

Cash-for-care policy: an appraisal of its consequences on female employment in Sweden

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Abstract

In 2008, Sweden introduced a cash-for-care benefit consisting of a flat-rate sum paid by municipalities to parents of children between the ages of one and three who did not use publicly subsidized childcare. The main object of the reform was to increase parents' 'freedom to choose', but the policy was criticized because of its potentially negative effects on gender equality and mothers' employment. This study focuses on the effects of cash-for-care on female employment in Sweden. The study shows that the adoption of this policy had negative effects on female employment rates and female employment growth rates in non-urban areas.

Cash-for-care was abolished in Sweden in 2016, but similar policies are still in place in other Scandinavian countries. This research contributes to the debate on family policy and its developments, in particular in Scandinavian countries.

Introduction

Sweden has a long and strong tradition of policies promoting gender equality in both the private and public spheres. Extended and affordable public childcare services, the possibility of sharing parental leave equally between parents, and individual taxation are some of the pillars supporting the earner-carer family model prevalent in the country (© European Union, 2015; Ferrarini & Duvander, 2010; Korpi, 2000). The model has been designed to support mothers' participation in the labour market while keeping fertility levels relatively high (McDonald, 2000; Oláh & Bernhardt, 2008): in 2012, the employment rate for mothers of children under six was 76.8%, the third highest in the European Union (© European Union, 2014) and the Swedish total fertility rate was 1.91, the sixth highest rate in the same group of countries (Eurostat data).

In this context, the cash-for-care policy (in Swedish: *vårdnadsbidrag*), that is a subsidy for the parents of children between age one and three not using publicly subsidised childcare, was introduced in Sweden in 2008. Cash-for-care could be used by parents who had used at least 250 days of their parental leave benefit and eligibility for the subsidy was not conditional on parents' employment. It could thus be used as an allowance or income compensation for the parents who stayed home with the child, but also for private childcare. The main aim for this study is to understand whether cash-for-care influenced mothers' employment in Sweden.

Cash-for-care schemes are commonly classified as male breadwinner family policies (Duvander & Ellingsater, 2016; Ellingsaeter, 2012, 2016), because they imply a division of labour in the couple between one 'earner' and one 'carer': such schemes are viewed as contrasting with the prevalent Nordic model of 'dual earner-carers' and the objectives of gender equality. The main purpose of this specific policy was to increase parents' freedom of choice in terms of childcare options and parents' possibility of staying at home with the child (Parliament's proposition 2007/08:91). However, the policy was controversial and in the view of the opposition parties and many academics, the policy was feared to become a 'trap for women' (Hilamo & Kangas, 2009), especially for mothers with a high risk of unemployment. In fact, once it was introduced, the cash-for-care was mostly used by mothers (over 90% of users), and, in particular, by disproportionate shares of unemployed mothers with low levels of education, foreign-born and with more than two children (Statistics Sweden, 2011, 2012). With regard to employed parents, a recent study shows that the incomes of parents using cash-for-care in 2012 was lower than the income of parents that did not use the policy, in both the year before (2011) and the year after (2013) the cash-for-care period (Statistics Sweden, 2014a).

In this study our aim was to answer the research questions: Did the cash-for-care policy affect female employment in Sweden? Did it cause a reduction in female employment or female employment growth rates?

Several early studies have found a negative association between cash-for-care and mothers' employment, particularly in Norway (Drange & Rege, 2013; Naz, 2004; Rønsen, 2009; Schøne, 2004). However, there is a scarcity of studies on the subject in the Swedish context. In this study, the aggregated effects of the cash-for-care policy on female employment are analysed with particular reference to Sweden. In trying to understand the nexus between cash-for-care and female employment, we made use of the fact that some municipalities introduced the policy and some did not, to study variations between municipalities as a *quasi-experiment*, where some municipalities were 'treated' with the cash-for-care (treated group of municipalities), and some others were not ('control' group of municipalities). First, we compared female employment trends in similar types of treated and control municipalities. Second, we ran linear regressions to estimate the effects of cash-for-care on changes in female employment rates after the introduction of the policy, controlling for the characteristics of the municipalities (urban/rural areas, male employment growth rates and female unemployment rates) and characteristics of the local female population (shares of women with low and high education, shares of foreign-born women, and fertility levels).

A further objective of this study is more policy-focused: since cash-for-care was abolished in Sweden on 1 January 2016, it is useful to evaluate any effects that the policy might have had on female employment when it was in place in order to be aware of what may happen if it is introduced again. Our main hypothesis in this study is that the cash-for-care policy in Sweden affected mothers' participation on the labour market in two ways: as an incentive to withdraw from the labour market for employed mothers and as a disincentive to enter the labour market for unemployed mothers.

We first describe the specifications of the cash-for-care policy in order to clarify the policy rationale and context. Following, we present the theoretical and empirical background of the study. In the data analysis section we present our data, research design and results, showing the trends of female employment rates and the estimated effects of cash-for-care on female employment growth rates. We end with the conclusions.

The cash-for-care policy

The cash-for-care policy was first introduced in Sweden in June 1994 by a Liberal-Conservative government but was abolished soon after by the following government, led by the Social Democratic Party, in January 1995 (Swedish Social Insurance Agency, 2013a). The next time cash-for-care was introduced was in 2008 by a new Liberal-Conservative government, with the Christian Democrats as the strongest advocates. The main rationale underpinning the policy was the ‘freedom to choose’ framework. Thus, the declared objective of the reform was to increase the possibilities for parents to stay at home with their young children (Parliament’s proposition 2007/08:91).

The opposition parties (Social Democrats, Left Party and the Green Party) strongly opposed the policy, their main arguments focusing on the negative effects on gender equality and the superior pedagogical value attributed to professional childcare (Swedish Social Insurance Agency, 2013a). In the consultations about the law-proposal and in the general debate about the proposals, comments on the positive aspects of increased parent-child time and concerns with regard to gender equality, work supply, and the general principle of *arbetslinjen* (the priority of work over income-support for all individuals) were raised (Parliament’s proposition 2007/08:91).

With the introduction of cash-for-care in June 2008, Swedish municipalities were allowed to choose whether or not to offer the policy and about a third of them decided to do

so. The capital municipality of Stockholm, for example, offered the policy until 2015. The cash-for-care consisted of a tax-free, flat-rate sum (3000 SEK, around 325 EUR per month per child) which was paid by the municipality to the parents of children between one and three (13–35 months old) who had used a minimum of 250 days of parental leave benefit and who did not use publicly subsidised childcare. Although there was no employment requirement to be eligible for the policy, cash-for-care could not be combined with other social transfers in the household (parental leave, unemployment insurance, sickness insurance, support for activities included in job-oriented programmes, pensions benefits, asylum-seekers' support etc.). This meant that if a parent or a co-resident partner (either the other parent or a new partner) received social benefits, cash-for-care could not be claimed. For this reason, the use of cash-for-care was expected to be limited among non-working parents. The use of cash-for-care was flexible as it could be taken full-time or part-time, although only a parent who lived with the child was allowed to benefit from full-time cash-for-care. It was also possible to share the benefit between parents as well as to combine part-time cash-for-care with part-time publicly subsidised child-care. Similar to parental leave, cash-for-care included a job-guarantee for employed parents, i.e., the right to return to the same workplace with the same (or an equivalent) job after the cash-for-care period ended.

As the main rationale of the policy was to allow parents the 'freedom to choose', we will now clarify the context in which the policy was developed and briefly introduce the main childcare options existing in Sweden: parental leave, private care and publicly subsidised childcare. Concerning the first option, that of parental leave, all parents in Sweden were entitled to 390 days of parental leave (of which 60 days were reserved to each parents) if they stayed at home with the child and therefore could not work, study or seek employment (Swedish Social Insurance Agency, 2015). In order to be eligible for cash-for-care, they had to

have used at least 250 days of parental leave and therefore the cash-for-care was intended to prolong the parental leave period.

The second option, that of private childcare, is extremely unusual in Sweden and a recent study by the Swedish Social Insurance Agency indicates that about 97% of children go straight from parental care in the home to publicly subsidised childcare (Swedish Social Insurance Agency, 2013b). This means that the most common alternative to cash-for-care when children are between 13 and 35 months old was thus publicly subsidised childcare, the third option listed above. Since the beginning of the 2000s, guaranteed places have been made available in such care for all children from the age of one, and the cost of these places is heavily subsidised. A point in their favour is that this childcare is considered high quality, with the majority of the personnel being professionally trained, often at tertiary level (Korpi 2007).

Together with the availability of childcare facilities, the combination of work and family is also aided by flexibility on the labour market. In 2013, around 45% of employed mothers whose youngest child was 1–2 years old worked part time (Statistics Sweden, 2014b, p.58). This is possible as Swedish parents have the right to decrease their working time by up to 25% until the child is eight years old (© European Union, 2015).

Between 4 and 5% of the parents of eligible children used cash-for-care between 2009 and 2013 (Statistics Sweden, 2011, 2012, 2014a). This is a very low percentage compared with the other Nordic countries and to the share of children in the same age enrolled in public childcare. The Swedish low use of cash-for-care can be compared with a higher use in Norway and Finland. In the former country about a fourth of parents use the benefit. The Norwegian cash-for-care, introduced in 1998, is a national benefit and covers parents to children between age one and two. Although the amount paid for cash-for-care was initially similar to that paid in Sweden, since August 2014 cash-for-care has been raised to 6,000 NOK

per month in Norway (i.e., around 690 EUR, Norwegian Labour and Welfare Administration, 2014). Importantly, in Norway, cash-for-care can be combined with other social benefits in the household, meaning that it is claimed in many households where it would not have been possible for households in Sweden to do so. In addition, the length of parental leave differs in Norway and Sweden, affecting the scope and use of cash-for-care. The Norwegian paid parental leave lasts one year while Sweden offers a longer parental leave of 16 months, with very flexible rules of use, often resulting in a longer leave (Duvander & Viklund, 2014). A higher use of parental leave in Norway has also earlier been explained by the lack of public childcare alternatives (Ellingsaeter, 2012). Parallel with the expansion of public childcare, the use of cash-for-care in Norway decreased from 91% in 1998 (Bungum & Kvande, 2013) to 27% in 2010 (Swedish Social Insurance Agency, 2013a).

In Finland, the use of cash-for-care is still high, with the parents of about half of all the eligible children using the cash-for-care annually (Swedish Social Insurance Agency, 2013a). The benefit level differs between municipalities, something that also influences its level of use (Kosonen 2011). As in Norway, cash-for-care can be combined with social transfers, and a much less flexible parental leave system is in place, compared with Sweden. In addition, cash-for-care seems in Finland to be less politically contested and the norm for mothers to stay at home with their children for longer is stronger (Rantalaiho 2010). In 2014, quotas for cash-for-care were proposed, whereby the cash available for care would be split 50-50 among the parents (Eydal et al., 2014); this proposal was, however, withdrawn later (Austrian Institute for Family Studies, 2015).

Why use cash-for-care and what does it lead to?

According to new household economic theory (Becker, 1975; Mincer & Polachek, 1974), cash-for-care increases the relative price of public day care (the day-care fee) and decreases

the opportunity-cost of staying at home with the children with respect to going out to work. Of the two parents, the opportunity-cost of staying at home with the children is lower for the parent with the lower salary or the parent working fewer hours (the assumed hourly salary being the same between the two), i.e., more often than not, the mother. Like all neoclassic theories, this approach is criticised as the premises on which it is based are, first, that individuals make perfectly informed decisions (they have perfect knowledge of costs/opportunity, alternatives etc.) and, second, that their decisions are based on strictly economic evaluations. Moreover, the family is considered as a single unit of choice. In this perspective, divergences between the members of the family and external influences are not taken into account.

In reality, it is more likely that individuals negotiate decisions with other members of their families and in combination with various degrees of restrictions and flexibility. The choice to use cash-for-care depends on wider societal contexts and on what alternatives are available (Morgan & Zippel, 2003).

Cash for care aligns well with the current gender roles and expectations on mothers to take on most of the childcare of small children and to prioritise childcare over work. Even in a country like Sweden, with a strong family policy directed towards gender equality, gendered behaviour is prevalent. This is especially true for parents of small children, as the mother usually takes the lion's share of the parental leave (Duvander & Johnsson, 2012). The gendered division of childcare has often been interpreted as parents being involved in constructing gender, or 'doing gender', as the result of the choices they make relating to their division of childcare and household tasks (Evertsson, 2013). That is to say, both women and men are involved in creating gender. Using cash-for-care is one way of manifesting the female role as mainly responsible for childcare. Cash for care may therefore reinforce traditional gender roles by recognising and institutionalising the role played by mothers in

childcare (Morgan & Zippel, 2003). Gendered childcare, in turn, may influence other areas of division of work. Previous research has shown that the decisions taken by parents on how to share the household work are often linked to mother's working hours (Rønsen, 2001).

Division of housework may also be affected by the local context, indicating variations also within a country (Lappegard, Kjeldstad, & Skardhamar, 2012).

In a context in which previous family policy supported the dual-earner family model and gender equality by promoting parental leave and subsidised childcare (Eydal et al., 2015), the introduction of cash-for-care seems to go not just towards an adult worker model (Lewis, 2001) but also in other, more complex directions. Cash-for-care may, for example, be seen as constituting a step towards 'familialism', or a contradictory part of the Swedish policy (Daly, 2011). Sweden is often taken as an example of a country promoting gender equal policy that also recognises the importance of care (Daly, 2011; Lewis, 2001; Pfau-Effinger, 2006). The introduction of cash-for-care may thus be part of a potential new direction of policy where the choice between different types of combinations of work and childcare activities or different types of childcare becomes more central (Ferrarini & Duvander, 2010). A tendency towards a 'free choice' model can also be seen to be emerging in other Scandinavian countries (Eydal et al., 2015). In the context of this study, however, it is important to understand the consequences that these choices will have: the cash-for-care policy, creating economic incentives for the mothers to stay at home, may, for instance, negatively affect the mothers' social and human capital. Drange and Rege (2013) highlighted the loss of information and deterioration of contact-network in the labour market during the cash-for-care period, as well as the depreciation of general and firm-specific human capital such as job experience and skills accumulation. This is particularly important considering that the cash-for-care eligibility period follows parental leave, thus further prolonging the mother's time on leave.

Psychological and motivational factors may also affect the decision to return to work, as a

long time away from work has been found to affect attitudes towards work and work-commitment (Evertsson, 2013).

Turning our attention to empirical studies, research has widely shown negative effects of cash-for-care on mothers' employment working hours and income in Norway (Drange & Rege, 2013; Naz, 2004; Rønsen, 2009; Schøne, 2004) but little is known about the effect of cash-for-care in Sweden. Using the Norwegian living standard surveys from 1998 and 1999, Naz (2004) found that the reform reduces women's labour force participation in terms of working hours and increases specialisation in the couples, understood as difference between the fathers' and the mothers' working hours. Using register data, Schøne (2004) confirmed a reduction in eligible mothers' employment and working hours in the short-term. Long-term effects seem even more substantial. Rønsen (2009) analysed results from three special surveys collected just before the cash-for-care reform in Norway as well as one year and four years after it. The most visible effect in the short term was the switch of mothers' working time from full-time to part-time jobs. Working hours decreased in both the short and the long term, but the reduction was stronger in the long term. In the long term, that is, the probability that mothers would work declined, and employed mothers became more likely to be on leave, that is, taking any paid or unpaid leave available to them following childbirth.

Using register data, Drange and Rege (2013) confirmed the negative effects of cash-for-care on mothers' full time employment and earnings. Importantly, dividing the mothers in two groups (those with college degrees and those without), the negative effects lasted only until the child turned two for mothers with a college degree. Effects instead persisted up to the age of four or five in the cases of children of mothers with a lower level of education. Similarly, there were no effects after the cash-for-care period for mothers with high earnings, but effects did persist after the cash-for-care period for mothers whose earnings were under

the median. The effects on mothers' employment and earnings disappeared when the children reached the age of six or seven for all groups.

Confirming the mediating role of mothers' education, effects also seem to be stronger for lower educated women in relation to being employed and number of working hours (Rønsen, 2009; Shøne, 2004). However, Naz (2004) found that, in the short term, the negative effects of cash-for-care in terms of numbers of working hours and specialisation in the household are stronger for higher educated women. Thus, the role mothers' education plays is not entirely clear. Regarding immigrant background, Hardoy and Shøne (2010) analysed register data and found that, in Norway, cash-for-care reduces the levels of participation in the labour market of non-Western immigrant mothers' more than for native-born mothers. Using cash-for-care may thus make it harder to enter or re-enter the labour market for the most vulnerable group of mothers.

In light of previous findings on cash-for-care effects in Norway, it seems likely that cash-for-care also negatively affects female participation on the labour market in Sweden. For employed mothers, cash-for-care may be an incentive to withdraw from the labour market or to decrease the number of working hours and, for unemployed mothers, cash-for-care may be a disincentive to enter the labour market.

In this study we investigated the characteristics of the female population in municipalities with and without cash-for-care, and were also able to take into account contextual characteristics that are often overlooked in previous research, such as the type of municipality (rural/urban/mixed) and employment and unemployment trends. As labour markets in rural areas offer fewer jobs and less mobility, we expect the effects to be stronger in these areas. Women in urban areas have more opportunities to enter the labour market after cash-for-care period (if they were unemployed before), and it is also likely that public

childcare is more widely available. Attitudes to gendered division of childcare may also exist between urban and rural municipalities (see e.g. Ellingsen & Lilleaas, 2010).

Data and methods

Data sources

For the empirical analysis we used macro-data at the municipal level, collected from different sources. Data on which municipalities offered cash-for-care benefits during the period 1 July 2009–31 December 2011 were collected from reports produced by Statistics Sweden (2011, 2012). The dates of introduction and cancellation of the policy are clearly stated in these reports. When in doubt, we consulted the municipality websites or contacted the staff at the municipalities for more details. Other data at the municipal level came from official labour statistics and population registers (register of the total population and the multigenerational register) and were collected from the website of Statistics Sweden.

Sample and methods

We divided the sample of municipalities into ‘treated’ and ‘control’ municipalities. The ‘treated’ municipalities offered the policy continuously in 2009, 2010 and 2011, while the ‘control’ municipalities did not offer the policy in any of the years. Out of the 290 Swedish municipalities, 93 belonged to the treated group and 172 to the control group. Twenty-five municipalities were excluded from the sample as they offered the policy at some point during the period 2008–2012, although not continuously during the years 2009, 2010 and 2011. We first compared female employment rate trends in municipalities with and without cash-for-care (trend analysis), to investigate any changes after the introduction of the policy in 2008 in any of the groups. Following, we ran Ordinary Least Squares (OLS) regressions estimating

the effects of the introduction of the cash-for-care policy on female employment growth rates, that is, changes in female employment rates after the introduction of the policy.

The nature of this study is that of a *quasi-experiment*, since it allows the ‘cash-for-care treatment’ effect to be identified, but it lacks the key ingredient of natural experiments, that is, the ‘random assignment’ (Campbell & Stanley, 1963). We are aware that data at the municipal level carry the risk of ecological fallacy, in the sense that many exogenous and endogenous factors other than cash-for-care may affect employment in the different municipalities. We therefore compared treated and control municipalities within selected subgroups of municipalities sharing similar aspects, and we controlled for important characteristics for female employment in the municipalities in the regressions. A research design based on a quasi-experiment may thus be seen as appropriate to policy studies and, in particular, to indicate the causal effects of policy.

Variables

All the variables were measured at the municipal level. As detailed data on mothers’ employment were not available, the female population aged 20–44 was used as a proxy for eligible mothers for all the variables referring to female population. The dependent variable in the regression analysis was the female employment growth rate 2007–2012, which measured the change in female employment rates between the year prior to the introduction of the policy and four years after the introduction of the policy

$$\frac{\text{female employment rate}^{2012} - \text{female employment rate}^{2007}}{\text{female employment rate}^{2007}} * 100$$

We divided the municipalities into various categorisations relevant for the study of female employment trends. First, municipalities were divided into urban/rural/mixed to single out the contextual variation, basing this categorisation on the description of types of

municipalities by the Swedish Association of Local Authority and Regions (2011). The category ‘urban’ included big cities and surrounding municipalities, as well as commuter municipalities and municipalities located in densely populated areas. The category ‘rural’ included rural municipalities and municipalities located in sparsely populated areas. The category ‘mixed’ included touristic and industrial municipalities. We assumed that the labour market was diversified, more flexible and better paid in urban municipalities, and more traditional and less flexible in rural areas. We also assumed the labour market in mixed municipalities to be different from the labour markets in urban and rural areas and partly gender-divided, because of heterogeneous economic activities including, for example, mining. In the regression models, rural and mixed municipalities were aggregated into one group in order to create a more representative group of non-urban, treated municipalities. Further, we created several variables to measure some aspects of the female population affecting the labour market: female education, immigrant background and fertility levels. In this case, we used data from 2004 to 2012 to show the female employment rate trends, and average data for the period 2007–2012 for the regression regressions.

Regarding female education, we measured both the shares of high and low educated female population, as previous literature showed that the use of cash-for-care may have had different effects on women with high and low education. Since high shares of highly educated women and high shares of lowly educated women can co-exist in the same municipality and compete on different labour markets, we considered the two variables separately. The share of highly educated women refers to the average share of the female population aged 20–44 in the municipality that had completed at least three years of post-secondary education. In the trend analysis, the variable was used as a dummy for each year 2004–2012, scoring ‘high’ when such value was equal or above the median proportion of highly educated female population among all Swedish municipalities (18.5%) and ‘low’ when it was lower than this. In the

regression models, we considered the variable as continuous and used the average value in the period 2007-2012, which is the period used for the female employment growth rates.

The share of lower educated women refers to the average share of the female population aged 20–44 in the municipality with less than nine years of education at primary and secondary school. In the trend analysis, the variable was used as a dummy for each year 2004–2012, scoring ‘high’ when such value was equal or above the median proportion of lower educated female population among all Swedish municipalities in the same period (1.5%) and ‘low’ when it was lower than this. In the regression models, we considered the variable as continuous and used the average value in the period 2007–2012, which is the period used for female employment growth rates.

The share of foreign-born women, also referring to the female population aged 20-44 in the municipality, was used as a dummy for each year 2004–2012 in the trend analysis, scoring ‘high’ when such value was equal or above the median proportion of foreign-born females among all the Swedish municipalities (11.9%) and ‘low’ when it was lower than this. In the regression models, we considered the variable as continuous and used the average value in the period 2007–2012, which is the period used for female employment growth rates.

Fertility rates refer to the average total fertility rates among the population aged 20–44 in the municipality. In the trend analysis, the variable was used as a dummy for each year 2004–2012, scoring ‘high’ when such value was equal or above the median fertility rate among all the Swedish municipalities (2%) and ‘low’ when it was lower than this. In the regression model, we considered the variable as continuous and used the average value in the period 2007–2012, which is the period used for the female employment growth rates.

In order to control for economic and labour market trends, we added the yearly male employment growth rate in the municipality and the female unemployment rate to the

regression models. The first was measured as the above female employment growth rate, but it referred to the male population aged 20–44:

$$\frac{\text{male employment rate}^{2012} - \text{male employment rate}^{2007}}{\text{male employment rate}^{2007}} * 100$$

The female unemployment rate was calculated as the share of the unemployed female population aged 20-44 during the period 2007-2012 of the total female population of the same age during the same period.

Results

Female employment trends

In order to assess any potential associations between the cash-for-care policy and female employment, we first compared female employment rates trends for the treated and control groups of municipalities. Such trends ran parallel during the whole period 2004–2012 and were still positive after the introduction of the policy in 2008 (Figure 1).

Although we did not expect there to be any specific differences between the two groups of municipalities, female employment rates in the treated municipalities were higher than in the control municipalities during the whole period 2004–2012.

[Insert Fig.1]

A similar pattern existed for male employment rates trends in the treated and control groups of municipalities (Appendix 2, Figure A1). Employment rates dropped for both sexes during the years 2008–2009, most probably due to the economic crisis, and they increased afterwards.

The gap between the control and treatment groups' employment trends was constant over the whole period for both females and males. There may be a number of explanations for this gap in employment rates between the two groups. First, the Swedish capital, Stockholm,

with economically favourable conditions, belonged to the treatment group. However, even excluding Stockholm from the sample, both male and female employment rates for the treated group were higher compared with the control group (not shown). Other explanations for the higher employment for the treated group could be sought in the composition of groups: for example, the treated group mostly included urban municipalities (where more jobs are available) and more municipalities led by Liberal-Conservative majorities (Liberal-Conservative parties are generally favoured in richer municipalities or municipalities with more businesses and entrepreneurs, which are the municipalities with higher employment rates).

Next, we compared female employment rates in the treated and control municipalities in sub-samples of municipalities based on: type of municipality (urban, rural and mixed), shares of highly and low educated women, shares of foreign-born women, and fertility levels. We found there to be no difference in trends for the treated group as compared with the control group in any of the sub-samples, except for the division of municipalities into urban, rural and mixed.

Among the urban municipalities, female employment rates in the treated municipalities were higher than the female employment rates in the control municipalities for the whole period 2004–2012 (Figure 2). However, the female employment rates in the rural and mixed municipalities followed a different pattern. Among the rural municipalities, the female employment rates in the treated group were higher, compared with the control group and the national average of rural municipalities only until 2007 (Figure 3).

Between 2007 and 2009, these trends turned negative for both the control and treated groups, and by the time of economic recovery in 2010 the trends for the two groups had switched positions: in the treated group of municipalities, female employment rates had decreased and they became lower than in the control group of municipalities. In 2012, there

was a new downturn in female employment rates in the treated group of municipalities, not observable in the control group of municipalities. Among the rural municipalities, we saw a slower recovery in the female employment rates after 2009 and a drop in 2012 for the treated group of municipalities. This pattern could be linked to the use of cash-for-care. However, divergences in trends in the treated and control groups of municipalities were also evident in 2005, suggesting that factors other than the policy might have differently affected the employment trends in the two groups.

Among the mixed municipalities, the female employment rates in the treated group of municipalities were constantly higher compared with the female employment rates in the control group, and the female employment rates trends were very similar for the two groups up to year 2010. After 2010, the female employment rates trend for the treated group became negative, diverging from the positive trend of the control group (Figure 4).

[Insert Figures 2, 3 and 4]

The male employment rates trends for each sub-sample of urban, rural and mixed municipalities showed no parallel differences between the treated and control groups after 2009 (Appendix 3, Figures A2 to A4).

We conclude that there is a negative association between the availability of cash-for-care and female employment rates in rural and mixed municipalities after 2009 and 2010 respectively, and, in particular, in 2012. The sample of rural municipalities was too small to draw any conclusions from, as only 11% of rural municipalities were included in the treated group (Årjäng, Vansbro, Härnösand, & Robertsfors) but the sample of mixed municipalities was larger (19% of mixed municipalities were included in the treated group, i.e., 14 municipalities). In the regression models, the rural and mixed municipalities were aggregated into one group in order to create a more representative group of non-urban, treated municipalities.

One of the reasons we find a negative association between the availability of cash-for-care and female employment rates in rural and mixed municipalities, but not in urban municipalities, might be the larger uptake of the policy in rural and mixed municipalities, compared to urban municipalities (7, 8 and 4% of eligible children, respectively). The policy uptake in urban areas might be too small for any effects on female employment to be detected at aggregated level.

Estimation models

We ran several models estimating the association between the cash-for-care policy and changes in female employment rates after the introduction of the policy (Table 1). In all the models we used the dummy variable ‘cash-for-care’ as an independent variable and the ‘female employment growth rate’ between years 2007 and 2012 as the dependent variable. The former indicated whether the municipality offered the policy from 2009 to 2011, that is, whether the municipality belonged to the treated group of municipalities or not. The latter measured the female employment growth rate between the year prior to the introduction of the policy and four years after the introduction of the policy.

In Model 1, the independent variable cash-for-care was positively associated with female employment growth rates. This result adds to the scenario that we saw in the trend analysis: the female employment rates (Figure.1) and female employment growth rates (Table 1, Model 1) were both higher in the treated municipalities. However, in Model 2 controlling for other variables, the association between cash-for-care and female employment growth rates disappears. Models 2–7 show that, in general, during the period 2007–2012 female employment growth rates grew more in urban areas. Male employment growth rates were positively associated to the female ones, since economic trends are expected to affect both

female and male employment growth. Moreover, female unemployment rates were positively associated with the dependent variable.

In relation to the characteristics of the female population, the female employment growth rates were negatively associated with the shares of low educated and foreign-born women and positively associated with the share of highly educated women and fertility in the municipality (Table 1, Models 2–7). The rural and mixed areas variable was found to be negatively associated to the female employment growth rate in Models 2–7.

In Models 3, 4, 5, 6, 7, we estimated interaction effects of cash-for-care with rural and mixed areas, shares of low and highly educated women, shares of foreign-born women and fertility rates. The interaction coefficients of the cash-for-care share of low educated women and fertility rates were all non-significant, but cash-for-care in rural and mixed areas had a negative impact on the outcome.

Insert Table 1

In order to take into account the fact that the policy uptake varied in different municipalities, we tested variants of the above models including the average percentage of eligible children that used the policy during years 2009–2011 (i.e., the period used to classify the municipality as ‘treated’ in each municipality). We estimated the results both adding the average policy uptake as a control variable and using it as independent variable, by replacing the general ‘cash-for-care treatment’. The results did not change substantially and we prefer the models shown here as ‘treatment-effects’ dummy effects are much easier to interpret and understand (the alternative results are available upon request).

To test the effects of cash-for-care on female employment growth rates in rural and mixed areas, we ran Models 1 and 2 in the subsamples of municipalities in rural and mixed areas, as well as in urban areas (Table 2). The analysis showed that the association between cash-for-care and female employment growth rates was negative in rural and mixed areas

(Table 2, Model 1a) and positive in urban areas (Table 2, Model 1b). After controlling for other characteristics of the female population in the municipalities, the positive coefficient of cash-for-care in urban areas disappeared, while the negative coefficient of cash-for-care remained substantial and negative in rural and mixed areas (Model 2a). In rural and mixed areas, the treated group of municipalities showed, on average, female employment growth rates as 1.6 percentage points lower compared with the control group, after controlling for other factors (Table 2, Model 2a).

Insert Table 2

Conclusions

The aim of this study was to find out whether the cash-for-care policy has had any effect on mothers' employment in Sweden. We tried to answer the research question: did the cash-for-care policy affect female employment in Sweden? We did this by investigating changes in the female employment rates and female employment growth rates in all Swedish municipalities. Since the policy was implemented at the municipal level, we used this opportunity to analyse cash-for-care as a quasi-experiment. We compared the trends in female employment rates in municipalities that offered the policy and municipalities that did not offer the policy, and we ran linear regressions to estimate the effects of the adoption of cash-for-care on changes in female employment rates after the introduction of the policy.

Our results show that, in rural and mixed areas, female employment rates grew less or decreased in the municipalities that adopted the policy, compared to the municipalities that did not adopt the policy, and female employment growth rates were negatively associated with the adoption of the cash-for-care policy. This did not happen in urban areas. The association in rural and mixed areas also holds when the characteristics of the municipalities are controlled for, such as shares of low educated, highly educated, and foreign-born women, as well as fertility, male employment growth and female unemployment growth rates in the

municipality (Table 2, Model 2a).

Explanations for the effect in rural and mixed areas, but not in urban areas, are best sought on the structural level. For instance, labour markets are more flexible in urban areas, making it easier for mothers to return to or to enter the labour market after the cash-for-care period ends, for example, through part-time jobs. Data showing that the share of foreign-born women and fertility rates are negatively associated to female employment growth rates in rural and mixed areas, but not in urban areas, seem to support the thesis of differences in the labour market structures in the two areas (Table 2, Models 2a and 2b).

We are aware that these results must be interpreted with care. In fact, the use of aggregated data at the municipal level always carries the risk of ecological fallacy. In addition, given the small uptake of the policy, one has to be careful when identifying specific effects of the policy. Moreover, the policy uptake was much lower among urban municipalities, compared with rural and mixed areas, a factor that may have contributed to the fact that no effects were detected in the urban municipalities. Finally, unfortunately, the data did not allow for an investigation of mothers' working hours or to distinguish between effects on mothers that had a permanent, a temporary or no job at the time they used the cash-for-care, which would be an important development of this study. Despite such limits, we believe that the quasi-experiment research design used in this research offered a useful opportunity to estimate a policy impact that is important for the future family policy debate.

Our results contribute to the debate on the cash-for-care policy, adding a distinction between urban and non-urban areas, which has been largely overlooked in previous international research. It has been pointed out elsewhere that dissimilarities in the timing and contextualisation of the cash-for-care policy might lead to different outcomes between the Nordic countries (Duvander & Ellingsater, 2016; Swedish Social Insurance Agency, 2013a). Thus, the Swedish case with alternative childcare options, more flexibility on the labour

market, and a smaller uptake of the policy might have limited the negative effects of cash-for-care on female employment to the most sensitive areas of the country compared with more general negative effects found in Norway.

It is also a possibility that rural and mixed areas may have been more greatly affected because of structural characteristics as, for example, the labour market. Moreover, from an economic point of view, living costs and salaries are higher in urban areas compared with rural areas, as is the relative opportunity-cost of not working. Following, not working should be more costly for mothers living in urban areas. Negative effects on female employment growth rates in rural and mixed areas may also be because these are the areas where women are more vulnerable on the labour market and where the labour markets do not offer sufficient opportunities to combine family and work. Such limits in opportunities are likely to go hand in hand with more traditional views of who should take care of the children.

Even though cash-for-care has just been abolished in Sweden, these regional differences are important for the policy impact in other countries, as well as for any potential new directions of family policy in Sweden.

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Appendices 1, 2, 3 1