 4 years or more of university studies. In the analysis the two upper levels have been collapsed as their estimates were quite similar.

Finally, I include two indicators related to the fathers work situation: (i) *partner's working hour arrangement* (normal daytime work or other work arrangements) and (ii) *partner's job sector* (health or school sector versus other sectors)¹⁴. Since these variables are only relevant if the partner works, they are introduced in interactions with a dummy variable for father's work status (employed/not employed)¹⁵. If fathers work non-standard hours, they may be more able to look after their children during the day, making it easier for mothers to work without using a day-care place. If the father works in the health- or school sector it may be easier for the family to get a day-care place, since these sectors often have their own day-care centres. In addition these fathers may be more family- and child-oriented and take more part in the household work, making it easier for the mother to be employed. Hence, mothers with a partner in the health and school sector may be more likely to work and use subsidised care.

¹³ In 1998 the employment rates among single and non-single mothers with children 0-15 years were 65 and 81 percent, respectively. The corresponding full-time rates (proportion of working mothers who work ≥ 36 hours per week) were 47 and 41 percent. Working hours refer to hours actually worked. The difference between the two groups has become smaller during the 1990s, as the full-time rate among single mothers has decreased while it has increased among married and cohabiting mothers.

¹⁴ Social work and work in the day-care sector are also included in the health- and school sector.

¹⁵ In the sub-sample of mothers with non-missing information on the partner the large majority of fathers were employed (97-98 percent). In the panel analyses I further exclude mothers whose partner was not employed at any survey point.

6. Results

6.1. Cross-sectional analyses

Table 6.1 reports estimates from a multinomial logit model with three response levels: (i) work/subsidised care, (ii) work/non-subsidised care and (iii) no work. In table 6.2 and 6.3 I also distinguish between full-time and part-time work, and get five response levels: (i) full-time/subsidised care, (ii) full-time/non-subsidised care, (iii) part-time/subsidised care, (iv) part-time/non-subsidised care and (v) no work. We shall discuss these results in conjunction, taking the simplest model as our point of departure, and supplementing with results from the more detailed model if that gives additional insight. The effect of covariates that are common to all mothers will be commented based on the full sample, but the results do not differ much when based on the sub-sample of married and cohabiting mothers. As the primary purpose is to assess whether the behaviour of mothers have changed after the introduction of the cash-for-care program, special attention is given to possible changes in the estimates from 1998 to 1999.

Starting with the estimates for 1998, we notice that most coefficients have the expected sign and are on the whole significant. Age appears to have no effect on work that is combined with non-subsidised care, but this is mainly due to no effect on the part-time/non-subsidised care alternative (table 6.2). The educational effects are stronger for work combined with subsidised care than for work combined with non-subsidised care, and are stronger for full-time work than for part-time work.

Having controlling for the presence of a sibling 0-11 months, which strongly inhibits employment, there are no further negative effects of the number of children in 1998¹⁶. As expected, the work probability increases with the age of the eligible child, but mainly when it is combined with subsidised care. Also as expected, married and cohabiting mothers are more likely to have paid work than single mothers, but significantly so only if it is combined with non-subsidised care. Table 6.2 further shows that this mainly concerns part-

time work. Finally, the regional pattern corresponds well with a priory reasoning: mothers in the East and South-West are less likely to work and use subsidised care than mothers in the capital area of Oslo/Akershus, particularly if they are working full-time. Mothers in the North are also less inclined to work full-time and use subsidised care, but on the other hand they are more likely to combine part-time and non-subsidised care.

Turning to the sub-group of married and cohabiting mothers, cohabitants seem to be more inclined to work and use subsidised care than those who are married, but this mainly concerns the part-time/subsidised care alternative (table 6.3). Characteristics of the partner seem to play a fairly modest role, and in 1998 only work in the health or school sector is significant. It has a clear positive effect on mother's employment in general, but is strongest for work, and in particular part-time work, in combination with subsidised care. There is also some indication that the mother is more inclined to work and use subsidised care if the father works regular daytime hours than if he has another work schedule. This renders little support for the hypothesis that it may be easier for mothers to be employed if the partner works non-standard hours. However, since regular evening or night shifts only constitute a small part of "other arrangements", we cannot draw any firm conclusion on this basis¹⁷. Finally, there is clear evidence that higher household debt prompts mothers to work. The effect is most pronounced for full-time work and particularly full-time combined with subsidised care.

Now let us look for impacts of the cash-for-care reform, expressed as *changes* in the estimates from 1998 to 1999. Before proceeding, we should be reminded that given our sample size, standard errors and confidence intervals are necessarily relatively large, requiring a substantial change from one year to the other for the difference to be significant in statistical terms. We shall, however, still comment on patterns and trends that seem noteworthy, even if they are not significant in the strictest sense.

¹⁶ In models distinguishing between full-time and part-time I could not include a dummy for younger siblings because of empty cells in the dependent variable; i.e. some alternatives were not chosen by any of the mothers with a child less than one year old.

¹⁷ Other work arrangements also include various shift work, and work that either starts before 6 a.m. or finishes after 6 p.m. Hence, it may also include jobs with very long working hours.

Table 6.1. Combinations of work and child care. Multinomial logit estimates. 1998 and 1999

Variable	All mothers				Married and cohabiting mothers ¹			
	1998		1999		1998		1999	
	WS	WNS	WS	WNS	WS	WNS	WS	WNS
INTERCEPT	-4,615 (0,696)	-2,738 (0,661)	-5,623 (0,624)	-1,317 (0,508)	-3,803 (1,001)	-0,907 (0,882)	-6,318 (0,959)	0,072 (0,697)
AGE	0,047 (0,018)	0,022 (0,016)	0,045 (0,015)	-0,004 (0,013)	0,032 (0,021)	0,013 (0,019)	0,043 (0,018)	0,004 (0,015)
EDUS2	0,962 (0,222)	0,442 (0,184)	0,788 (0,193)	0,308 (0,152)	0,845 (0,258)	<i>0,411</i> (0,216)	0,851 (0,225)	0,348 (0,175)
EDUU1	1,084 (0,298)	0,304 (0,277)	1,320 (0,261)	0,376 (0,237)	1,020 (0,341)	0,317 (0,312)	1,152 (0,294)	0,417 (0,261)
EDUU2	2,097 (0,272)	1,083 (0,245)	1,709 (0,224)	0,724 (0,192)	1,862 (0,307)	1,019 (0,275)	1,507 (0,258)	0,684 (0,221)
EDUU3	2,450 (0,472)	1,414 (0,455)	3,566 (0,534)	2,445 (0,516)	2,091 (0,518)	1,277 (0,495)	3,551 (0,587)	2,766 (0,564)
NOCH2	-0,043 (0,173)	-0,173 (0,160)	-0,218 (0,152)	-0,254 (0,134)	-0,111 (0,191)	-0,193 (0,177)	-0,225 (0,165)	-0,221 (0,147)
NOCH3	-0,837 (0,541)	-0,343 (0,399)	-1,039 (0,431)	-0,902 (0,311)	-1,491 (0,638)	-0,666 (0,444)	-0,929 (0,445)	-0,775 (0,328)
SIBL0	-5,945 (1,036)	-3,713 (0,502)	-4,537 (0,640)	-3,441 (0,451)	-5,968 (1,047)	-3,513 (0,516)	-4,673 (0,655)	-3,527 (0,463)
AGEYEC	0,110 (0,014)	0,017 (0,013)	0,111 (0,011)	0,011 (0,010)	0,115 (0,016)	0,010 (0,015)	0,110 (0,013)	0,006 (0,011)
COHAB	0,578 (0,355)	1,577 (0,403)	1,063 (0,277)	1,339 (0,249)	<i>0,347</i> (0,207)	0,072 (0,189)	0,483 (0,177)	0,248 (0,154)
MARR	0,265 (0,342)	1,397 (0,396)	0,583 (0,266)	0,968 (0,242)				
PEDUS					0,274 (0,292)	0,427 (0,263)	0,266 (0,266)	-0,019 (0,207)
PEDUH					-0,409 (0,312)	-0,162 (0,284)	0,117 (0,288)	-0,489 (0,236)
PEDUMISS					-0,772 (0,577)	-0,083 (0,479)		
PEMPL					-0,731 (0,709)	-0,234 (0,632)	0,871 (0,644)	0,198 (0,394)
PEMPL*PDAY					<i>0,389</i> (0,203)	0,011 (0,179)	<i>0,320</i> (0,181)	-0,033 (0,153)
PEMPL*PHSSEC					1,115 (0,353)	0,763 (0,336)	<i>0,469</i> (0,263)	0,173 (0,258)
PINC					0,003 (0,007)	0,004 (0,007)	-0,010 (0,006)	-0,025 (0,006)
DEBT					0,006 (0,002)	0,002 (0,002)	0,007 (0,002)	0,006 (0,002)
EAST	-0,665 (0,249)	0,268 (0,238)	-0,158 (0,212)	0,311 (0,190)	-0,667 (0,283)	0,096 (0,270)	-0,103 (0,235)	0,159 (0,210)
SWEST	-0,893 (0,228)	-0,072 (0,221)	-0,400 (0,198)	0,086 (0,178)	-0,775 (0,255)	-0,142 (0,248)	-0,428 (0,222)	-0,110 (0,198)
NORTH	-0,426 (0,268)	0,597 (0,248)	0,155 (0,214)	0,298 (0,197)	-0,464 (0,302)	0,417 (0,279)	0,121 (0,243)	0,002 (0,224)
Likelihood ratio	2144,05		3023,06		1868,99		2608,76	
DF	2314		3244		2006		2840	
N	1214		1690		1025		1441	

¹ Sub-sample with non-missing information on partner's characteristics. Numbers in bold: Significant at the 5 % level. Numbers in italics: Significant at 10% level. (Standard errors in parentheses).

Table 6.2. Combinations of working hours and child care. Multinomial logit estimates. All mothers. 1998 and 1999

Variabel	1998				1999			
	FS	FNS	PS	PNS	FS	FNS	PS	PNS
INTERCEPT	-3,277 (0,754)	-2,829 (0,856)	-6,148 (0,916)	-2,749 (0,796)	-4,704 (0,708)	-1,591 (0,675)	-7,797 (0,813)	-1,926 (0,569)
AGE	0,051 (0,020)	0,053 (0,021)	0,091 (0,022)	<i>0,032</i> (0,018)	0,053 (0,017)	0,017 (0,017)	0,099 (0,018)	0,021 (0,014)
EDUS2	0,949 (0,266)	0,631 (0,267)	0,673 (0,284)	0,192 (0,199)	0,621 (0,231)	0,207 (0,210)	0,814 (0,252)	0,262 (0,165)
EDUU1	0,988 (0,345)	0,841 (0,352)	0,930 (0,359)	-0,263 (0,331)	1,107 (0,298)	0,353 (0,315)	1,304 (0,319)	0,214 (0,257)
EDUU2	1,902 (0,290)	1,002 (0,310)	1,063 (0,324)	<i>0,458</i> (0,246)	1,521 (0,253)	0,733 (0,249)	1,480 (0,276)	0,469 (0,206)
EDUU3	1,970 (0,414)	1,759 (0,429)	0,797 (0,542)	-0,661 (0,587)	2,988 (0,469)	2,564 (0,465)	2,590 (0,515)	1,041 (0,500)
NOCH2	-0,723 (0,185)	-1,184 (0,212)	-0,569 (0,211)	-0,338 (0,169)	-0,807 (0,171)	-0,999 (0,177)	-0,682 (0,180)	-0,537 (0,141)
NOCH3	-2,648 (0,635)	-1,947 (0,549)	-2,002 (0,632)	-1,150 (0,395)	-2,277 (0,504)	-2,446 (0,543)	-2,411 (0,623)	-1,352 (0,310)
AGEYEC	0,041 (0,014)	-0,037 (0,016)	0,070 (0,016)	-0,031 (0,013)	0,062 (0,012)	-0,029 (0,012)	0,086 (0,014)	-0,020 (0,010)
COHAB	0,284 (0,394)	1,035 (0,518)	0,612 (0,495)	1,756 (0,550)	0,681 (0,322)	1,095 (0,339)	0,935 (0,363)	1,177 (0,294)
MARR	0,083 (0,382)	<i>0,926</i> (0,510)	0,304 (0,479)	1,618 (0,544)	0,397 (0,312)	0,686 (0,337)	0,453 (0,353)	0,971 (0,289)
EAST	-1,044 (0,268)	-0,190 (0,304)	0,011 (0,311)	0,585 (0,269)	-0,492 (0,240)	0,186 (0,243)	<i>0,447</i> (0,262)	0,538 (0,209)
SWEST	-1,014 (0,237)	-0,229 (0,275)	-0,311 (0,295)	0,200 (0,257)	-0,662 (0,219)	-0,152 (0,231)	0,081 (0,251)	0,292 (0,196)
NORTH	-0,747 (0,273)	0,394 (0,294)	-0,248 (0,346)	0,549 (0,280)	0,061 (0,230)	0,270 (0,250)	0,554 (0,271)	0,475 (0,218)
Likelihood ratio	3264,23				4569,31			
DF	4616				6480			
N	1214				1690			

Numbers in bold: Significant at 5%-level. Numbers in italics: significant at 10%-level. (Standard errors in parentheses).

At first glance (table 6.1) the effect of mother's age seems quite stable, but turning to table 6.2, we see that the positive effect on the full-time/non-subsidised care option have vanished. However, more evident, and more intriguing, are the changes in the effects of education, where there is a shift in opposite direction for the various university groups. While the work behaviour of mothers with a medium level university

degree (EDUU2= 3-4 years of university study) has become more similar to the reference group (mothers with low education), the difference between the latter and mothers with a lower and especially with a higher university degree has become larger. Hence, the behavioural difference between the two upper university educated groups has also increased.

Table 6.3. Combinations of working hours and child care. Multinomial logit estimates. Married and cohabiting mothers¹. 1998 and 1999

Variabel	1998				1999			
	FS	FNS	PS	PNS	FS	FNS	PS	PNS
INTERCEPT	-2,149 (1,055)	-1,535 (1,204)	-6,007 (1,433)	-0,627 (0,964)	-5,700 (1,139)	-0,498 (0,877)	-8,103 (1,186)	-0,500 (0,754)
AGE	0,035 (0,023)	<i>0,045</i> (0,025)	0,087 (0,025)	0,029 (0,021)	0,044 (0,020)	<i>0,034</i> (0,020)	0,105 (0,021)	0,023 (0,016)
EDUS2	0,740 (0,302)	0,660 (0,318)	0,665 (0,325)	0,145 (0,233)	0,583 (0,265)	0,228 (0,239)	1,095 (0,295)	<i>0,346</i> (0,187)
EDUU1	0,963 (0,387)	1,000 (0,406)	0,839 (0,416)	-0,299 (0,369)	0,945 (0,332)	0,416 (0,341)	1,238 (0,367)	0,263 (0,281)
EDUU2	1,705 (0,330)	1,107 (0,362)	0,916 (0,371)	0,433 (0,281)	1,267 (0,291)	0,644 (0,287)	1,470 (0,326)	0,510 (0,235)
EDUU3	1,617 (0,474)	1,682 (0,511)	0,679 (0,595)	-0,538 (0,619)	2,827 (0,515)	2,664 (0,514)	2,614 (0,577)	1,392 (0,536)
NOCH2	-0,829 (0,202)	-1,259 (0,233)	-0,746 (0,230)	-0,374 (0,187)	-0,827 (0,182)	-0,911 (0,188)	-0,796 (0,194)	-0,615 (0,152)
NOCH3	-3,238 (0,767)	-2,662 (0,750)	-2,637 (0,762)	-1,234 (0,423)	-2,149 (0,519)	-2,308 (0,550)	-2,291 (0,628)	-1,289 (0,320)
AGEYEC	0,038 (0,016)	-0,049 (0,018)	0,070 (0,018)	-0,041 (0,015)	0,058 (0,013)	-0,038 (0,013)	0,072 (0,015)	-0,032 (0,011)
COHAB	0,183 (0,220)	0,033 (0,241)	<i>0,398</i> (0,246)	-0,018 (0,202)	0,309 (0,198)	<i>0,329</i> (0,196)	0,486 (0,208)	0,078 (0,163)
PEDUS	0,510 (0,329)	<i>0,690</i> (0,363)	0,207 (0,356)	0,385 (0,281)	<i>0,656</i> (0,351)	0,195 (0,283)	-0,244 (0,304)	-0,214 (0,213)
PEDUH	-0,444 (0,352)	-0,288 (0,394)	-0,408 (0,377)	-0,106 (0,305)	0,426 (0,371)	-0,355 (0,323)	-0,295 (0,325)	-0,648 (0,246)
PEDUMISS	-0,416 (0,735)	0,579 (0,653)	-0,199 (0,685)	0,115 (0,548)				
PEMPL	<i>-1,408</i> (0,728)	-0,663 (0,886)	-0,107 (1,136)	-0,199 (0,688)	0,793 (0,802)	-0,201 (0,458)	0,681 (0,798)	0,538 (0,447)
PEMPL*PDAY	0,340 (0,225)	-0,031 (0,233)	0,172 (0,245)	-0,081 (0,191)	<i>0,355</i> (0,212)	-0,023 (0,202)	0,276 (0,216)	-0,023 (0,161)
PEMPL*PHSSEC	<i>0,617</i> (0,339)	<i>0,712</i> (0,367)	0,915 (0,369)	0,287 (0,336)	<i>0,513</i> (0,284)	0,340 (0,319)	0,596 (0,296)	0,206 (0,276)
PINC	0,008 (0,007)	0,010 (0,008)	0,010 (0,008)	0,005 (0,008)	-0,011 (0,007)	-0,036 (0,009)	0,002 (0,007)	<i>-0,012</i> (0,007)
DEBT	0,010 (0,002)	0,007 (0,003)	0,004 (0,003)	-0,000 (0,002)	0,009 (0,002)	0,011 (0,002)	0,001 (0,002)	0,002 (0,002)
EAST	-0,995 (0,302)	-0,324 (0,339)	-0,077 (0,352)	0,328 (0,301)	<i>-0,435</i> (0,259)	0,060 (0,264)	<i>0,542</i> (0,288)	<i>0,384</i> (0,225)
SWEST	-0,946 (0,266)	-0,447 (0,309)	-0,264 (0,327)	0,118 (0,283)	-0,736 (0,242)	-0,320 (0,253)	0,171 (0,279)	0,113 (0,212)
NORTH	-0,817 (0,307)	0,086 (0,332)	-0,365 (0,385)	0,388 (0,310)	0,026 (0,259)	-0,108 (0,283)	0,642 (0,306)	0,280 (0,240)
Likelihood ratio		2845,58				3963,70		
DF		4016				5684		
N		1025				1441		

¹Sub-sample with non-missing information on partner's characteristics. Numbers in bold: Significant at 5% level. Numbers in italics: significant at 10% level. (Standard errors in parentheses).

Relative to the reference group, mothers at the highest university level have an increased propensity in 1999 to work regardless of childcare choice, while mothers with a short university education only have an increased propensity to work and use subsidised care. This is mainly due to a larger increase in the likelihood of working part time (table 6.2). In 1998 there was no difference between the reference group and the highest educated mothers in the two part-time options, but in 1999 part-time work had become relatively much more common among the latter, especially when combined with subsidised care.

Since typical female professions such as nursing and teaching usually require 3-4 years of university study, field of study may throw additional light on the changing behaviour of this group. When including an interaction term between education at the middle university level and field of study (teacher training programs, medical programs and other programs), the results show, somewhat surprisingly, that teachers in particular have changed behaviour in the direction of the reference group. This is expressed as a smaller difference in work activity in general, but especially in work that is combined with subsidised care (table 6.4). Almost all of the increased similarity can be ascribed to the full-time/subsidised care option (table 6.5). Other fields of study display smaller changes relative to the reference group. Mothers within the medical field (mainly nurses) seem to have become relatively more

inclined to work part-time and use subsidised care, while mothers within other fields have become more inclined to work part time in general, but somewhat less inclined to work full-time and use non-subsidised care.

The changes in the effects of the number and age of children are more difficult to assess as these variables are highly correlated. In table 6.1 the number of children seem to have a slightly stronger inhibiting effect on employment in 1999 than in 1998, while the effect of a younger sibling is less negative, which is somewhat confusing. The effect of the age of youngest eligible child appears quite stable in table 6.1, but changes more when looking at full-time and part-time separately (table 6.2). This may also be a result of having to leave out the dummy for youngest sibling in the latter model (see footnote 16).

As to marital status, the changes in the estimates are more clear-cut. Relative to single mothers, married and cohabiting mothers seem to have become more inclined to work and use subsidised care and less inclined to work and use non-subsidised care in 1999 than in 1998. In particular there is a smaller difference in the part time/non-subsidised care option. Rather than reflecting a reduced probability among married and cohabiting mothers of choosing the latter option, this may indicate that single mothers find part-time work combined with non-subsidised care more attractive after the introduction of the cash-for-care reform.

Table 6.4. Combinations of work and child care. Effects of level and field of education¹. All mothers. 1998 and 1999

Education	1998		1999	
	WS	WNS	WS	WNS
Level only²:				
EDUS2	0,962 (0,222)	0,442 (0,184)	0,788 (0,193)	0,308 (0,152)
EDUU1	1,084 (0,298)	0,304 (0,277)	1,320 (0,261)	0,376 (0,237)
EDUU2	2,097 (0,272)	1,083 (0,245)	1,709 (0,224)	0,724 (0,192)
EDUU3	2,450 (0,472)	1,414 (0,455)	3,566 (0,534)	2,445 (0,516)
Level and field³:				
EDUS2	0,962 (0,222)	0,441 (0,184)	0,786 (0,193)	0,307 (0,152)
EDUU1	1,079 (0,298)	0,304 (0,277)	1,323 (0,261)	0,378 (0,237)
EDUU2T	2,476 (0,390)	1,015 (0,384)	1,396 (0,289)	0,432 (0,256)
EDUU2M	1,602 (0,402)	1,014 (0,359)	1,747 (0,331)	0,815 (0,305)
EDUU2O	2,109 (0,387)	1,204 (0,363)	2,110 (0,332)	1,061 (0,307)
EDUU3	2,447 (0,473)	1,416 (0,456)	3,575 (0,535)	2,454 (0,517)
N	1214		1690	

¹The model also includes all the remaining covariates in table 6.1. ²Estimates as reported in table 6.1. ³New estimates after including field of education. Numbers in bold: Significant at 5% level. Numbers in italics: significant at 10% level. (Standard errors in parentheses).

Table 6.5. Combinations of working hours and child care. Effects of level and field of education¹. All mothers. 1998 and 1999

Education	1998				1999			
	FS	FNS	PS	PNS	FS	FNS	PS	PNS
Level only²:								
EDUS2	0,949 (0,266)	0,631 (0,267)	0,673 (0,284)	0,192 (0,199)	0,621 (0,231)	0,207 (0,210)	0,814 (0,252)	0,262 (0,165)
EDUU1	0,988 (0,345)	0,841 (0,352)	0,930 (0,359)	-0,263 (0,331)	1,107 (0,298)	0,353 (0,315)	1,304 (0,319)	0,214 (0,257)
EDUU2	1,902 (0,290)	1,002 (0,310)	1,063 (0,324)	0,458 (0,246)	1,521 (0,253)	0,733 (0,249)	1,480 (0,276)	0,469 (0,206)
EDUU3	1,970 (0,414)	1,759 (0,429)	0,797 (0,542)	-0,661 (0,587)	2,988 (0,469)	2,564 (0,465)	2,590 (0,515)	1,041 (0,500)
Level and field³:								
EDUS2	0,948 (0,266)	0,629 (0,267)	0,675 (0,284)	0,193 (0,199)	0,621 (0,231)	0,206 (0,210)	0,812 (0,252)	0,262 (0,165)
EDUU1	0,984 (0,345)	0,842 (0,352)	0,930 (0,359)	-0,260 (0,331)	1,109 (0,298)	0,356 (0,315)	1,307 (0,319)	0,216 (0,257)
EDUU2T	2,109 (0,365)	0,584 (0,472)	1,181 (0,424)	0,312 (0,358)	1,309 (0,322)	0,585 (0,329)	1,148 (0,358)	0,167 (0,281)
EDUU2M	1,367 (0,444)	0,612 (0,504)	1,203 (0,456)	0,788 (0,352)	1,303 (0,390)	0,602 (0,408)	1,940 (0,370)	0,772 (0,314)
EDUU2O	1,998 (0,373)	1,490 (0,392)	0,721 (0,500)	0,196 (0,388)	1,918 (0,336)	1,029 (0,356)	1,366 (0,408)	0,573 (0,316)
EDUU3	1,966 (0,414)	1,758 (0,429)	0,794 (0,542)	-0,656 (0,587)	2,989 (0,469)	2,566 (0,465)	2,593 (0,515)	1,043 (0,500)
N	1214				1690			

¹The model also includes all the remaining covariates in table 6.2. ²Estimates as reported in table 6.2. ³New estimates after including field of education. Numbers in bold: Significant at 5% level. Numbers in italics: Significant at 10% level. (Standard errors in parentheses).

Table 6.6. Estimated probabilities of different combinations of working hours and child care for different educational groups¹. All mothers. 1998 and 1999

Variable	1998					1999				
	FS	FNS	PS	PNS	NW	FS	FNS	PS	PNS	NW
Level only:										
EDUS1	20,7	12,2	9,9	16,4	40,8	13,2	15,6	4,5	20,9	45,8
EDUS2	34,2	14,6	12,4	12,7	26,1	19,4	15,1	8,0	21,4	36,1
EDUU1	34,3	17,4	15,4	7,8	25,2	26,5	14,8	11,0	17,2	30,5
EDUU2	52,0	12,4	10,7	9,7	15,3	31,5	17,0	10,3	17,4	23,9
EDUU3	51,2	24,3	7,5	2,9	14,1	41,6	32,2	9,5	9,4	7,3
Level and field:										
EDUS1	20,7	11,8	10,1	16,7	40,8	13,1	15,5	4,5	20,9	46,1
EDUS2	34,2	14,1	12,6	12,9	26,1	19,2	15,0	8,0	21,4	36,4
EDUU1	34,2	16,9	15,7	7,9	25,2	26,4	14,7	11,0	17,2	30,6
EDUU2T	59,2	7,3	11,4	7,9	14,2	30,0	17,3	8,8	15,3	28,6
EDUU2M	38,0	10,1	15,7	17,1	19,1	24,2	14,2	15,7	22,7	23,2
EDUU2O	53,3	18,2	7,2	7,1	14,2	38,2	18,6	7,6	15,9	19,8
EDUU3	51,4	23,7	7,7	3,0	14,2	41,4	32,2	9,6	9,5	7,4
N	1214					1690				

¹The probabilities are computed based on the estimates in table 6.5, and refer to a mother who is 30 years old, married, lives in the Oslo/Akershus region and has one child of 24 months.

Turning to the sub-group of married and cohabiting mothers, the effect of partner's income is negative for 1999, but is only significant for work that is combined with non-subsidised care. This is in line with our a priori reasoning that non-labour income may especially inhibit work that is combined with non-subsidised care, as high-income families can better afford to pay the price of professional care, especially after the cash-for-care reform which almost doubled the price in real terms. Other indications of larger income effects in 1999 are the more pronounced negative impact of partner's education and the stronger positive effect of household debt. As is evident from table 6.3, the strongest effect of partner's income and household debt is related to full-time work, while the strongest effect of partner's education is mainly on part-time work. The estimates further show that the positive effect in 1998 of having a partner that works in the health and school sector has almost vanished in 1999, except for the part-time/subsidised care option.

Finally, the regional differences appear to be smaller in 1999. The lower propensity of mothers in the East and the South-West to work and use subsidised care compared to mothers in the capital region (Oslo/Akershus) has vanished or become smaller, as has the higher propensity of mothers in the North to work and use non-subsidised care (table 6.1). However, turning to table 6.2, mothers in the East and South-West still appear to be less inclined to choose full-time/subsidised care. Further, mothers in the North are no longer less inclined to choose full-time/subsidised care, but have become more inclined to choose part-time/subsidised care relative to mothers in the capital region.

The changes discussed so far are relative changes, that is changes in the difference *between* groups. To assess absolute changes, i.e. changes *within* each group, I have also computed the choice probabilities as formulated in equation (2) for different educational groups, using the estimated coefficients in table 6.5, and taking a mother with about average characteristics as reference person¹⁸. The probabilities are reported in table 6.6 and illustrated in figures 6.1 and 6.2.

We note, first, that all groups except those at the highest educational level have a higher probability of not working in 1999 than in 1998. The reduced propensity to work is particularly prominent among university educated mothers with teacher training background among whom the probability of not working has doubled (from 14 to 29 percent). Another group with a relatively large increase in the probability of not working is mothers with an upper secondary education (EDUS2: 11-12 years of schooling).

Next, we observe a substantial decline in the choice probabilities involving subsidised care. All educational groups are less likely to choose the full-time/subsidised care option in 1999, and mothers with less than 3-4 years of university studies or teacher training at that level are also less likely to choose part-time/subsidised care. Conversely, there is an increase in the choice probabilities involving non-subsidised care. All educational groups have a higher probability of choosing part-time/non-subsidised care in 1999, and most groups have become somewhat more likely to choose full-time combined with non-subsidised care.

There has thus been a marked shift from subsidised to non-subsidised care. For full-time, however, the higher probability of working and using non-subsidised care far from compensates for the lower probability of using subsidised care, while for part-time increased activity related to non-subsidised care more than replaces the lower activity linked to subsidised care, except in the lowest educational group. Hence, there has also been a shift from full-time to part-time work, but except for the highest educational group, increased part-time does not fully compensate for reduced full-time work, resulting in a higher probability of not working in 1999. In particular, part-time has replaced full-time to a relatively small extent in the upper secondary and in the mid-university group with teacher training background.

6.2. Panel analyses: Changes in individual behaviour

So far we have studied changes in behaviour at the group level, comparing two cross-sections of mothers with children in the eligible age (12-35 months) in 1998 and 1999. To analyse changes at the *individual* level we turn to the panel part of the data, which contains information from the same individuals at both points of time. The main thing these mothers have in common apart from being one year older in 1999, is that their children have become one year older. This implies in itself increased employment activity as well as increased day-care use, as it is well known that both female labour supply and day-care demand increase as children grow older. To properly evaluate changes at the individual level one would therefore ideally require a "control group", i.e. a similar panel of mothers who were not subjected to the reform.

In our data we have no genuine control group, but we do have one group of mothers who did not become eligible for the cash-for-care benefit in 1999 as they had no pre-school child aged 1-2 years then. A possibility is therefore to use these mothers as control, and all else equal, consider differences in behaviour between the eligible group and the latter group as an indication of a policy effect. In the following we shall proceed along these lines, realising that the approach may have some flaws. The main problem is to separate the policy effect from the age-of-child effect, as benefit

¹⁸ The mother is assumed to be 30 years old, married, have one child of 24 months and live in the Oslo/Akerhus region.

Figure 6.1. Estimated probabilities of different combinations of working hours and childcare by level of education. Mothers with 15-16 years of education. 1998 and 1999

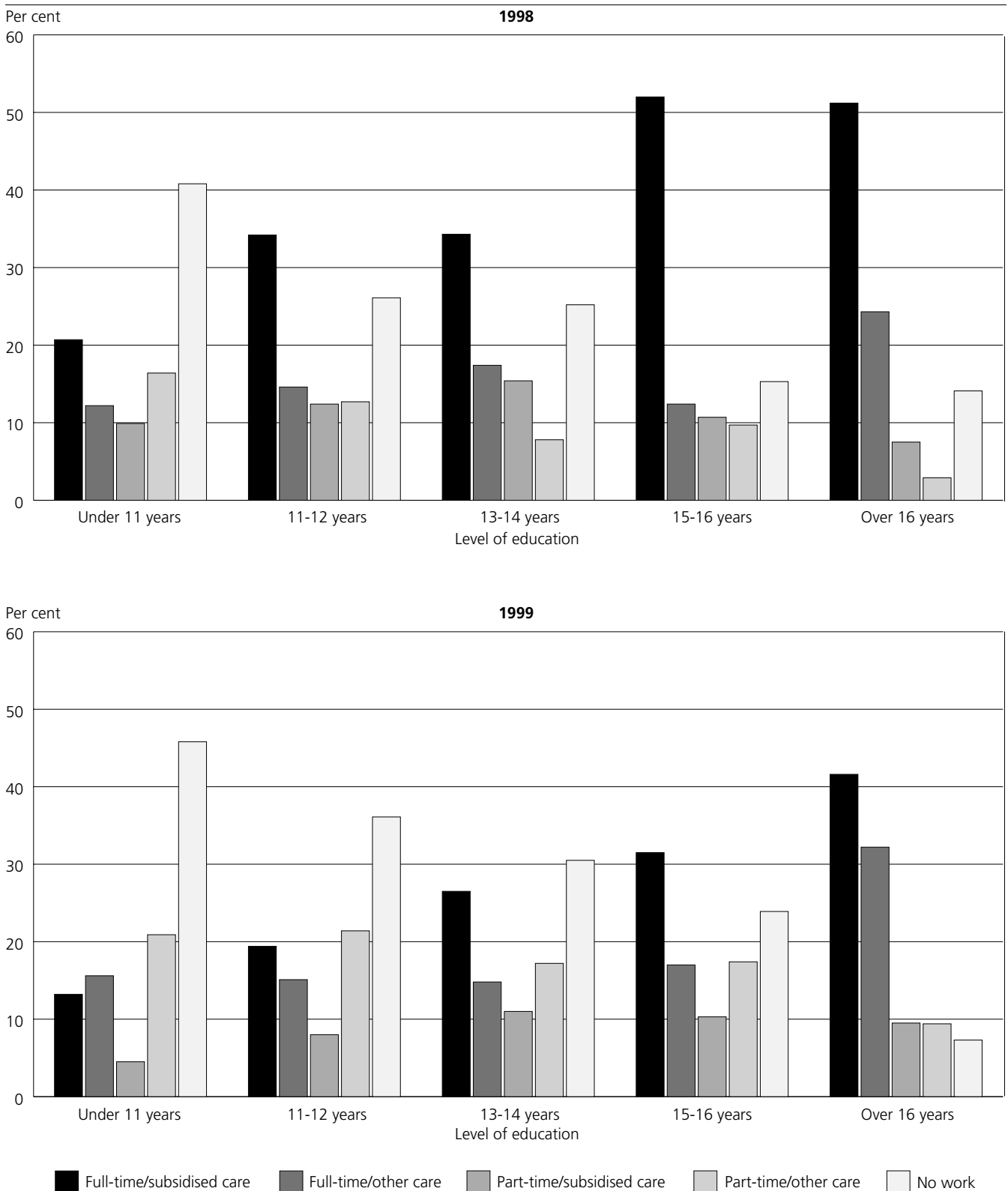
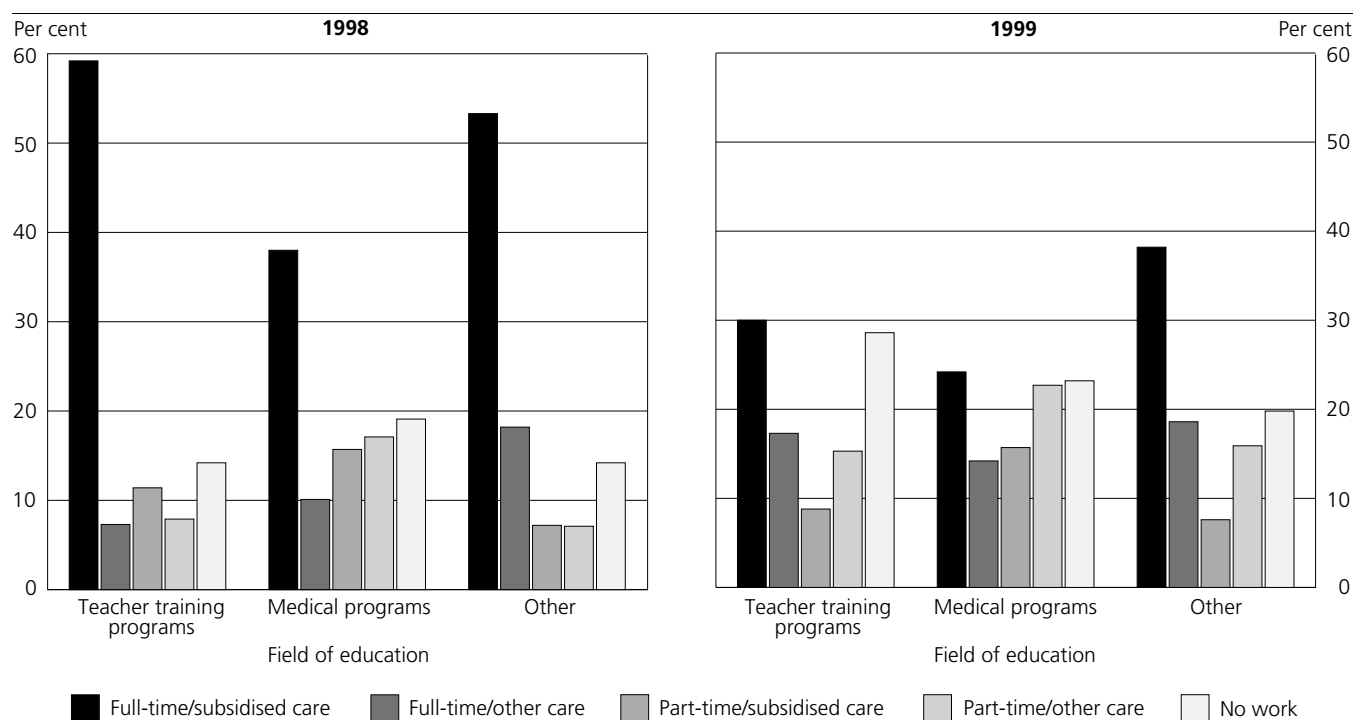


Figure 6.2. Estimated probabilities of different combinations of working hours and childcare by field of education. All mothers. 1998 and 1999



eligibility is determined entirely by the age of the child, and it is not obvious that the effect of a year's increase in the age of the child is the same in both groups. For instance, mothers' market work may increase faster when the child is quite young as many tend to return to work shortly after expiry of the parental leave (see e.g. Rønsen and Sundström 1999). In Norway, this will be around the time the child is one year old. When the child is older, mothers will already have made their employment choices and be more settled in their adaptations, and hence market work will tend to increase less as the child gets older. Similar reasoning may also be relevant for day-care demand, as official statistics show that the proportion of children in subsidised care increases more with each added year up to age three than at older pre-school ages (Statistics Norway 1999).

Before proceeding, we shall therefore examine whether the age-of-child effect is the same irrespective of the child's initial age among mothers in our panel. To do this we estimate the choice of working hours (full-time, part-time or no work) and the choice of child-care (subsidised and non-subsidised care) separately based on data for 1998. Both models include a full set of other, standard, explanatory variables, but only results for age of youngest child are reported (table 6.7). Two alternative variable specifications have been used. In the first specification age-of-child is a continuous variable measured in months including a term for age squared, and in the second specification it is a categorical variable with intervals of one year (except for

ages 4 and above). The results confirm that the positive age-of-child effect tends to decline as the child gets older. In the continuous specification the effect of age squared is negative and clearly significant for both full-time work and for subsidised care. The added insight from the categorical specification is that both employment activity and day-care use seem to increase relatively more between age one (the reference category) and age two than between higher age intervals.

Given these results, we should, in a non-benefit situation, expect larger annual increases in market work and day-care use among mothers with children aged 1-2 than among mothers with older pre-school children. Translated to our "treatment" ("cash-for-care") and "control" groups this implies that if there had been no reform, the largest increases should be expected in the former group. If we do not find such differences in our panel analyses, it may be an indication that the cash-for-care reform has discouraged employment activity and day-care use. Further, if we should find a difference in the opposite direction, i.e. that employment and day-care use have increased less in the cash-for-care-group than in the control group, it would be regarded as a stronger piece of evidence.

Within our analysis framework increased market work involves a change from part-time to full-time work or from not working to either full-time or part-time, while reduced market work involves changes from full-time to part-time work or from either full-time or part-time to not working. From each of the three initial states it

is possible to make one of two alternative changes or not to change at all, i.e. to have a stable adaptation. The stable state is the reference alternative. Thus, the coefficients related to a specific change reflect the effects of covariates on that particular change relative to remaining in the initial state. The same applies to the analysis of childcare change, except that there are only two initial states (subsidised care or non-subsidised care) and only one possible change.

Table 6.7. Separate estimates of the effect of age of youngest child on a) working hours and b) child care¹. Panel of continuously married or cohabiting mothers with youngest child 1-5 years. 1998

Variable specification	A. Working hours (multinomial logit)		B. Child care (binomial logit)
	Full-time	Part-time	Subsidised care
Continuous:			
Age youngest child (months) (Age youngest child) ² /10	0,110 (0,032)	0,077 (0,031)	0,117 (0,027)
	<i>-0,175</i> (0,068)	<i>-0,089</i> (0,064)	<i>-0,119</i> (0,056)
Categorical:			
Youngest child 2 years	0,614 (0,213)	0,797 (0,205)	0,917 (0,166)
Youngest child 3 years	<i>0,480</i> (0,248)	0,592 (0,241)	1,361 (0,198)
Youngest child ≥ 4 years	0,996 (0,298)	1,322 (0,287)	2,253 (0,238)
N	1072		1081

¹The models also include all covariates in tables 6.8 and 6.10 except CFC ("Entitled to cash-for-care"), which is determined completely by the age of the child. Numbers in bold: Significant at 5%-level. Numbers in italics: significant at 10%-level. (Standard errors in parentheses).

The results for changes in working hours based on all included mothers are displayed in table 6.8. Our primary interest, the cash-for-care effect, is expressed as the difference between those who are entitled to the benefit and those who are not, represented by our "control group". In a regime with no benefit, we would, as discussed above, expect entitled mothers to be more inclined to make a change that involves increased market work since their child is younger. That is, if the benefit has no effect, we would expect mothers in the "cash-for-care group" (CFC) to be more inclined to move from not working to either part-time or full-time work as well as more inclined to switch from part-time to full-time work than mothers in the control group. Turning to table 6.8 we find some indication that this is so for transitions from no work to part-time work, where the effect for the cash-for-care group is positive and significant at the ten per cent level. However, for the remaining changes that involves increased market work (from either not working or working part time to full-time work) the effect is estimated to be negative and is significant at the ten per cent level for transitions from part-time to full-time. This is contrary to expectations if the reform has no impact, and is thus evidence of a negative benefit effect on mother's employment.

Table 6.8. Change of working hours from 1998 to 1999. Panel of continuously married or cohabiting mothers with youngest child 1-5 years¹. Multinomial logit estimates

Variable	From FT to:		From PT to:		From NW to:	
	PT	NW	FT	NW	FT	PT
INTERCEPT	-2,388 (1,555)	-0,010 (1,863)	3,560 (1,229)	0,488 (1,538)	0,968 (1,430)	<i>-1,968</i> (1,053)
AGE	0,026 (0,033)	-0,069 (0,056)	-0,131 (0,036)	-0,067 (0,044)	-0,082 (0,041)	0,007 (0,028)
EDUU	-0,809 (0,348)	-0,104 (0,548)	0,925 (0,330)	-0,087 (0,456)	1,443 (0,435)	0,949 (0,332)
EDUTM	0,762 (0,368)	0,823 (0,564)	-0,175 (0,344)	-0,559 (0,510)	0,123 (0,592)	0,122 (0,422)
NOCH2	<i>0,575</i> (0,317)	-0,536 (0,553)	-0,308 (0,292)	0,320 (0,370)	-0,504 (0,407)	-0,300 (0,288)
COHAB	-0,222 (0,353)	-0,546 (0,568)	0,221 (0,323)	0,390 (0,404)	0,691 (0,437)	0,284 (0,338)
CFC	0,180 (0,317)	-0,060 (0,507)	<i>-0,580</i> (0,308)	0,289 (0,385)	-0,445 (0,398)	<i>0,553</i> (0,292)
EAST	-0,357 (0,464)	0,062 (0,635)	-1,794 (0,442)	<i>-0,945</i> (0,532)	-0,823 (0,635)	0,922 (0,437)
SWEST	-0,029 (0,402)	-0,814 (0,707)	-1,158 (0,380)	-1,561 (0,575)	-0,184 (0,499)	0,524 (0,409)
NORTH	-0,506 (0,478)	-0,528 (0,719)	-0,438 (0,393)	-0,210 (0,508)	0,321 (0,575)	<i>0,823</i> (0,490)
Likelihood ratio	383,2		486,3		458,2	
DF	584		642		482	
N	364		419		289	

¹Age at time of interview in 1998. Numbers in bold: Significant at 5%-level. Numbers in italics: significant at 10%-level. (Standard errors in parentheses).

Table 6.9. Change of working hours from 1998 to 1999. Sub-sample¹ of panel of continuously married or cohabiting mothers with youngest child 1-5 years². Multinomial logit estimates

Variable	From FT to:		From PT to:		From NW to:	
	PT	NW	FT	NW	FT	PT
INTERCEPT	-1,880 (1,564)	0,046 (2,281)	2,595 (1,518)	-0,201 (1,863)	2,581 (1,972)	-2,025 (1,402)
AGE	0,014 (0,038)	-0,068 (0,061)	-0,151 (0,042)	-0,060 (0,051)	-0,077 (0,053)	0,058 (0,036)
EDUU	-0,617 (0,418)	-0,254 (0,647)	0,967 (0,417)	-0,133 (0,540)	1,256 (0,597)	0,989 (0,437)
EDUTM	0,377 (0,441)	0,591 (0,639)	0,115 (0,380)	-0,639 (0,569)	0,312 (0,657)	-0,017 (0,469)
NOCH2	0,597 (0,357)	-0,769 (0,637)	-0,198 (0,326)	0,070 (0,411)	-0,526 (0,505)	-0,274 (0,349)
COHAB	-0,055 (0,386)	-0,431 (0,603)	0,361 (0,370)	0,414 (0,444)	0,958 (0,558)	0,227 (0,413)
CFC	0,368 (0,354)	-0,151 (0,566)	-0,500 (0,346)	0,262 (0,447)	-0,688 (0,502)	0,631 (0,353)
PEDUS	0,457 (0,618)	0,580 (1,111)	0,333 (0,559)	0,110 (0,629)	0,258 (0,733)	-0,171 (0,509)
PEDUU	0,692 (0,656)	0,960 (1,159)	0,319 (0,586)	0,049 (0,682)	0,789 (0,834)	-0,856 (0,594)
PDAY	-0,103 (0,377)	-0,311 (0,558)	0,335 (0,343)	0,091 (0,445)	-0,202 (0,513)	0,136 (0,364)
PHSSEC	0,043 (0,575)	1,282 (0,691)	0,177 (0,513)	-0,396 (0,810)	-0,727 (0,913)	-0,565 (0,727)
PINC	0,007 (0,014)	-0,008 (0,023)	0,007 (0,011)	0,002 (0,013)	-0,066 (0,028)	-0,024 (0,017)
PINCCH	-0,001 (0,015)	-0,024 (0,026)	-0,051 (0,021)	0,029 (0,019)	-0,055 (0,031)	-0,019 (0,021)
DEBT	-0,018 (0,006)	-0,006 (0,008)	0,006 (0,005)	0,004 (0,006)	0,008 (0,007)	0,0004 (0,005)
DEBTCH	-0,010 (0,008)	0,011 (0,008)	0,013 (0,005)	0,009 (0,007)	0,028 (0,010)	0,001 (0,008)
EAST	-0,007 (0,527)	0,314 (0,697)	-1,369 (0,508)	-0,827 (0,592)	-1,440 (0,803)	0,518 (0,612)
SWEST	0,194 (0,468)	-0,645 (0,753)	-0,776 (0,446)	-1,471 (0,639)	-0,643 (0,612)	0,044 (0,467)
NORTH	0,009 (0,564)	-0,667 (0,846)	-0,204 (0,478)	-0,064 (0,576)	-0,195 (0,761)	0,588 (0,583)
Likelihood ratio	361,4		458,6		364,2	
DF	606		680		392	
N	321		358		214	

¹ Mothers with non-missing information on partner's characteristics.

² See footnote 1, table 6.8. Numbers in bold: Significant at 5%-level. Numbers in italics: significant at 10%-level. (Standard errors in parentheses).

We further notice that education is an important determinant also for changes in working hours. Mothers with education at the university or high-school level (> 12 years) are more inclined than other mothers to increase their labour supply, either by switching from no work to full-time or part-time work, or from part-time to full-time work. Correspondingly, they are less likely to reduce their market hours from full-time to part-time. The effect of having a teaching or medical specialisation, however, pulls in the opposite direction, inducing mothers to reduce labour supply by moving from full-time to part-time work¹⁹.

Turning to the sub-sample of mothers with information on partner's characteristics (table 6.9), the pattern is more or less the same, but the effects are generally less significant, mainly due to a smaller sample size. Characteristics of the partner are on the whole of little importance, except for some significant income and debt effects. These are all in line with economic theory: mothers are less inclined to increase their labour supply both the higher the partner's initial income level is, and the higher his income increase is during the year. However, the negative effect of income level only concerns changes from not working to full-time work,

while the effect of income changes mainly concerns transitions from part-time to full-time work. A higher initial household debt seems to discourage mothers from reducing their hours from full-time to part-time, and increasing debt during the year seems to encourage transitions to full-time work, either from part-time or from not working.

The results for changes in childcare are reported in table 6.10, and our reasoning concerning the cash-for-care effect is as above. If the reform has no effect, we should expect a larger increase of day-care use among mothers of 1-2 year olds than among mothers of older pre-school children, because of a positive, but declining, age-of-child effect. The picture that emerges from the analysis is quite the contrary. Mothers in the "cash-for-care group" are less inclined to switch to subsidised care and more inclined to switch to non-subsidised care than mothers in the "control group". Although highly significant, the latter effect is probably of minor importance, as the proportion who stop using day-care after having started using it is very small (only about 5 per cent; cf. table 4.3). More important is the evidence of a lesser shift from other care to day-care, as this transition is quite common (involving about 40 per cent of all mothers). Hence, altogether these results point to a certain decline in the demand for subsidised care for children in eligible ages after the cash-for-care reform.

¹⁹ Due to smaller samples in the panel studies, educational level was collapsed into two groups (less than university level / at least 1-2 years of university studies) and field of education was used as a separate variable (i.e. not only in interaction with educational level as in the cross-sectional analyses).

Table 6.10. Change of child care from 1998 to 1999. Panel of continuously married or cohabiting mothers with youngest child 1-5 years¹. Binomial logit estimates

Variable	All included mothers		Sub-sample ²	
	From NSC to SC	From SC to NSC	From NSC to SC	From SC to NSC
INTERCEPT	0,0004 (0,694)	1,289 (1,602)	-0,788 (0,889)	4,647 (1,991)
AGE	0,0004 (0,020)	-0,109 (0,048)	0,013 (0,023)	-0,127 (0,053)
EDUU	0,925 (0,216)	-0,338 (0,447)	0,856 (0,256)	0,672 (0,529)
EDUTM	0,583 (0,247)	-0,858 (0,585)	0,656 (0,276)	-1,060 (0,618)
NOCH2	-0,245 (0,187)	0,038 (0,415)	-0,138 (0,212)	-0,114 (0,474)
COHAB	0,119 (0,213)	-0,817 (0,512)	0,151 (0,238)	-0,801 (0,553)
CFC	-0,754 (0,192)	1,032 (0,409)	-0,639 (0,219)	<i>0,818</i> (0,458)
PEDUS			0,466 (0,324)	-0,315 (0,593)
PEDUU			0,150 (0,356)	-0,862 (0,719)
PDAY			0,087 (0,220)	-1,279 (0,448)
PHSSEC			0,337 (0,365)	-1,193 (1,095)
PINC			-0,002 (0,008)	-0,027 (0,023)
PINCCH			<i>-0,021</i> (0,011)	-0,004 (0,028)
DEBT			0,001 (0,003)	-0,009 (0,007)
DEBTCH			0,003 (0,004)	-0,012 (0,007)
EAST	-0,876 (0,283)	-0,454 (0,564)	-0,749 (0,326)	-1,093 (0,645)
SWEST	-0,416 (0,255)	-1,067 (0,537)	-0,401 (0,290)	-1,608 (0,618)
NORTH	-0,558 (0,290)	-0,207 (0,522)	-0,582 (0,339)	-0,511 (0,600)
Likelihood Ratio	531,4	176,1	560,1	166,4
DF	433	374	438	421
N	584	497	456	439

¹See footnote 1, table 6.8.

²See footnote 1, table 6.9. Numbers in bold: Significant at 5%-level. Numbers in italics: significant at 10%-level. (Standard errors in parentheses).

Mothers' level and field of education are important also for changes in childcare use as both high education and a teaching or medical specialisation are found to raise the likelihood of shifting from other care to subsidised care. Father's characteristics do not seem to matter much, but there is some evidence that a higher increase in partner's income may reduce the propensity to switch to subsidised care. This may, however, in part reflect a negative income effect on labour supply, since childcare and working hours are studied separately in the panel analysis.

6.3. Division of household labour

As outlined in the conceptual framework, I assume that the decision on the sharing of household tasks succeeds the decisions on employment and childcare use, and that it therefore largely depends on choices made in the other areas. Hence, the main determinants of the division of household labour will be the same as the determinants of employment and day-care use. This is confirmed by previous research, amongst others by Kitterød (2000a) in a multivariate analysis of the 1999 cross-section of the data used in this report. She finds significant net effects²⁰ on the division of household labour of mothers' as well as fathers' working

hours in the labour market. Both housework and childcare are divided more equally the longer the mother and the shorter the father work outside the home, while maintenance work is only affected by the father's market hours. She further finds net effects of both mother's and father's educational level, the parents' age, number of children, age of youngest child and mother's relative contribution to the household income. The father's share of housework increases if either the mother or the father has higher education, while his share of childcare is independent of mother's education, but increases if the father has higher education. Further, in families where one or both parents have higher education, mothers share more of the maintenance work.

The intention of this project is not to analyse the division of household labour in depth, but only to focus on its relationship to mothers' market work as defined and analysed in this report. The point of departure is the situation for mothers in our panel before the introduction of the cash-for-care reform, in 1998 (table 6.11)²¹. Following Kitterød (2000a), an average index for tasks belonging to one of three main household

²⁰ By 'net effect' we understand the effect that appears after controlling for the effects of other related variables in a multivariate analysis.

²¹ Given the mother's choice of working hours, there is no difference in the division of household work between the 'cash-for-care group' and the 'control group'. The two groups are therefore analysed together here.

areas - ordinary housework, childcare and maintenance work - has been constructed²². The score runs from 0 to 4, where 0 indicates that the mother usually does the tasks, and 4 that they are usually done by the father. A score of 2 implies that the tasks are divided quite equally between the parents.

The pattern that emerges is still a very traditional one. Mothers do most in the areas of housework and childcare, while fathers do most of the maintenance work. The effect of mother's market work is very evident. Fathers are most involved in housework and childcare if the mother works full-time and least involved if she has no job outside the home. The sharing of maintenance work, on the other hand, is not affected by mothers' employment activity. These are the results at the group level, i.e. when we compare groups of mothers with different market hours in 1998.

Another question that can be addressed with our panel is the relationship between changes in market hours and changes in the division of household labour. This is illuminated in the lower panel of table 6.11. The two steady states, 'constant full-time or part-time work' and 'constant no work', are included mainly for comparative purposes, to distinguish possible time trends. The significant positive change in the indices for mothers with constant working hours indicates that there is a weak trend of more equal sharing of all tasks, and in particular when childcare is concerned²³. The increase in the father's involvement is, however, stronger for mothers who have increased their market hours, even though the difference in the change of the two housework indices is not quite significant²⁴. On this background the negative trend in the housework index, and the lack of a positive trend in the childcare index for mothers with reduced working hours, are worth noticing. Hence, also on the individual we may conclude that household work, and in particular ordinary housework, will be shared more unequally if mothers reduce their market work.

Table 6.11. Average score on index¹ for division of housework, child care and maintenance work by mother's market work. Panel of continuously married or cohabiting mothers with youngest child 1-5 years²

Mother's market work	House work	Child care	Maintenance work
	Score / Change of score	Score / Change of score	Score / Change of score
1998:			
Full-time (FT)	1,20 (1,13 - 1,26)	1,58 (1,51 - 1,64)	3,36 (3,29 - 3,43)
Part-time (PT)	0,84 (0,78 - 0,91)	1,29 (1,23 - 1,36)	3,33 (3,25 - 3,40)
Not working (NW)	0,67 (0,60 - 0,74)	0,95 (0,87 - 1,03)	3,41 (3,31 - 3,50)
Change 1999-1998:			
Constant FT or PT	0,05 (0,02 - 0,09)	0,18 (0,14 - 0,23)	0,07 (0,01 - 0,12)
Increased working hours ³	0,14 (0,06 - 0,21)	0,47 (0,38 - 0,55)	-0,01 (-0,10 - 0,09)
Reduced working hours ⁴	-0,12 (-0,22 - -0,02)	0,04 (-0,08 - 0,16)	0,06 (-0,05 - 0,17)
Constant no work	0,03 (-0,04 - 0,10)	0,25 (0,13 - 0,37)	0,07 (-0,04 - 0,18)
N	1 066	1 059	1 060

¹The scores run from 0-4. A score of 0 implies that the mother usually does the job, and a score of 4 that it is usually done by the father. A score of 2 implies equal sharing.

²See footnote 1, Table 6.8.

³Change from PT to FT or from NW to either PT or FT.

⁴Change from PT to NW or from FT to either PT or NW. (95% confidence interval in parentheses).

Based on the assumption that mothers and fathers have different preferences and different negotiating powers, this may be regarded as a detrimental development in a gender equality perspective. However, if one believes that parents' have joint preferences in these areas, this may not necessarily be the view, as the change will be perceived as preferred by both parties. Without closer knowledge about parents' attitudes, values and preferences it is difficult to draw a firm conclusion. However, when asked in 1999 how pleased mothers were with the actual division of household work in their family, closer analysis reveals that mothers' satisfaction is higher the higher is the relative contribution of fathers (Kitterød 2000b). Greatest importance is attached to the partner's contribution to ordinary housework, but a higher involvement in childcare is also valued positively. This result is further in accordance with the findings of international research. For example, in a broad review of the literature on household labour, Coltrane (2000) concludes that the single most important predictor of a wife's fairness evaluation is what portion of the routine housework her husband contributes. Thus it may be safe to conclude that increased equality of household labour is important, and that a trend towards reduced market work among mothers followed by a more unequal division of household labour is not a desirable development.

²² See Kitterød (2000a) for further details.

²³ Among mothers who constantly do not work outside the home childcare is the only index with a significant positive change. The relatively large increase in the childcare index is a bit surprising, but may in part be an artefact due to different ways of data collection in the two waves (postal survey in 1998 and telephone interview in 1999). As a result there are more "do not know" answers and missing answers in the 1998 survey. When constructing the indices, "do not know" is taken to imply that the task is shared quite equally, and is thus given the value 2. If there is a missing answer to one item in an index, but non-missing answers to other items in the same index, the missing item is given the average score of the other items. That is, it is assumed that the task with missing value is divided about the same way as other tasks included in that index.

²⁴ A mean change is regarded to be significantly positive if the lower limit of the 95% confidence interval is greater than zero. Conversely, a change is significantly negative if the upper limit of the 95% confidence interval is below zero. Two changes are taken to be significantly different if the two confidence intervals do not overlap.

7. Summary and conclusion

The purpose of this report is to assess the short-term effects of the Norwegian cash-for-care reform in three areas: mother's employment, the use of childcare and the division of household labour. As decisions in the two former areas are likely to be taken jointly, I first estimate a simultaneous multinomial logit model that incorporates the choice of full-time, part-time or non-employment in conjunction with subsidised or non-subsidised day-care, based on cross-sectional data. My focus is on the determinants of mothers' work and child care choices, and especially on changes in estimates from 1998 to 1999 that may be related to the cash-for-care reform. In the next step I also analyse changes in adaptations, using the panel part of the data. Finally, I relate the division of household labour to the findings in the other areas.

The data are from two sample surveys among parents of pre-school children carried out in the spring of 1998 and 1999 especially designed to investigate the impacts of the cash-for-care reform. Descriptive analyses already published show that the reform is very popular in the sense that it is claimed for three out of four children in the eligible age (Reppen and Rønning 1999). However, other policies like extended parental leave were more favoured when parents were asked what they considered the best initiative to give families more time together. Hellevik (2000) further reports that mothers' labour force participation is little affected, but that there has been a shift from full-time to part-time work, especially among highly educated mothers. Analysed by sector, the largest reductions in (wo)man hours have been in the public sector, and especially in the health and educational sector (Langset, Lian and Thoresen 2000).

The multivariate analyses presented here indicate that all things being equal, there has been a small decline in the work probability of most mothers after the cash-for-care reform, except among those with education at the highest university level. Further there has been a shift from work combined with subsidised care to work combined with non-subsidised care, as well as a shift from full-time to part-time work. An interesting finding is the different response among different educational

groups. Even at university level there are different behavioural changes, as the choices of mothers at the mid university level (15-16 years total education or 3-4 years at university) have become more similar to the choices of the reference group with low education, whereas the choices of other university educated mothers have changed in the opposite direction. Relative to those with low education, mothers with a short university study (1-2 years) have, however, only an increased propensity to work and use subsidised care, while mothers at the highest university level (more than 4 years of study) also have an increased propensity to work and use non-subsidised care.

When further dividing the group at the mid university level by *field* of education, it becomes clear that particularly mothers with a teacher training background have changed behaviour in the direction of mothers in the reference group. Although not completely unexpected, a common a priori assumption was rather that especially the nursing profession would be affected. This assumption only partly holds, as nurses to a larger extent have shifted from full-time to part-time work after the reform, while teachers have been more likely to take leave or exit the labour force altogether.

All in all the cross-sectional analyses indicate that the cash-for-care reform has reduced female labour supply and discouraged the use of subsidised care to a certain extent. As expected, some mothers have been affected more than others, and both level and field of education seem to constitute important dividing lines in this connection.

The panel analyses show that mothers' adaptations are characterised by a great deal of stability. The groups that change behaviour are therefore quite small, making it difficult to analyse changes in working hours and childcare simultaneously. When analysed separately, the most common change of working hours is a shift from no work to part-time work, while the most common change of childcare is a switch from non-subsidised care to subsidised care. Using mothers with older pre-school children as "control group", the multivariate analyses indicate that mothers with eligible children

(aged 1-2) tend to be more inclined to change from no work to part-time work, but less inclined to change from part-time to full-time work. When childcare is concerned, the results show that mothers in the "cash-for-care" group are less inclined to switch from non-subsidised care to subsidised care and more inclined to switch from subsidised to non-subsidised care.

When comparing the response among eligible and non-eligible mothers, it is important to remember that all else being equal, the main difference between the groups is that the "cash-for-care" group has a younger child. Since closer analysis shows that the positive effect of a year's increase in the age of the child declines as the child gets older, we would expect a larger increase in employment activity and day-care use among the cash-for-care group if the reform has no effect. This is partly refuted in the employment analyses and fully refuted in the childcare analyses. Hence, the panel study provides added evidence that the cash-for-care reform has led to a decline in female labour supply and the demand for subsidised care.

Finally, the analysis of household labour shows that the tasks are divided more equally the longer hours the mother works in the market. Further, if the mother reduces her market hours during the year, the division becomes more unequal. As previous research has established that mothers are more satisfied with the division of household labour the higher the relative contributions of fathers are, a trend towards reduced employment activity on behalf of the mothers followed by a more unequal sharing of household work may be considered a detrimental development.

In concluding, it is worth remembering that our findings are based on data that were collected only a few months after the full implementation of the program. Since all adaptation takes time, the results reported here may underestimate the total short-run effects. An important task will therefore be to monitor future developments. A crucial issue that has not been possible to address with the data so far are the long-term individual life-course effects. However, if the short-term pattern should prevail, we may envisage longer employment breaks among women and a more persistent unequal sharing of household labour that may give reason for concern about setbacks in gender equality. In addition we may see increasing social inequalities among women.

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