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# Reforms in the Swedish Parental Leave System and their Effects on Gender Equality

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# Reforms in the Swedish Parental Leave System and their Effects on Gender Equality

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**Abstract:** The father's quota in the Swedish parental leave system aims at increasing fathers' leave use but also gender equality in the home sphere and in the labor market. This study investigates the effects of the reform of one month reserved for fathers in 1995 and two months in 2002. We use parental benefit for the care for sick children as a proxy for division in the home, and the results indicate that the first reform led to a more equal sharing of care for sick children, mainly as women who had used a lot of benefit days earlier on reduced their use. Moreover, after the second reform women had better income development, especially women who had earlier had very low income, indicating an increased labor supply rather than a wage increase. The results indicate that the father's quota at least in part also fulfilled the aim of gender equality outside the parental leave system.

## **Introduction**

In many European countries various aspects of family policy have recently been used as policy instruments to attain desired goals. In particular, parental leave has been in focus, and there are numerous examples of reforms of benefit levels and rights to leave. The Nordic countries are often seen as forerunners here, not just in generosity but in earmarking part of the leave to each parent with the goal of gender-equal use. In Finland, Iceland, Norway and Sweden part of the leave can be used exclusively by the father (Moss 2014). The reserved part of the leave in Sweden was introduced with distinctive goals of not just gender-equal use, but also to encourage gender equality both in the division of household work and in the labor market. This study focuses on whether the more extensive goals of increased gender equality have been reached though reserving days in the Swedish parental leave system.

In Sweden, since the introduction of the present system in 1974, parents have been able to share parental leave between them as they prefer, and the system is with few exceptions gender-neutral in giving the same rights to fathers and mothers. The leave was, not surprisingly, used mainly by mothers, and a long political and public debate eventually led to the earmarking of days (Cedstrand 2011). In 1995 one month was reserved for fathers and one for mothers; these months being forfeited if not used by the designated parent (Duvander and Johansson 2012). In 2002 another month was reserved for each parent and the leave was also extended to today's 16 months of leave.

Reform evaluation is a growing field but it is often difficult to perform with convincing methodology. Primarily, it is difficult to isolate an effect from a reform from other processes in society, such as for example economic cycles and demographic processes. Potential effects from reforms also have to be measured over an extended period of time, and it is easy to draw too hasty conclusions by following the potentially affected individuals for too short observation periods. In addition, the politically stated goal with a reform is often abstract and vague, such as "increasing gender equality" or "improving families' choice capacities". Obviously, such goals need to be operationalized to be evaluated, but this also often means narrowing them down to something less than the political ambitions.

The most direct way of evaluating these reforms is to analyze how days of leave are shared before and after reforms. This has undoubtedly led to the conclusion that the reforms have been successful, as fathers' leave days increased by both reforms (Ekberg et al. 2013; Duvander and Johansson 2012). However, we are in this study interested in whether the

reforms also influenced other, less directly related, areas of gender equality. There was at the time political hope that the reforms would lead to a more gender-equal share of household work and to a strengthening of women's position in the labor market. This study attempts to capture the long term effects of the reforms by following the parents who were first affected by the reforms for eight years. We investigate the income development of women and men and the sharing of care for sick children which is a proxy for gender equality in the home (Eriksson and Neramo 2010).

### **Swedish family policy and gender equality**

The introduction of the parental leave system is often seen as part of the political change that reformed Swedish families from depending on a male breadwinner to becoming dual-earner families (Ferrarini and Duvander 2010). The leave system was the outcome of a regime shift starting in the 1960s where gender equality and specifically women's economic independence were at the forefront (Cedstrand 2011; Lundkvist 2011). In addition an expanding labor market was in desperate need of labor especially in the public sector (Stanfors 2003). The parental leave insurance system was eventually introduced in 1974 with the goal of enabling the combination of work and family for women and men (Lundkvist 2011).

Originally the leave was six months paid at 90 percent of previous earnings to share between the parents as they saw fit. The expectation was that women would use most of the leave, and some argued for a division of half to the mother and half to the father to avoid negative effects for women in the labor market (Cedstrand 2011). Nevertheless, the earnings-related benefit implied a strong incentive for women especially to work before starting a family as the alternative to the 90 percent of the previous earnings was a very low flat rate. The earnings-related benefit was later decreased to 80 percent during the economic crisis of the 1990s.

The length of the leave was extended in steps during the 1980s to 12 months and an additional three months paid at a low flat rate for everyone. Fathers' share of the leave started out as being minimal but increased slowly, perhaps partly as the leave was extended and made sharing more possible. The debate on gender equality has been present in Sweden since the 1960s, and fathers' leave use has always been at the forefront of this debate (Klinth 2002).

The reform in 1995 reserved one month to each parent, meaning that if the designated parent did not use the leave it would be forfeited. The only exception was if one parent had sole

custody of the child, but this is very uncommon in Sweden, also when the parents are not living together. The stated aim of the reform was to enhance sharing of leave days but also to reach gender equality in other areas. The law proposal specifies that the reform hopefully would lead to more gender equality in the home and a stronger position for women in the labor market (Prop 1993/94:147).

Furthermore, the leave was formally individualized in 1995, so that if one parent wanted to use more than half of the leave the other parent had to accept this by formally signing over days. All days except those reserved can be signed over to the other parent, and this is often done from the father to the mother. It is, however, likely that the reform had an informational and symbolic importance in this respect, especially as the system is complicated and knowledge of one's own rights is lacking especially among fathers (National Social Insurance Board 2002; Swedish Social Insurance Agency 2010). The reform of reserved months was, however, part of a political compromise and was introduced in combination with a cash for care system, giving an allowance to parents who wanted to stay at home with the child after the parental leave period to postpone external childcare alternatives (Ferrarini and Duvander 2010). When the Liberal-Conservative government changed to a Social Democratic government six months after the reforms were legislated, the cash for care system was quickly abolished, but the reserved months and individualized leave were kept.

The second reserved month was introduced by a Social democratic government in 2002 with much less debate and much less opposition. One reason was that the leave was extended by one month to 16 months at the same time, thus reserving time for one parent (that is, often, the father) did not decrease the leave length for the other parent (that is, often, the mother).

Also since 2002 parental leave has been heatedly debated, especially whether to increase the reserved periods for each parent. For example, a government commission on the subject suggested a 5+5+5 month system (Government commission 2005). The Liberal-Conservative government in 2008 instead chose the new alternative of introducing a gender-equality bonus to parents who shared the leave (Duvander and Johansson 2012). The ceiling for the benefit was also raised, partly to eliminate economic restrictions in leave use for fathers who more commonly had incomes over the ceiling.

## **Earlier studies**

Similar reforms to the Swedish ones were introduced in Iceland and Norway but also for example in Germany (Lappegard 2008; Eydal and Gisslasson 2008; Schober 2014; Geisler and Kreyendfeld 2012). Swedish studies show that both the first and second reserved months had effects on the sharing of leave days (Ekberg et al. 2013; Duvander and Johansson 2012). Comparing fathers with children born just before and after the first reform, the average number of days increased from 26 days to 36 days during the first two year of the child's life. Perhaps more impressively the proportion of fathers who used leave during the child's first two years increased from 44 to 77 percent (Duvander and Johansson 2012). At the introduction of the second month in 2002 fathers' average use had increased, and the introduction of the reform further increased the average used from 42 days to 48 days (during the child's first two years).

Even if the average number of days is increasing it may only be some fathers that react to the reform. When investigating subgroups of fathers we find that the first month primarily affected fathers who did not already use leave; that is, fathers with low education and low income. The second month affected instead the middle group of fathers, that is, the ones with secondary education and middle to high income. These fathers started to use the leave more, and thus their use became similar to the fathers with high education and high income (Duvander and Johansson 2014).

In Norway the first month was introduced in 1993, and the reserved time has been increased stepwise and then recently decreased to ten weeks. Cools et al. (2011) find that among eligible fathers the users increased from 4 percent to 39 percent during the first period of the reform. On average fathers took 25 days, and 75 percent take exactly the quota; use above the quota is increasing slowly. Rege and Solli (2013) found that in 1995 60 percent of fulltime-working fathers took leave.

Also in Iceland leave use increased dramatically when the father's quota was introduced, and today almost all fathers use three months of leave (Eydal and Gisslasson 2008). When reserved time for fathers was introduced in Germany the leave use also increased; however, in Germany it was the highly educated and permanently employed fathers who took up the leave (Geisler and Kreyenfeld 2012).

Fathers' use of leave is often used as an indicator for gender-equal sharing of childcare, and it is also seen as leading to other dimensions of gender equality. A number of studies indicate that fathers who take leave will be more engaged in childcare later on (Haas and Hwang 2009; Duvander and Jans 2009; Tanaka and Waldfogel 2007). Qualitative studies also indicate that fathers who take leave later on take a larger share of both household work and childcare (see for example Almqvist and Duvander 2014). One informative example is a qualitative study comparing fathers' arguments for going on leave in Canada and Quebec. With reserved time for fathers and high replacement level during parental leave, the study finds that in Quebec fathers who were not necessarily interested in childcare took the leave as it would otherwise be forfeited (Rehel 2013). Similar fathers would not take leave in Canada or the USA where benefit levels were not as beneficial. These less child oriented fathers seem to change their perspective while being on leave and became more inclined to co-parenting afterwards.

It is rare to establish causality between fathers' leave use and the continued division of household tasks or childcare, but some studies have used reforms in the parental leave system in attempts to establish causality. A Norwegian study measured the influence of the introduction of the father's quota in 1993 on gender equality of household division by survey data (Kotsadam and Finseraas 2011). The study compares parents with their last child born two years before and two years after the reform, finding that conflict over household division decreases and that parents are more likely to share the task of washing clothes after the reform. The study also indicates a changed preference for spending time on childcare but no effect on individual attitudes. A German study analyzed the 2007 reform of parental leave, where the compensation became income-related and two months were reserved for fathers, with regard to the effect on childcare and household work (Schober 2014). The comparison of parents of children born two years before and after the reform indicates an increase in fathers' childcare but no effect on household work for either father or mother. These results are not confirmed by Kluge and Tamm (2013), however, who use a more selective sample. In addition a relevant Swedish study investigates the effects of the first reserved month on the division of care of sick children with parents' work absence but they find no effect (Ekberg et al. 2013). The present study uses the same measure but a different sample, method and follow-up period. We also with the same method investigate the second reserved month. Most importantly, we find that the parents of children born just before and after the reforms differ in their characteristics and a difference in difference approach is necessary.

Effects of labor market exits can be considered a large research area, also when only exits caused by parental leave are considered (Albrecht et al. 1999; Datta Gupta et al. 2008; Evertsson and Duvander 2010; Evertsson 2014b). The explanations for negative associations between parental leave and continued labor market career vary from human capital deprivation, shorter tenure or work experience, signals of lower work orientation to statistical discrimination of women.

There are some studies that attempt to isolate the causal effect of leave length through the reforms of reserving time for parental leave. The results are somewhat inconsistent, both depending on sample, modeling, observation period and measure. For Sweden Johansson (2010) finds that parental leave use has negative short term effects on earnings but mainly that fathers' leave use positively affects mothers' future earnings. Ekberg et al. (2013), however, do not confirm any effect from the first reserved month on wages, and another study investigating the labor supply finds no effects from the reserved months (Karimi et al. 2012). Studies on the Norwegian equivalent reform also indicate mixed results. Rege and Solli (2013) find a negative effect on fathers' earnings, but this is not found in Cools et al. (2011). Cools et al. use a strict measure of labor market participation for both parents for inclusion in the sample, excluding 43 percent of couples, finding negative effects on women's income, which suggests that fathers' time at home is complementing and not substituting mothers' time. Also Dahl et al. (2013) indicate that there are no effects of extended maternity leave or fathers' quota on mothers' labor market return or fathers' labor market attachment.

A prolonged parental leave for women in Canada increased labor market return after childbirth as the existing policy was so short many women opted out of the labor market (Baker and Milligan 2008). Similarly, a German study finds that, when German parental leave became income compensated for 12 months, women's employment during the child's first year decreased but increased after this period (Kluve and Tamm 2013). In Austria an extension of parental leave from one to two years in 1990 decreased earnings and employment for women in the short term. A reduction of leave to 18 months in 1996 instead improved earnings and employment (Lalive and Zweimuller 2009). It is pointed out that paid leave in combination with job protection is the best way to facilitate parents' childcare and mothers' continued labor market attachment (Lalive et al. 2014).



## **Why would reforms influence gender equality in childcare and on the labor market?**

There are a number of potential mechanisms for how the reserved months may affect gender equality in the home and labor market, and we will mention some here. As the development of gender equality is not likely to be the same in all areas, it will be important to be specific about what dimension of gender equality is measured. For instance, an encouragement of fathers' participation in childcare through reforms in parental leave may lead to increasingly shared childcare but may not lead to effects on other domestic work or outcomes in the labor market. Also regarding childcare, we may get different results depending on the measure; parental leave is something often seen as a preferred activity while temporary parental leave when the child is sick may be more of a nuisance and an unwelcome interruption from work. It may more directly be the outcome of negotiation between the parents. The standard economic theory would indicate that a father's quota would decrease the opportunity cost for fathers to be on leave and put a cap on the length of mother's leave. This makes specialization less economically efficient and may thus have long term effects both on labor market income and continued childcare division. It may restrict the bargaining power of the often economically stronger father and tend towards sharing of both labor market work and household work (Becker 1981; Lundberg and Pollak 1996; see similar arguments for reforms in parental leave in Germany in Schober 2014). This argument assumes that fathers prefer to work over parental leave, an assumption that is questionable. More clearly the reserved month strengthens the bargaining power of the father who wants to take leave versus the employer.

In a more sociological perspective gender is constantly re-defined in interaction with how paid and unpaid work are structured (see review of sociological and social policy perspectives by Schober 2014). Policies will affect the idea of preferred behavior (Lewis 2001), and if the policy is successful it will also change behavior (Pfau-Effinger 2005; Duvander and Johansson 2010). It may also be that men's increased household work and childcare involvement may be caused by increased interest, especially in childcare (Duvander and Andersson 2006; Almqvist and Duvander 2014). When the mothers' expertise at home is not monopolized anymore and the father-child bonding is increasing, it is likely that fathers re-prioritize investments in the labor market, and this may lead to decreased earnings for fathers (Rege and Solli 2013; Tanaka and Waldfogel 2007).

Explanations of women's potentially improved position in the labor market as an effect of fathers' parental leave use will primarily come from shorter exits and potentially higher

investments in the labor market. As fathers engage in childcare, a part of mothers' time will be freed and can be used on labor market work. However, it can also be used on increased childcare, especially if fathers' childcare is seen as additional (Karimi et al. 2012). Another potential mechanism is that when the norm is that men also make labor market exits when becoming parents the statistical discrimination of women of childbearing age may decrease or, alternatively, also include men around that age. Evertsson (2014b) finds support for the negative consequences on income development from parental leave becoming similar for women and men.

The potential effects of the fathers' quota on other dimensions of gender equality may come from intervening at a critical time for *renegotiating* household work (Kotsadam and Finseras 2011). When couples become parents the division of household work often becomes more traditionally divided (Evertsson 2014a), and the difference between men's and women's income development increases. The reforms of fathers' quota may thus change the woman and man's relative positions in the negotiation of continued division of labor.

### **Data and measures**

Household division and childcare can be measured in many different ways, and the availability of data is often a major concern. In register studies there are obviously no direct measures of sharing of childcare and household work. For direct measures of gender equality in the home, time use studies are often used and sometimes self-reported division of tasks. There are major problems with such studies. They are mainly of small sample size, and time use on different tasks may be qualitatively different. For example, some tasks take a short time but occupy the mind and energy for a long time (Almqvist and Duvander 2014). However, the major problems are the risk of systematic non-response and of biased reporting, for example by estimating one's own share of household work as larger than the partner would do. Eriksson and Neramo (2010) propose the use of care of sick children as an alternative measure of gender equality in the home. Care of sick children is in Sweden part of parental leave insurance and can be used by all working parents. It is used when the child is sick and cannot attend preschool or other daycare. In Sweden a large majority of children attend publicly subsidized daycare; almost 90 percent of all children aged two are already attending ([www.skolverket.se](http://www.skolverket.se)). Parents in Sweden have up to 120 days of temporary parental benefit for care of sick children per year and child at 77.6 percent earnings replacement for children up to 12 years old (see [www.forsakringskassan.se](http://www.forsakringskassan.se)). Parents use most days for

children who have just started public daycare and the use is highly seasonal (used in the winters). On average parents use 11.4 days for two-year-olds and around 6.1 days for seven-year-olds (Swedish Social Insurance Agency 2014). By combining survey data on self-observed division of household tasks and women's and men's attitudes to the importance of gender equality in the household with register data on days used for care for sick children, Eriksson and Neramo test whether care of sick children measures gender equality. They conclude that care of sick children is a good proxy for gender-equal sharing of household tasks, specifically as it also has an independent correlation when controlled for attitudes to gender equality. They test care of sick children as a measure of gender equality in example-studies to test its reliability. They find that if women or men increase efforts at work (by increasing earnings more than 20 percent in two years) they will do a smaller share of the care of sick children. They also find that in periods of economic downturn men do smaller shares of the care of sick children. We take Eriksson and Neramo's study as validation for using care of sick children as a measure of gender equality in the household, but we are of course aware that this is only one dimension out of the multi-faceted concept of division of household tasks.

We use annual taxable income from work which will be the individual's pension-base, including income-related social benefits such as sick leave, parental leave and unemployment benefits, and we adjust the income according to the benefit levels. For example, as sick leave amounts to 77.6 percent of earnings, we adjust the sum from sick leave by dividing by 0.776. The adjusted income is available from 1999 so the income is first observed six years after the first reserved month, and the analysis follows the income up to 16 years after the reform. For the second reserved month we follow the income development up to nine years after the reform. We are not able to control for labor supply so change in income indicates either change in working time or salary.

For the empirical analyses we use register data from the Swedish Social Insurance Agency. The data cover the entire Swedish population and contain detailed information on childbearing, temporary parental benefit for care of sick children and annual income. They also include parents' individual characteristics such as sex, date of birth, birth order of the child, geographical residence, educational level and country of birth.

We have excluded parents who emigrated or deceased during the observation period, as well as parents to children who emigrated or deceased. We have also excluded parents to children

born abroad and adopted children as special rules for parental leave apply in these cases. In addition we exclude same-sex couples as our interest here is in changes in gender equality. The sample contains parents to approximately 23 000 children born before or after the first reform and 20 000 children born after the second reform.

## **Method**

The aim of this article is to investigate to what extent, if any, the reforms of reserved months in the parental leave system, have influenced gender equality in the home and mothers' and fathers' income development. The first reserved month is applicable to parents of children born on or after January 1, 1995, and the second reserved month is applicable to parents of children born on or after January 1, 2002. Both reforms are thus examples of natural experiments (Rosenzweig and Wolpin 2000), and the potential effects can be investigated by comparing the outcome for parents of children born just before and after the reform. We chose to compare the outcome for parents of children born 25 days before and after the reform introduction. That is, outcomes of parents of children born December 7 to December 31 (control group) are compared to those of parents of children born January 1 to January 25 (treatment group).

The analysis also includes parents to children born in the same period one year before the reforms were introduced, to control for potential non-observed differences between parents to children born in December and January. If parents of children born at different times of the year are systematically different this may influence the results and therefore we apply a "difference in difference" approach (Angrist and Krueger 2000).

We performed sensitivity analysis for the subgroup of parents who had their first child in the 25 days before or after the reform. These parents may be more likely to be affected by reforms in parental leave as they have no earlier experience of parenting and the division of tasks involved. We performed additional sensitivity analysis of parents with children born 14 days before and after the reform was performed, as well as analysis of parents who have an income from work every year throughout the studied period of 12 years. Regarding the analysis of income development we also did analyses of unadjusted income and only income from work to make sure the results are not sensitive to the chosen income measures. The sensitivity analyses of only parents with income and the alternative income measures are also done for the limited sample of parents with children born 14 days before and after the reforms. All analyses point in the direction of the results presented here.

When comparing parents of children born in December and January from 1992 to 2005 we find some systematic differences worth noting. The share of foreign-born parents is higher among the December-children, and more first-born children are born in December, while more second-born children are born in January. Also parents with higher income and higher educational level more often have children in January than December. These differences call for a difference in difference study (see descriptives in appendix). Once seasonal variations in childbearing are controlled there is no trend in composition of groups between the reform years and the year before.

We use linear regression models to estimate separately the number of used temporary parental benefit days and annual income per year after the child was born for mothers and fathers. Models control for a number of socio-economic and demographic characteristics as well as the seasonal variations by adding parents of children one year before the reform was introduced. In the model with the outcome temporary parental leave days the controls included are the child's sex, multiple or single birth, birth order and region of birth in Sweden, parents' age, income, country of origin and educational level. In the model of income development the controls included are the other parent's income, parents' age, country of origin, region of residence and educational level. As the potential change from the reform may be occurring for parts of the distribution of use of benefits or income, we also perform quintile regressions (see Hao and Naiman 2007). Whereas the method of least squares results in estimates that approximate the conditional mean of the outcome variable given certain values of the predictor variables, quintile regression aims at estimating either the conditional median or other percentiles of the outcome variable. In the present analysis the models indicate whether parents with high, middle or low income are influenced by the reform.

## **Results**

### **Use of temporary parental benefit**

We combine the first two years of use of the temporary parental benefit as the use is very low the first year as most children are cared for in the home anyway with one parent on parental leave (see Duvander and Viklund 2014 for length of parental leave in Sweden). Table 1 presents the use of the benefit for fathers and mothers in the control and treatment groups for the first reserved month. The days of use are accumulated over the years. When the child is 6

years old the fathers have on average used nine days to be home with their sick child, and there is no difference between the control and treatment groups. By age 12, which is the last year the benefit can be used, fathers have used on average 14 days and still no difference can be seen between control and treatment groups. Mothers use considerably more days; when the child is 3 years old the mothers in the control group have used on average 7.8 days and the mothers in the treatment group have used 7.1 days. The difference caused by the lower use among mothers in the treatment group increases with the child's age and by age 12 mothers in the treatment group have used on average 1.7 fewer days (26.9 days as compared to 28.6 days in the control group). The interpretation of more equal sharing of days after the reform is complicated by the fact that the average total number of days is actually lower in the treatment group and that it is mothers who are taking fewer days while the fathers do not significantly increase their use. To further understand the change we turn to quintile regressions in table 2.

Table 1. Mothers' and fathers' number of days of temporary parental leave used in the control and treatment group for the first reserved month

Child's age	Mothers			Fathers		
	Control	Treatment	Difference	Control	Treatment	Difference
2 years	3.4	3.2	-0.3	2.2	2.1	-0.1
3 years	7.8	7.1	-0.7*	4.3	4.2	-0.1
4 years	11.2	10.3	-0.9*	6.1	6.0	-0.1
5 years	14.3	13.1	-1.3**	7.7	7.6	0.0
6 years	16.9	15.7	-1.3*	9.0	9.0	0.0
7 years	19.6	18.2	-1.4*	10.4	10.4	0.0
8 years	21.9	20.5	-1.4*	11.4	11.5	0.1
9 years	24.0	22.4	-1.6*	12.4	12.5	0.1
10 years	25.8	24.1	-1.7*	13.1	13.3	0.2
11 years	27.2	25.5	-1.7*	13.7	13.9	0.2
12 years	28.6	26.9	-1.7*	14.3	14.5	0.3

\*\* Significant difference between control and treatment group at the 1% level.

\* Significant difference between control and treatment group at the 5% level.

The quintile regressions of mothers' temporary parental benefit days show that it is mainly mothers in the 50<sup>th</sup> and above percentiles who decrease their use in the treatment group. It is thus the mothers who used many days who have decreased the use. A similar analysis of the 10th, 25th, 50th, 75th and 90th percentiles for fathers did not show any significant changes in any part of the distribution of benefit days. This, and other referred to analyses with non-significant results, are found in the Swedish social insurance inspectorate (2013).

Table 2. Difference in mothers' use of temporary parental benefit between control and treatment groups for the first reserved month

	<b>Percentile 10</b>	<b>Percentile 25</b>	<b>Percentile 50</b>	<b>Percentile 75</b>	<b>Percentile 90</b>
2 years	0.0	0.0	0.0*	-0.6**	-0.9
3 years	0.0	0.0	-0.5**	-0.8*	-1.9*
4 years	0.0	-0.1	-0.5	-0.9	-2.3*
5 years	0.0	-0.4**	-0.6	-1.6**	-4.3**
6 years	0.0	-0.4*	-0.8*	-1.8*	-3.4*
7 years	0.0	-0.3	-1.1*	-2.2*	-3.5*
8 years	-0.1	-0.6	-1.4**	-3.7**	-3.3
9 years	-0.1	-0.7	-1.5**	-3.5**	-4.1*
10 years	-0.1	-0.5	-1.5**	-3.8**	-3.1
11 years	-0.2	-0.4	-1.4*	-3.5**	-3.4
12 years	-0.2	-0.5	-1.2	-3.9**	-2.8

\*\* Significant difference between control and treatment group at the 1% level.

\* Significant difference between control and treatment group at the 5% level.

When we turn to the analysis of the second reserved month in 2002, data limits the analysis to the period up to when the child is 10 years old. Table 3 indicates that no statistically significant changes between control and treatment group have taken place, and the temporary parental benefit is used to the same extent before and after the reform. We can however note that fathers use on average somewhat more days around the reform in 2002 than in 1995 (compare 13.1 and 13.3 days for children aged 10 born at the first reform, with 15.5 and 16 days for children aged 10 born at the second reserved month). Mothers' number of days are at a similar level. Also when quintile regressions are performed we find no change in any part of the distribution of days for either fathers or mothers (not shown).

Table 3. Mothers' and fathers' number of days of temporary parental leave used in the control and treatment group for the second reserved month

	<b>Mothers</b>			<b>Fathers</b>		
	Control	Treatment	Difference	Control	Treatment	Difference
<b>2 years</b>	3.4	3.2	-0.2	3.0	3.0	0.0
<b>3 years</b>	7.9	7.9	0.0	5.8	6.0	0.2
<b>4 years</b>	11.0	11.1	0.1	7.6	8.0	0.4
<b>5 years</b>	14.1	14.4	0.3	9.5	10.0	0.5
<b>6 years</b>	16.7	17.3	0.5	11.1	11.6	0.5
<b>7 years</b>	19.0	19.9	0.8	12.4	13.0	0.6
<b>8 years</b>	21.1	21.9	0.9	13.5	14.1	0.6
<b>9 years</b>	23.0	23.8	0.8	14.5	15.0	0.6
<b>10 years</b>	24.9	26.0	1.1	15.5	16.0	0.6

\*\* Significant difference between control and treatment group at the 1% level

\* Significant difference between control and treatment group at the 5% level

### **Income development**

In table 4 the income development of mothers and fathers in the control and treatment groups from six years after the reform to 16 years after the reform is presented. Income is annual income in Swedish kronor before tax. No significant differences are found for either fathers or mothers. The equivalent analysis for parents of first born only also shows no pattern of change related to the reform. Also when the different parts of the distribution of the income level are investigated in quintile regressions we find no significant patterns of differences.



Table 4. Annual adjusted income in 1000 SEK for the control and treatment group for the first reserved month

	<b>Mothers</b>			<b>Fathers</b>		
	Control	Treatment	Difference	Control	Treatment	Difference
<b>6 years</b>	177.2	172.6	-4.5*	269.5	269.4	-0.1
<b>7 years</b>	189.1	185.5	-3.6	285.4	286.1	0.7
<b>8 years</b>	200.0	194.5	-5.1	294.3	297.5	3.2
<b>9 years</b>	209.3	206.6	-2.8	307.0	306.0	-1.0
<b>10 years</b>	217.2	216.4	-0.9	316.3	314.9	-1.4
<b>11 years</b>	227.3	226.5	-0.8	329.5	328.0	-1.6
<b>12 years</b>	238.9	240.0	1.1	344.1	341.0	-3.1
<b>13 years</b>	251.6	252.7	1.1	362.4	355.4	-7.0
<b>14 years</b>	268.4	267.4	-1.1	376.2	371.3	-4.9
<b>15 years</b>	277.4	279.9	2.4	375.2	375.5	0.2
<b>16 years</b>	289.4	291.4	2.0	388.8	381.9	-6.9

\*\* Significant difference between control and treatment group at the 1% level

\* Significant difference between control and treatment group at the 5% level

When the income development is followed after the second reserved month (table 5) we find no significant differences between control and treatment groups among all mothers and fathers; also when the income distribution was analyzed no pattern of change was detectable (not shown).

Table 5. Annual adjusted income in 1000 SEK for the control and treatment group for the second reserved month

	<b>Mothers</b>			<b>Fathers</b>		
	Control	Treatment	Difference	Control	Treatment	Difference
<b>1 year</b>	157.6	157.8	0.2	280.9	284.1	3.2
<b>2 years</b>	175.4	178.2	2.8	285.0	291.1	6.1
<b>3 years</b>	192.2	191.5	-0.7	301.4	306.7	5.3
<b>4 years</b>	199.6	200.5	0.8	315.7	320.8	5.1
<b>5 years</b>	211.9	214.3	2.4	330.1	337.5	7.4
<b>6 years</b>	224.8	229.2	4.4	350.9	358.0	7.1
<b>7 years</b>	241.9	246.1	4.2	371.9	374.8	3.0
<b>8 years</b>	255.5	256.8	1.4	376.5	381.3	4.8
<b>9 years</b>	267.4	270.8	3.4	391.6	394.7	3.2

\*\* Significant difference between control and treatment group at the 1% level

\* Significant difference between control and treatment group at the 5% level

However, when parents of a first child were analyzed separately (table 6) we found a clear pattern of a more positive income development for mothers in the treatment group compared to the control group and the difference was partly significant. When the different parts of the income distribution were analyzed it became clear that it was the mothers with originally relatively low income who experienced a steeper increase in income. In table 7 mothers in the control group in the 10<sup>th</sup> and especially 25<sup>th</sup> percentiles of income distribution experience a significant increase in income development five years and onwards after they had their first child. The change has to be interpreted with caution, especially as it applies to mothers of a first child who originally had a relatively low income. Nevertheless, a number of sensitivity analyses point in the same direction. For fathers we do not find any significant changes in income development when the different levels of income are analyzed (not shown).

Table 6. Annual adjusted income in 1000 SEK for the control and treatment group for the second reserved month. First child

	<b>Mothers</b>			<b>Fathers</b>		
	Control	Treatment	Difference	Control	Treatment	Difference
<b>1 year</b>	157.0	158.5	1.5	279.2	281.8	2.6
<b>2 years</b>	180.7	184.5	3.8	284.8	284.3	-0.4
<b>3 years</b>	192.5	195.8	3.3	305.0	306.0	1.0
<b>4 years</b>	199.3	203.4	4.0	319.6	321.1	1.6
<b>5 years</b>	212.8	221.0	8.2	336.3	338.4	2.1
<b>6 years</b>	227.3	239.4	12.2*	360.5	363.5	3.0
<b>7 years</b>	244.7	256.1	11.4*	382.6	384.3	1.7
<b>8 years</b>	260.9	267.1	6.3	387.6	392.9	5.3
<b>9 years</b>	272.9	282.2	9.3	405.0	406.0	1.1

\*\* Significant difference between control and treatment group at the 1% level

\* Significant difference between control and treatment group at the 5% level

Table 7. Difference in annual adjusted income between control and treatment group in 1000 SEK. Second reserved month, first child, mothers.

	<b>Percentile 10</b>	<b>Percentile 25</b>	<b>Percentile 50</b>	<b>Percentile 75</b>	<b>Percentile 90</b>
<b>1 year</b>	8.6	5.3	3.2	-1.0	-3.9
<b>2 years</b>	4.7	1.4	4.2	8.3*	0.9
<b>3 years</b>	1.1	7.1	2.8	0.3	2.1
<b>4 years</b>	8.3	6.1	5.9	-0.5	0.3
<b>5 years</b>	18.2**	18.4**	9.1*	-2.3	6.4
<b>6 years</b>	29.8**	18.8**	7.2	3.2	-1.8
<b>7 years</b>	30.5**	17.2**	5.1	5.1	9.2
<b>8 years</b>	14.8	12.3*	6.6	-0.4	4.7
<b>9 years</b>	9.9	14.3**	7.9	11.0	16.7

\*\* Significant difference between control and treatment group at the 1% level

\* Significant difference between control and treatment group at the 5% level

## Conclusions

When the reserved months in the parental leave system were introduced there were great hopes that the reforms would not just increase fathers' parental leave use, but also increase gender equality in the home and in the labor market. In this study we investigate these potential indirect effects of the reforms by analyzing the first parents' response to the reform. We operationalize increased gender equality in the home by mothers' and fathers' use of temporary parental benefit, a benefit used to be at home with children who are sick and cannot attend daycare. We operationalize gender equality in the labor market by the income development of the mother and the father. Doubtless, these measures only account for part of the two dimensions of gender equality but we have reason to believe that they will indicate the direction of a potential change.

The results indicate that after the first reserved month the sharing of temporary parental benefit became more equally shared between the mother and the father. However, the major reason for the change was that mothers who had earlier used relatively many days started to use fewer days. The intuitive expectation is that fathers would then use somewhat more days, but this is not the case. We do not have an immediate and covering explanation of that men do not take more days when women take fewer. However, a possible explanation may be that fathers are more reluctant to use this part of the social insurance and have more possibilities to combine work and care of a sick child in the home through a more flexible work situation. Even if men work more overtime than women, they more often have flexible hours (Statistics Sweden 2012). As it was the mothers with frequent use who decreased their days, the change may also be explained by different gendered opinions on when the child is sufficiently well to participate in daycare. If fathers systematically judge the child to be fit for daycare more often than mothers then the change may be caused by fathers' increased involvement in childcare and decision making regarding childcare. Such an explanation is purely speculative here and needs further investigation.

Another question is why we find an effect from the first reserved month but not the second reserved month. A reasonable explanation is that by the time the second month was introduced most fathers already used parental leave. It is probably a more dramatic shift for the future division of childrearing that fathers go from no parental leave to one month, compared to extending this one month to two months. The first reserved month in 1995 was also the first time this kind of reform took place in Sweden and may therefore have been more important for changes in views of gendered responsibility over children.

In contrast to our results, Ekberg et al. (2013) found no effect on temporary parental benefit from the first reform. The studies differ on a number of issues; Ekberg et al. use groups of parents to children born two weeks before and after the reform while this study uses a 25 day window. A sensitivity analysis indicates that if we reduce our groups to two weeks we get non-significant results but in the same direction as presented above. We also control for the systematic differences between parents to children born in December and January by extending the analysis to a difference in difference model, that is, including parents to children born in the exact same periods one year earlier. In addition we follow the parents for 12 years rather than eight years as in Ekberg et al.'s study.

The second measure of gender equality used in this study is income development. When investigating the whole group of parents that had a child just before or after the reforms we find no detectable effects from either of the reforms. However, when the subsample of parents to a first child was investigated we found that mothers with relatively low income have a favorable income development after the second reform. We cannot disentangle whether the increase in income comes from increased labor supply or higher salaries, but as the change happened at the lower end of the distribution we guess that increased labor supply is the most likely reason. The women who got a better income were at the levels of income that indicate part-time work, which is very common among mothers in Sweden.

There are a number of reasons to interpret this finding with caution but given the different sensitivity analyses done, we conclude that the finding is not random. The reason that this effect is only present among couples who have a first child together is likely to be that these parents do not already have a set division of childcare and related tasks at home, and, if the father then participates from the beginning, this is likely to influence the future. If another division of childcare has been present for an earlier child, it is more likely that the division of childcare falls back on this division.

We are more puzzled by the fact that the effect is only visible after the second reserved month and not the first reserved month. In line with the above interpretation of the results for temporary parental benefit we would primarily expect an effect from the first month. A possible reason for no effect could be the economic situation in Sweden in 1995 and the following years. Sweden was then caught in a forceful economic depression with high unemployment. Even if women wanted to work more at this time, there were no opportunities for such a choice for the majority in Sweden.

It could also be expected that it would be fathers' income that would be influenced by the reform as it is fathers' behavior that is targeted and which changes most because of the reform. An earlier Norwegian study found a negative income development among men after a similar reform (Rege and Solli 2013). However, as fathers' parental leave is so widely used and became the normative behavior fast, it may be that the negative signaling effects of fathers' leave use have disappeared. This stands in contrast to Norway where the fathers' use of parental leave certainly increased, but not at all to the same extent as in Sweden. Fathers' leave may have been the "push" some mothers needed to increase their economic engagement.

In conclusion this study indicates that the reforms in parental leave have had some effects also on indirect outcomes of gender equality in the home and in the labor market. The effects that we detect in this study are indisputably small, and many of the sensitivity analyses showed non-significant results (although consistently in the same direction as the main results). We do not interpret this to mean that the effects from the reforms are small, as it is likely that the main influence from the reforms is gradual and takes time; they are thus not discernible with the method of analysis chosen here. Given that the first reform was accompanied by a major public debate on fathers' childcare and parental leave use, it is also possible that the control group was affected by the changed general societal climate. This is less true for the second reserved month which got much less attention. The major importance in this study is that these marginal effects are found and also show evidence of policy implications in a wider sense than pure reform evaluations.

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## References

- Almqvist, Anna-Lena, and Ann-Zofie Duvander. 2014. "Changes in gender equality? Swedish fathers' parental leave, division of childcare and housework." *Journal of Family Studies* 20(1): 19–27.
- Angrist, Joshua, and Krueger, Andrew . 2000. "Empirical Strategies in Labor Economics" in Ashenfelter, Orley and Card, David, eds. *Handbook of Labor Economics 3a*. Nort\_Holland, Amsterdam, Pp 1277-1366.
- Becker, Gary. 1981. *A treatise on the Family*. Cambridge, MA: Harvard University Press.
- Cedstrand, Sofie. 2011. *Från idé till politisk verklighet. Föräldrapolitiken i Sverige och Danmark*. [From idea to political reality. Parental policy in Sweden and Denmark] Umeå: Boréa förlag.
- Cools, Sara, Jon H. Fiva, and Lars Johannesson Kirkeboen. 2011. Causal effects of paternity leave on children and parents. Discussion Papers No. 657, Statistics Norway, Research Department.
- Dahl, Gordon B., Katrine V. Løken, Magne Mogstad, and Kari Vea Salvanes. 2013. What is the case for paid maternity leave? NBER Working paper No 19595.
- Duvander, Ann-Zofie, and Ann-Christin Jans. 2009. "Consequences of fathers' parental leave use: Evidence from Sweden" in *Finnish Yearbook of Population Research*. Special Issue of the 16<sup>th</sup> Nordic Demographic Symposium in Helsinki 5-7 June 2008, Pp. 51-62.
- Duvander, Ann-Zofie, and Mats Johansson. 2012. "What are the effects of reforms promoting fathers' parental leave use?" *Journal of European Social Policy* 22(3): 319-330.
- Duvander, Ann-Zofie, and Johansson, Mats. 2014. "Parental leave use for different fathers. A study of the impact of three Swedish parental leave reforms" in Rostgaard, Tine and Eydal, Gudny, eds, *Fatherhood in the Nordic Welfare States - Comparing Care Policies and Practice*. Bristol: Policy Press, Pp 349-374.
- Ekberg, John, Rickard Eriksson, and Guido Friebel. 2013. "Parental leave – A policy evaluation of the Swedish "Daddy –Month" reform" . *Journal of Public Economics* 97:131-143.

Eriksson, Rickard, and Magnus Nermo. 2010. "Care for sick children as a proxy for gender equality in the family." *Social Indicators Research* 97(3):341-356.

Evertsson, Marie. 2014a. "Gender Ideology and the Sharing of Housework and Child Care in Sweden." *Journal of Family Issues* 35: 927-949.

Evertsson, Marie. 2014b. Föräldraledighet och karriär. Kvinnors och mäns lön efter en föräldraledighet [Parental leave and career. Women's and men's wage after a parental leave], in Katarina Boye and Magnus Nermo, eds. SOU 2014:28 *Lönsamt arbete – familjeansvarets fördelning och konsekvenser* Stockholm: Fritzes, Pp 187-226.

Eydal, Gudny B., and Gíslason, Ingolfur V. (Eds.) 2008. *Equal rights to earn and care, the case of Iceland*. Reykjavík: Félagsvísindastofnun

Eydal, Gudny B., and Gíslason, Ingolfur V. 2011. *Parental leave, childcare and gender equality in the Nordic countries* Tema Nord 2011:562, Nordic Council of Ministers, Copenhagen.

Ferrarini, Tommy, and Ann-Zofie Duvander. 2010. "Earner-carer model at the crossroads: Reforms and outcomes of Sweden's family policy in a comparative perspective." *International Journal of Health Services* 40(3): 373-398.

Geisler, Esther, and Michaela Kreyenfeld. 2011. "Against all odds: fathers' use of parental leave in Germany" *Journal of European Social Policy* 21(1):88-99.

Government commission 2005, *Reformerad föräldraförsäkring. Kärlek Omvårdnad Trygghet. Betänkande av föräldraförsäkringsutredningen*. [ Reformed parental insurance. Love, care and safety] 2005:73 Stockholm: Fritzes.

Haas, L., Hwang, P. (2008). The impact of taking parental leave on fathers' participation in childcare and relationships with children: Lessons from Sweden. *Community, Work and Family* 11:85–104.

Hao, Lingxin, Naiman, Daniel (2007). *Quantile Regression*. Thousand Oaks, CA: Sage.

Johansson, Elly-Ann. 2010. The effect of own and spousal parental leave on earnings. Institute for labor market policy evaluation. IFAU Working paper 2010:4.



Karimi, Arizo, Erika Lindahl, and Peter Skogman Thoursie. 2012. Labour supply responses to paid parental leave Institute for labor market policy evaluation. IFAU Working paper. 2012:22.

Klinth, Roger. 2002. *Göra pappa med barn. Den svenska pappapolitiken 1960–1995*. [Make dad pregnant, The Swedish father politics 1960-1995] Umeå: Boréa förlag.

Kluve, Jochen, and Marcus Tamm. 2013. “Parental leave regulations, mothers’ labor force attachment and fathers’ childcare involvement: Evidence from a natural experiment.” *Journal of Population Economics* 26. 983-1005.

Kotsadam, Andreas, and Henning Finseraas. 2011. “The state intervenes in the battle of the sexes: Causal effects of paternity leave.” *Social Science Research* 40(6):1611-1622.

Lappegård, Trude. 2008. “Changing the gender balance in caring: Fatherhood and the division of parental leave in Norway.” *Population Research and Policy Review* 27:139-159.

Lalive, Rafael, Analía Schlosser, Andreas Steinhauser, and Josef Zweimuller. 2014. “Parental leave and mothers’ careers: the relative importance of job protection and cash benefits.” *Review of Economic Studies* 81:219-265.

Lalive, Rafael, and Josef Zweimuller. 2009. “Does parental leave affect fertility and return-to-work? Evidence from two natural experiments.” *Quarterly Journal of Economics* 124:1363-1402.

Lewis, Jane. 2001. “The decline of the male breadwinner model: the implication for work and care.” *Social Politics* 8(2): 152-70.

Lundberg, Shelly, Pollak Robert (2007). *The American Family and Family Economics*. NBER Working Paper no. 12908. National Bureau of Economic Research.

Lundkvist, Åsa. 2011. *Family Policy Paradoxes. Gender Equality and Labour Market regulation in Sweden, 1930-2010*, Bristol: Policy Press.

National Social Insurance Board. 2003. ”Mamma vet bäst. En kunskapsmätning om föräldräpning och föräldradighet” [Mother knows best. A knowledge measurement of parental leave]. *RFV Analyserar 2003:19* Stockholm: National Social Insurance Board.

Pfau-Effinger, Birgit. 2005. "Culture and welfare state policies: reflections on a complex interrelation" *Journal of Social Policy* 34 (1): 1-18.

Prop. 1993/94:147. Jämställdhetspolitiken: delad makt – delat ansvar. Social Ministry.

Prop. 2000/01:44. Föräldraförsäkring och föräldraledighet. Social Ministry.

Rege, Mari, and Ingeborg F. Solli. 2013. "The impact of paternity leave on fathers' future earnings." *Demography* 50:2255-2277.

Moss, Peter. (2014) *International Review of Leave Policies and Research 2013*. Available at: [http://www.leavenetwork.org/lp\\_and\\_r\\_reports/](http://www.leavenetwork.org/lp_and_r_reports/)

Rehel, Erin M. 2013. "When dad stays home too: paternity leave, gender, and parenting" *Gender & Society* 28(1):110-132.

Schober, Pia S. 2014. "Parental leave and domestic work of mothers and fathers: A longitudinal study of two reforms in West Germany." *Journal of Social Policy* 43 (2):351-372.

Stanfors, Maria. 2003. "Education, labor force participation and changing fertility patterns. A study of women and socioeconomic change in twentieth century Sweden" *Lund Studies in Economic History* 22, Stockholm: Almqvist & Wiksell International.

Statistics Sweden. 2012. *Working hours and work environment 2010-2011*. Living Conditions Report 126. Stockholm, Statistics Sweden.

Swedish Social Insurance Inspectorate. 2013. *Effekter på jämställdhet av reformer i föräldrapenningen*. Rapport 2013:17. Stockholm: Swedish Social Insurance Inspectorate.

Tanaka, Sakiko, and Jane Waldfogel. 2007. "Effects of parental leave and work hours on fathers' involvement with their babies." *Community, Work and Family* 10: 409-426.

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## Appendix

Table A1. Descriptives of sample for first reserved month. Standard deviations in parenthesis.

All parents.

	Reform cohort		Comparing cohort		[(4)-(3)]- [(2)-(1)]
	Dec 1994 (3)	Jan 1995 (4)	Dec 1993 (1)	Jan 1994 (2)	
<b>Girl</b>	0.48 (0.007)	0.48 (0.007)	0.48 (0.007)	0.49 (0.006)	-0.010 (0.013)
<b>Boy</b>	0.52 (0.007)	0.52 (0.007)	0.52 (0.007)	0.51 (0.006)	0.010 (0.013)
<b>Single birth</b>	0.96 (0.003)	0.97 (0.002)	0.96** (0.003)	0.97** (0.002)	-0.003 (0.005)
<b>Multiple birth</b>	0.04 (0.003)	0.03 (0.002)	0.04** (0.003)	0.03** (0.002)	0.003 (0.005)
<b>Mean age mother</b>	28.8 (0.066)	28.7 (0.064)	28.6 (0.067)	28.7 (0.062)	-0.153 (0.130)
<b>Mean age father</b>	31.5 (0.079)	31.4 (0.076)	31.3 (0.079)	31.3 (0.074)	-0.069 (0.154)
<b>Mother Swedish born</b>	0.89 (0.004)	0.88 (0.004)	0.88 (0.004)	0.90 (0.004)	-0.012 (0.008)
<b>Mother foreign born</b>	0.11 (0.004)	0.12 (0.004)	0.12 (0.004)	0.10 (0.004)	0.012 (0.008)
<b>Father Swedish born</b>	0.88 (0.004)	0.88 (0.004)	0.88** (0.004)	0.90** (0.004)	-0.014 (0.008)
<b>Father foreign born</b>	0.12 (0.004)	0.12 (0.004)	0.12** (0.004)	0.10** (0.004)	0.014 (0.008)
<b>Birth order 1</b>	0.40 (0.007)	0.38 (0.006)	0.39 (0.007)	0.39 (0.006)	-0.011 (0.013)
<b>Birth order 2</b>	0.37* (0.007)	0.39* (0.006)	0.37 (0.007)	0.38 (0.006)	0.015 (0.013)
<b>Birth order 3+</b>	0.23 (0.006)	0.22 (0.005)	0.23 (0.006)	0.23 (0.005)	-0.004 (0.011)
<b>Mean income mother (1000 SEK)</b>	123.2* (0.753)	125.3* (0.753)	166.0** (0.903)	168.5** (0.847)	-1.15 (1.786)
<b>Mean income father (1000 SEK)</b>	170.0 (0.927)	171.4 (0.892)	119.0* (0.720)	122.9* (0.689)	-1.75 (1.458)
<i>Residence</i>					
<b>Large cities</b>	0.32 (0.006)	0.31 (0.006)	0.33* (0.006)	0.31* (0.006)	0.010 (0.012)
<b>Large towns</b>	0.33	0.33	0.32**	0.35**	-0.019

	(0.006)	(0.006)	(0.006)	(0.006)	(0.012)
<b>Else Sweden</b>	0.35	0.35	0.35	0.34	0.009
	(0.006)	(0.006)	(0.006)	(0.006)	(0.013)
<i>Education</i>					
<b>Primary, mother</b>	0.16	0.15	0.17**	0.15**	0.016
	(0.005)	(0.005)	(0.005)	(0.004)	(0.010)
<b>Secondary, mother</b>	0.57	0.58	0.57	0.57	0.006
	(0.007)	(0.006)	(0.007)	(0.006)	(0.013)
<b>Tertiary, mother</b>	0.27	0.27	0.26**	0.28**	-0.022
	(0.006)	(0.006)	(0.006)	(0.006)	(0.012)
<b>Primary, father</b>	0.19	0.18	0.19**	0.17**	0.005
	(0.005)	(0.005)	(0.005)	(0.005)	(0.010)
<b>Secondary, father</b>	0.55	0.55	0.56	0.56	0.001
	(0.007)	(0.006)	(0.007)	(0.006)	(0.013)
<b>Tertiary, father</b>	0.26	0.27	0.24*	0.26*	-0.006
	(0.006)	(0.006)	(0.006)	(0.006)	(0.012)
<b>N</b>	5 499	5 881	5 441	6 193	

\*\* Statistical significant difference at the 1 %-level

\* Statistical significant difference at the 5 %-level

Table A2. Descriptives of sample for first reserved month. Standard deviations in parenthesis.  
Parents of a first child.

	Reform cohort		Comparing cohort		[(4)-(3)]- [(2)-(1)]
	Dec 1994 (3)	Jan 1995 (4)	Dec 1993 (1)	Jan 1994 (2)	
<b>Girl</b>	0.47 (0.011)	0.49 (0.011)	0.49 (0.011)	0.49 (0.011)	0.014 (0.022)
<b>Boy</b>	0.53 (0.011)	0.51 (0.011)	0.51 (0.011)	0.51 (0.011)	-0.014 (0.022)
<b>Single birth</b>	0.98 (0.003)	0.98 (0.003)	0.98 (0.003)	0.98 (0.003)	-0.004 (0.006)
<b>Multiple birth</b>	0.02 (0.003)	0.02 (0.003)	0.02 (0.003)	0.02 (0.003)	0.004 (0.006)
<b>Mean age mother</b>	26.6 (0.103)	26.7 (0.100)	26.7 (0.105)	26.6 (0.095)	0.086 (0.202)
<b>Mean age father</b>	28.9 (0.116)	29.0 (0.110)	28.8 (0.116)	28.7 (0.105)	0.198 (0.224)
<b>Mother Swedish born</b>	0.92 (0.006)	0.91 (0.006)	0.92 (0.006)	0.93 (0.006)	-0.009 (0.012)
<b>Mother foreign born</b>	0.08 (0.006)	0.09 (0.006)	0.08 (0.006)	0.07 (0.006)	0.009 (0.012)
<b>Father Swedish born</b>	0.90 (0.007)	0.91 (0.006)	0.92* (0.006)	0.93* (0.005)	-0.011 (0.012)
<b>Father foreign born</b>	0.10 (0.007)	0.09 (0.006)	0.08* (0.006)	0.07* (0.005)	0.011 (0.012)
<b>Mean income mother (1000 SEK)</b>	134.1* (1.306)	138.1* (1.327)	131.9 (1.212)	134.9 (1.184)	0.95 (2.517)

<b>Mean income</b>	165.1	167.8	161.4	162.6	1.50
<b>father (1000 SEK)</b>					
	(1.544)	(1.513)	(1.508)	(1.453)	(3.010)
<i>Residence</i>					
<b>Large cities</b>	0.35	0.34	0.34	0.33	0.009
	(0.011)	(0.011)	(0.011)	(0.010)	(0.021)
<b>Large towns</b>	0.34	0.34	0.34	0.34	-0.005
	(0.011)	(0.011)	(0.011)	(0.010)	(0.021)
<b>Else Sweden</b>	0.31	0.32	0.32	0.33	-0.004
	(0.011)	(0.010)	(0.011)	(0.010)	(0.021)
<i>Education</i>					
<b>Primary, mother</b>	0.12	0.11	0.11	0.12	-0.019
	(0.007)	(0.007)	(0.007)	(0.007)	(0.014)
<b>Secondary, mother</b>	0.58	0.60	0.59	0.57	0.031
	(0.011)	(0.011)	(0.011)	(0.011)	(0.022)
<b>Tertiary, mother</b>	0.30	0.29	0.31	0.31	-0.011
	(0.010)	(0.010)	(0.011)	(0.010)	(0.021)
<b>Primary, father</b>	0.14	0.14	0.15	0.14	0.005
	(0.008)	(0.008)	(0.008)	(0.007)	(0.016)
<b>Secondary, father</b>	0.59	0.57	0.58	0.58	-0.026
	(0.011)	(0.011)	(0.011)	(0.011)	(0.022)
<b>Tertiary, father</b>	0.26*	0.29*	0.27	0.28	0.021
	(0.010)	(0.010)	(0.010)	(0.010)	(0.020)
<b>N</b>	1 916	2 009	1 890	2 156	

\*\* Statistical significant difference at the 1 %-level

\* Statistical significant difference at the 5 %-level

Table A3. Descriptives of sample for second reserved month. Standard deviations in parenthesis. All parents.

	<b>Reform cohort</b>		<b>Comparing cohort</b>		[(4)-(3)]- [(2)-(1)]
	Dec 2001(3)	Jan 2002 (4)	Dec 2000 (1)	Jan 2001 (2)	
<b>Girl</b>	0.48 (0.008)	0.49 (0.007)	0.49 (0.007)	0.48 (0.007)	0.013 (0.014)
<b>Boy</b>	0.52 (0.008)	0.51 (0.007)	0.51 (0.007)	0.52 (0.007)	-0.013 (0.014)
<b>Single birth</b>	0.96 (0.003)	0.96 (0.003)	0.96 (0.003)	0.96 (0.003)	-0.006 (0.006)
<b>Multiple birth</b>	0.04 (0.003)	0.04 (0.003)	0.04 (0.003)	0.04 (0.003)	0.006 (0.006)
<b>Mean age mother</b>	30.1 (0.076)	30.1 (0.068)	30.0 (0.073)	29.9 (0.068)	0.050 (0.142)
<b>Mean age father</b>	32.7 (0.088)	32.6 (0.080)	32.7 (0.087)	32.5 (0.080)	0.093 (0.168)
<b>Mother Swedish born</b>	0.85 (0.005)	0.86 (0.005)	0.84** (0.005)	0.86** (0.005)	-0.007 (0.010)
<b>Mother foreign born</b>	0.15 (0.005)	0.14 (0.005)	0.16** (0.005)	0.14** (0.005)	0.007 (0.010)
<b>Father Swedish born</b>	0.85 (0.005)	0.86 (0.005)	0.84 (0.005)	0.85 (0.005)	0.004 (0.010)
<b>Father foreign born</b>	0.15 (0.005)	0.14 (0.005)	0.16 (0.005)	0.15 (0.005)	-0.004 (0.010)
<b>Birth order 1</b>	0.46* (0.008)	0.44* (0.007)	0.44 (0.007)	0.42 (0.007)	-0.007 (0.014)
<b>Birth order 2</b>	0.34** (0.007)	0.37** (0.007)	0.34** (0.007)	0.36** (0.007)	0.005 (0.014)
<b>Birth order 3+</b>	0.21 (0.006)	0.19 (0.005)	0.23 (0.006)	0.21 (0.006)	0.002 (0.012)
<b>Mean income mother (1000 SEK)</b>	185.7 (1.467)	188.5 (1.319)	172.0 (1.359)	173.9 (1.284)	8.13 (6.671)
<b>Mean income father (1000 SEK)</b>	265.4 (3.479)	269.4 (2.776)	255.8 (4.509)	251.7 (2.088)	0.91 (2.718)
<i>Residence</i>					
<b>Large cities</b>	0.36 (0.007)	0.36 (0.007)	0.35 (0.007)	0.36 (0.007)	-0.004 (0.014)
<b>Large towns</b>	0.32 (0.007)	0.33 (0.006)	0.34 (0.007)	0.33 (0.006)	0.017 (0.014)
<b>Else Sweden</b>	0.32	0.31	0.31	0.32	-0.013



	(0.007)	(0.006)	(0.007)	(0.006)	(0.013)
<b><i>Education</i></b>					
<b>Primary, mother</b>	0.12 (0.005)	0.11 (0.004)	0.12 (0.005)	0.13 (0.005)	-0.014 (0.009)
<b>Secondary, mother</b>	0.51 (0.008)	0.51 (0.007)	0.53* (0.007)	0.51* (0.007)	0.023 (0.014)
<b>Tertiary, mother</b>	0.37 (0.007)	0.38 (0.007)	0.35 (0.007)	0.37 (0.007)	-0.009 (0.014)
<b>Primary, father</b>	0.13 (0.005)	0.12 (0.005)	0.13 (0.005)	0.12 (0.005)	0.007 (0.010)
<b>Secondary, father</b>	0.56 (0.008)	0.55 (0.007)	0.55 (0.007)	0.56 (0.007)	-0.015 (0.014)
<b>Tertiary, father</b>	0.32 (0.007)	0.33 (0.006)	0.32 (0.007)	0.32 (0.006)	0.008 (0.013)
<b>N</b>	4 360	5 307	4 526	5 329	

\*\* Statistical significant difference at the 1 %-level

\* Statistical significant difference at the 5 %-level

Table A4. Descriptives of sample for second reserved month. Standard deviations in parenthesis. Parents of a first child.

	<b>Reform cohort</b>		<b>Comparing cohort</b>		[(4)-(3)]- [(2)-(1)]
	Dec 2001(3)	Jan 2002 (4)	Dec 2000 (1)	Jan 2001 (2)	
<b>Girl</b>	0.46 (0.012)	0.49 (0.011)	0.48 (0.012)	0.49 (0.011)	0.014 (0.023)
<b>Boy</b>	0.54 (0.012)	0.51 (0.011)	0.52 (0.012)	0.51 (0.011)	-0.014 (0.023)
<b>Single birth</b>	0.98 (0.004)	0.98 (0.003)	0.98 (0.004)	0.98 (0.003)	-0.002 (0.007)
<b>Multiple birth</b>	0.02 (0.004)	0.02 (0.003)	0.02 (0.004)	0.02 (0.003)	0.002 (0.007)
<b>Mean age mother</b>	28.4* (0.112)	28.1* (0.102)	27.9 (0.108)	27.8 (0.105)	-0.247 (0.214)
<b>Mean age father</b>	30.5* (0.123)	30.1* (0.112)	30.1 (0.124)	30.0 (0.113)	-0.260 (0.236)
<b>Mother Swedish born</b>	0.89 (0.007)	0.90 (0.007)	0.89 (0.007)	0.90 (0.007)	0.004 (0.014)
<b>Mother foreign born</b>	0.11 (0.007)	0.10 (0.007)	0.11 (0.007)	0.10 (0.007)	-0.004 (0.014)
<b>Father Swedish born</b>	0.89 (0.007)	0.90 (0.007)	0.89 (0.008)	0.89 (0.007)	0.013 (0.014)
<b>Father foreign born</b>	0.11 (0.007)	0.10 (0.007)	0.11 (0.008)	0.11 (0.007)	-0.013 (0.014)
<b>Mean income mother (1000 SEK)</b>	203.9 (2.404)	202.7 (2.230)	186.8 (2.156)	187.0 (2.204)	-4.22 (9.659)

<b>Mean income</b>	272.5	264.3	248.7	244.7	-1.37
<b>father (1000 SEK)</b>					
	(7.429)	(3.982)	(3.207)	(3.460)	(4.501)
<i>Residence</i>					
<b>Large cities</b>	0.38	0.39	0.36	0.39	-0.026
	(0.012)	(0.011)	(0.012)	(0.011)	(0.022)
<b>Large towns</b>	0.34	0.35	0.35	0.33	0.033
	(0.011)	(0.011)	(0.011)	(0.011)	(0.022)
<b>Else Sweden</b>	0.28	0.26	0.29	0.27	-0.006
	(0.011)	(0.010)	(0.011)	(0.010)	(0.021)
<i>Education</i>					
<b>Primary, mother</b>	0.08	0.09	0.08*	0.10*	-0.009
	(0.007)	(0.006)	(0.007)	(0.007)	(0.013)
<b>Secondary, mother</b>	0.48	0.49	0.51	0.49	0.026
	(0.012)	(0.011)	(0.012)	(0.011)	(0.023)
<b>Tertiary, mother</b>	0.44	0.42	0.41	0.41	-0.017
	(0.012)	(0.011)	(0.012)	(0.011)	(0.023)
<b>Primary, father</b>	0.10	0.10	0.09	0.10	-0.002
	(0.007)	(0.007)	(0.007)	(0.007)	(0.014)
<b>Secondary, father</b>	0.55	0.52	0.55	0.55	-0.025
	(0.012)	(0.011)	(0.012)	(0.011)	(0.023)
<b>Tertiary, father</b>	0.36	0.37	0.36	0.35	0.027
	(0.011)	(0.011)	(0.012)	(0.011)	(0.022)
<b>N</b>	1 767	2 062	1 733	1 978	

\*\* Statistical significant difference at the 1 %-level

\* Statistical significant difference at the 5 %-level