

Female Labour Supply in the Czech Transition: **Effects of the Work-Life Conciliation Policies**

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Abstract

Czech conciliation policies, i.e. social, family and employment policies affecting households' fertility and employment choices, have gone through dramatic changes since the 1989 transition to market economy. After a brief presentation of conciliation policies and practices before and after the transition, we focus on the 1995 Czech Parental Benefit reform and we evaluate its impact on mothers' labour supply. The payment of parental benefits was extended to 4 years instead of 3 without an equivalent extension of the job protected parental leave, leaving to mothers the choice of either guaranteed employment or additional twelve months of benefits. We use differences-in-differences strategy of identification to assess the net effect of this reform on mother's labour market participation. We find a sizeable and negative impact on mothers' probability of return to work at the end of the parental leave.

JEL Code: J13, J16, J18, P30

Key words: Central Eastern European Transition, Female Labour Supply, Parental Leave and Benefit, Policy Evaluation

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1. Introduction

The 1989 transition to market economy transformed the Czech family policy design as well as mothers' labour market participation, which declined steeply during this period. In this paper we examine the effect of a specific reform of the parental leave (PL): on October 1st 1995, the parental benefit is suddenly extended from 3 to 4 years.

In the economic literature, the theoretical and empirical links between family policy and work-life conciliation have been largely discussed in Western European countries. However, as far as we know, no empirical family policy evaluation has been conducted in the Czech Republic, and very few in the post-transitional Central and Eastern Europe (Balint and Kollo, 2007), despite the sizeable public expenditure they represent and the labour market outcomes they put at stake. In France, Piketty (2005) analyses the impact of a PL reform on mothers' fertility and labour supply, while Moschion (2010) analyses the impact on the interaction between fertility and labour supply. Lalive and Zweimuller (2009) estimate the impact of two German PL reforms on fertility and both short-run and long-run labour market outcomes. Schonberg and Ludsteck (forthcoming) look into a series of Austrian PL reforms, and differentiate the impact of two aspects, job protection and parental benefit. Comparative studies (Ruhm, 1998) indicate that PL schemes are rather positively correlated to mothers' labour market attachment, and appropriate PL and childcare policies can contribute to supporting both fertility and employment rates (Thévenon, 2013). Therefore, econometric evidence tends to indicate that PL increases job continuity by providing a guaranteed return-to-work after the end of the PL. However, as Schonberg and Ludsteck (forthcoming) point out, one should take into account the different incentives that yield in the job protection aspect and the cash transfer aspect of the PL.

In this paper, we analyse a Czech reform which disjoints these two features, by extending the parental benefit duration by 12 months beyond the job protection period (36 months). The predictable effects on mothers' labour supply are therefore more equivocal, since they are pulled by the cash transfer effect, and not by the job protection effect. The extension of parental benefit increases the replacement rate and decreases incentives to return to work: the explicit goal of the reform is to maintain mothers in their role of inactive caregivers for a longer period, and we assess whether and to what extent the goal is reached in terms of employment probability at the end of the job protected period. This reform was revealed and implemented on October 1st 1995, as a last minute amendment to the State

Social Support Act. This change comes therefore as a surprise, and represents an interesting case of natural experiment. All current and future recipients of parental benefit (i.e. mothers of children aged less than 36 months) at the moment of the reform, become eligible to the extension. They are therefore offered the choice of either returning to their previous employment at the end of the job protected 36 months, or giving up on the job protection and receiving 12 extra months of benefits at the condition of full-time personal care for their 3 year-old child. This reform comes out as part of a re-familizing policy trend, but also as an attempt to ease the pressures on the newly established labour market. The objective of this paper is therefore to assess the impact of this reform on mothers' labour supply and disentangle the context of the reform and its genuine effect, using a differences-in-differences design applied to the Labour Force Survey. The results show that a causal effect exists: the reform lowers mothers' probability of employment at the end of the PL by one fifth.

The paper is organized as follows. Section 2 is dedicated to the institutional background of conciliation policies during the communist era and after the transition to market economy (2.1.), with a focus on the 1995 parental benefit reform (2.2.). Then we proceed to an empirical evaluation of this reform: Section 3 presents the empirical strategy, while Section 4 discusses the data. We report the results in Section 5, and Section 6 concludes.

2. Background

2.1. Work-family conciliation policies and practices before and after the transition

In the Eastern Bloc, the centrally planned economy led to a specific management of the labour force, marked by a strong interventionism. Compulsory employment did not apply to married women, but the social and family benefits were conditioned on employment, and the model of double income was preponderant among Czech households. The female full time employment spread among the majority of women throughout the active age, and yet in 1955 women count for 42% of the Czechoslovak labour force (Haskova, 2007). Massive female employment came along with a fertility decline², which became alarming in the 1960's and marked the beginning of a comprehensive pro-natalist family policy. The total fertility rate recorded a significant drop between 1950 and 1970 (from 2.8 to 1.9), and fell below the

² The fertility trend of the 1960's reflects also the widely spread and affordable birth control means.

replacement level in 1966 (CZSO, 2012). Concerned by this decline, public authorities began to set up a thorough and progressively more and more generous family and social policy. The maternity leave is extended to 26 weeks in 1968, then 28 weeks in 1987. 1 year PL is established in 1964, and then extended to 2 years in 1970 and 3 years in 1989, under the condition of 2 dependent children in the household. The pre-transitional family policy uses two major tools: lengthening the leave for mothers of more than one preschool aged child, and also widening the system of public day care facilities. During the 1960's, the part of children attending kindergartens moves to 56% (compared to 26% in 1950), and the form of institutional childcare moves from part-time care to all-day service for the majority of children, along the objective of defamilization of care and liberation of female labour force (Haskova and Uhde, 2011). Between the 1950' and the 1980', the part of children attending nurseries moves from 3% to 18% and the part of children attending kindergartens moves from 26% to 81% (Haskova, 2007).

The change of the political regime came along with a transition to market economy, with two salient features in relation to work-family conciliation. The first one is the creation of a labour market, and the second one is an ideological swift in the management of public expenditures, advocating less interventionist family policy and more market-based solutions to the childcare issue. In the context of economic uncertainty and uprising unemployment, the negative effect of motherhood on labour force participation is reinforced and gets ahead of other European countries³. This motherhood-related employment gap highlights the shift from a model of joint parenthood and labour, towards an incompatibility of having young children and working simultaneously. Czech women postpone or reject motherhood, which is recorded by an unprecedented drop in fertility rate in the 1990's (1,13 in 1999 (CZSO, 2012)). The post-transitional family policy evolves in a pro-reform climate and conveys an "ideologically induced animosity towards the institutions and policies of the welfare state" (Potucek, 2001, p.102). The rejection of former pro-natalist objectives is one illustration of this shift. Fertility is regarded as a matter of individual preferences which should be held out of public authority's reach. The individual responsibility is promoted as counterpart to the former state paternalism (Vecernik, 1993), and the institution of public childcare loses to a large extent the public attention and financing. The supply of kindergartens decreases in accordance to the fertility trend, but the number of nurseries records an unprecedented decline, which gets far ahead the declining demand: from 1 700 nurseries before the transition, we move to 60 in

³See Figure 1 in Appendix.

2003 (Kucharova et al, 2009). As to the paid PL, it is extended in 1990 to 3 years for all children, with no other condition than the child's age. This generous evolution of PL scheme might appear paradoxical in the context of transition towards less interventionist and less universalist approach of the family policy, but the opportunity to appease labour market pressures and promote social peace gains priority. Therefore, in spite of the liberal discourse⁴, the PL scheme follows rather a conservative gender labour division target, than a high labour market participation target. The effects of family policy measures on female labour supply are not a direct concern for the Czech policy maker in the 1990's, yet the extent and the cost of the PL schemes invite us to consider their efficiency and evaluate their effects. We will therefore focus on a major post-transitional PL reform in the remainder of this paper, and we will proceed to an empirical evaluation of its impact on mothers' labour supply.

2.2. The Parental Leave legislation in 1995

Between 1990 and 1995, the duration of the PL is 3 years, that is to say 36 months, until the child's 3rd birthday. The PL, which is synonym of the period of protected employment, is combined with a parental benefit for the same amount of time. The maximum duration of the leave and the benefit is the same for all the children; the extension to 7 years for handicapped children is the only exception. Parents, who are entitled by the social insurance to maternity leave and benefits, enter the PL and start perceiving parental benefits at the end of the maternity leave. Others are directly allocated parental benefits, but this distinction has no effect on the limit of the leave and of the benefit payment, which remains the child's 3rd birthday. In 1995, only mothers (or widowers) are entitled to maternity leave, fathers are entitled to parental benefit but without the job security provided by the PL. Therefore, the number of fathers perceiving benefit is negligible. The amount of the parental benefit is flat, 1740Kc for each household. The benefit eligibility is universal, and the only condition for the parent is to provide personal care, which means that the child is not allowed to attend any childcare facility and the parent is not allowed to work more than 2 hours a day or earn more than 1800Kc per month.

In 1995, the bill 117/1995 Coll. remodels the entire system of social benefits, by creating a State Social Support branch as one of the 3 pillars of the social security. The first

⁴Many tools of the family policy follow a residual approach, aiming at low income families, but it cannot be thought of as an ideologically consistent liberal family policy, since there are no pressures on mothers to find private childcare and return on the labour market: on the contrary, the long PL scheme is maintained and reinforced.

pillar is the Social Insurance, in charge of maternity benefits among others, the second pillar is the Social Support, in charge of expenditures for families with children, and the third pillar is the Social Assistance in material need. Inside the social support branch, the parental benefit scheme is revised: the payment of parental benefit is extended to 4 years instead of 3, with the amount of the benefit being kept at a similar level, 1848Kc per month. The benefit is established as 1.1 times the minimal subsistence income, therefore meant to be periodically re-evaluated. The specific feature of this reform is that the benefit extension is not accompanied by any extension of the job-protected PL. The job protection, under the jurisdiction of the labour code and therefore independent of the social legislation, maintains the duration of 36 months (i.e. until child's 3rd birthday). Yet the benefit duration becomes from now on 48 months (i.e. until child's 4th birthday). Therefore, after the reform, parents at the end of the PL face the choice of either returning to employment, or perceiving 12 extra months of benefit, no longer accompanied by job protection. In case mothers do not have an employment to return to, their choice is the parental benefit during 12 months on the one side, or an unemployment benefit during only 6 months, conditioned on previous employment, on the other side. Compared to 2500Kc of full-time minimum wage and 1848Kc of parental benefit during 12 months, the unemployment benefit is equal to 60% of previous wage during 3 months, then 50% for the 3 months left. The parental benefit extension is therefore relatively generous and incentivizes mothers to postpone their return-to-work at the risk of worse labour market perspectives at the end of the extension.

This reform, as part of the Act on State Social Support, comes into effect on October 1st 1995. It should be noted that the paragraph on the parental benefit duration (§30) is not initially intended to feature on the bill and therefore is not discussed by the government. It comes as a paragraph added later on by the parliament during the legislative process, at the initiative of the Christian Democrat Union. Therefore, beyond a tool to fight unemployment and to promote social peace, the postponement of mothers' return to employment is also a conservative pro-family response to the pre-1989 defamilizing childcare policy.

Once the act is implemented, the parental benefit scheme is reformed in the following way. The payment is extended until the child's fourth birthday for all the current and future recipients of the benefit at the date of the implementation of the reform. Therefore, the distinction between eligible and non-eligible is based on the date of the child's 3rd birthday (or in other words his/her birth date, 3 years prior). Should the 3rd birthday occur before October 1st 1995, then the mother exhausts her benefit and leave rights before the reform and she is not concerned by the benefit extension. Should the 3rd birthday occur after October 1st 1995, then

the mother is still a recipient of the benefit at the moment of the reform, and she is concerned by the extension. The population of mothers, who are eligible but close to the limit, is obviously the most interesting to analyse. For them, the extension comes as a surprise⁵, and they cannot be suspected of adapting their fertility strategies (number of children, date of birth) to the eligibility criterion. We are therefore particularly interested in the return-to-work patterns of those mothers who experienced the end of their PL shortly after the implementation of the reform. We will develop this analysis in the remainder of this paper.

3. Data and summary statistics

3.1. Data

We use the Czech Labour Force Survey (LFS), collected by the Czech Statistical Office on a quarterly basis starting from December 1992. Each quarter records approximately 70 000 individuals, and collects rich information about the socio-economic profile of each member of a household. The survey is representative of the Czech population via an individual weighting system. The LFS is a rotating panel, where each household remains in the sample for 5 consecutive quarters. The data are collected on a declarative basis, and provide a large battery of variables related to one's status in the labour market in the current quarter (more specifically in the reference week). We use 6 then 12 quarters around the reform for the estimation's sake (1995-1998), and we exploit the panel structure for the construction of our sample: we shortlist mothers who were present in the survey around the moment when their child reached 36 months, i.e. before and after the child's 3rd birthday. The data have not been collected with the aim of analysing work-life conciliation, as they are focused primarily on employment, but they are rich enough to be exploited from this angle, and most importantly, no other data with comparable extent have existed in the post-transitional context of the 1990's. Among the major drawbacks of the data, the panel rotation does not allow us to go beyond the short-run effects of the reform. Regular panel data would have allowed us to turn towards mothers' economic status history and have proper knowledge of its evolution during and after the PL at an individual level. Another limitation comes from the fact that the LFS records no information about income. Yet it would have been convenient to take into account wages and benefits, and most of all, it would have been interesting to

⁵ As explained above, this reform was added to the bill later on, it was therefore not expectable.

assess the effects of incitation to longer withdrawal from the labour market on mothers' earnings.

As to the sample construction, mothers are identified in an indirect way in the LFS. We select women who are between 15 and 39 years of age. The upper bound is high enough, as we are only interested in mothers whose child is not older than 3, and it allows us to minimize the risk of confusion between mothers and grand-mothers in the household. The age of the child is given, unlike the date of birth. Therefore we isolate mothers at the end of the PL duration (36 months) by the child's transition from the age of 2 to the age of 3 between two succeeding quarters. We identify the quarter in which the child becomes aged 3 compared to the previous record where he is aged 2, and we keep only mothers for whom we have these two successive records available in the data. That is how we construct a "transition" variable, which signals that the child passed from 2 to 3 years of age - and so the mother just quit the PL. Therefore, the construction of the sample is restrictive and we lose many individuals. Inside the considered period, we lose mothers who enter the survey after the transition/who quit the survey before the transition; at both bounds of the considered period we lose those who experience the transition before or after the quarters we use for the estimation. Despite the restrictions, the large size of the dataset allows us to constitute a sample of 1703 mothers, representative of 198 000 individuals on a national scale.

As to the choice of quarters, we centre the analysis on 3 quarters before and 3 quarters after the reform⁶. However, since we don't have any indication on the actual date of birth, we have to adapt the choice of quarters to our transition variable. As for the very first quarter after the reform (last quarter 1995), if the variable indicates that the child has reached 36 months since the previous record (3rd quarter 1995), we cannot identify the date of birth precisely enough to determine if the transition occurred before or after October 1st 1995. According to the interview week of the given household, the transition from 2 to 3 may have occurred before October 1st 1995 (non-eligible) or after October 1st 1995 (eligible). We cannot stipulate clearly that all the mothers in this wave of the survey are eligible to the extra 12 months of benefits, and that is why the 4th quarter of 1995 is excluded from the estimation. We will therefore compare mothers who experienced the transition between January 1st 1995 and September 30th 1995 (non-eligible) to those who experienced the transition between January 1st 1996 and September 30th 1996 (eligible); in other words, our sample comprises the quarters 1, 2 and 3 in 1995 and the quarters 1,2 and 3 in 1996.

⁶ This is valid for the before /after analysis, then we use the same number of quarters around the same date 2 years later.

3.2. Summary statistics

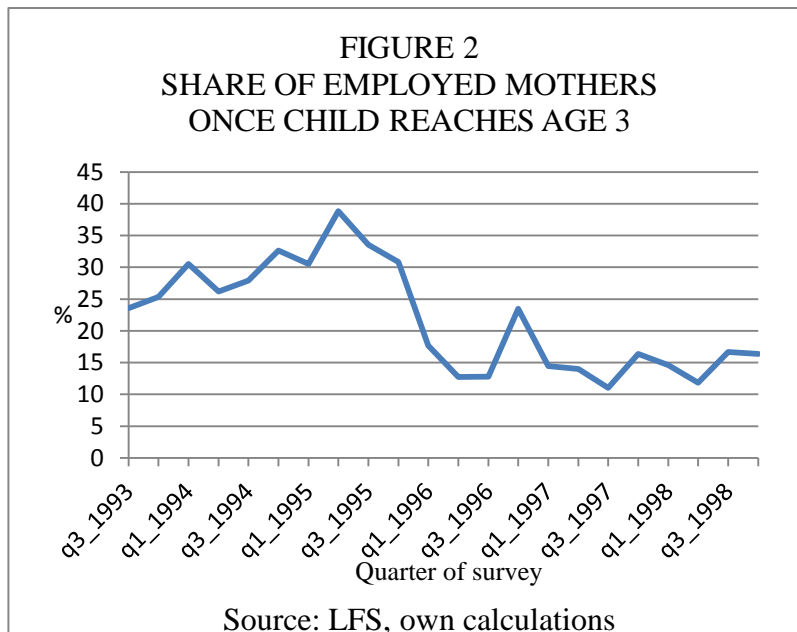
Before focusing on mothers, we compare basic summary statistics for the overall female population within the same age group (15-39). In 1995, the overall female population aged 15 to 39 in our data comprises 11 725 individuals. They are on average 26,2 years old⁷, and a half of them is married. As to their educational level, one third graduated high school and 6,3% have superior education. Among these women, 63,7% have children. As to the economic activity self-classification, which is our dependent variable, 54,6% are employed, while 16% are on ML or PL and 19,3% are students. 4,3% of them declare being unemployed.

Mothers are on average older than the overall population (29,6), and the proportion of married mothers goes up to 82,5%. As to the number of children, 46,4% have 1 child, 44,4% have 2 children, and 9 % have 3 children or more. They are slightly more educated than the overall population (by 3 percentage points for high school graduation and by 2 points for superior education), which may be partly linked to their higher average age. As to the labour market activity, the proportion of employed is similar to the overall population in 1995, while the share of students moves down to 4% and the share of ML and PL moves up to 26%. These are the characteristics of all the mothers, independently of the age of the child.

We then extract our sample of eligible and control individuals, that is to say mothers whose child turned 3 within 3 quarters before (non-eligible) or after (eligible) October 1st 1995. For the second estimation method, we compare this cohort around the reform date (1995-1996) to a cohort around a date when no reform occurred (1997-1998). The eligible and control samples feature similar characteristics, the statistics are provided in Table 4 in Appendix. The reform and non-reform cohort are also similar with respect to explanatory variables, the statistics are provided in Table 5 in Appendix.

As to the labour market participation of our sample, the share of employed mothers records a substantial decrease over the period of interest. Mothers are less and less likely to be employed at the end of the PL, and we will assess the causal relation between this decline and the reform implementation in the remainder of the paper.

⁷ The statistics are corrected by individual weights in order to ensure representativeness.



4. Empirical Strategy

As mentioned above, we proceed to two estimation methods: the preliminary before/after comparison and the conclusive differences-in-differences estimation. We want to account for mothers' return-to-work patterns after the 36 months of parental leave, and our testable hypothesis is that the 1995 parental benefit reform works as a disincentive to return-to-work, by increasing the value of staying at home. Therefore, the predictable effect of the reform is to lower the share of mothers who are employed once the parental leave is over. In the medium run, this extension of labour market withdrawal might weaken labour market attachment and reinforce career discontinuities, especially as it goes with the loss of the job protection. Previous evidence shows that parental leave schemes mostly increase post-maternity employment in the medium run (Ruhm, 1998) or at least do not decrease it (Lalive and Zweimuller, 2009), but this is due to the job protection side and less to the cash transfer side of the story. The specific feature of our reform is to disjoint the duration of the job protection and the duration of the benefit, in favour of the latter. Schonberg and Ludsteck (forthcoming) and Lalive and Zweimuller (2009) analyse a series of PL scheme reforms in Germany and Austria, claiming that the case when benefits are longer than job protection worsens mothers' post-maternity labour market situation.

We use a method similar to theirs in our evaluation of the impact of the reform: a differences-in-differences design applied to the short-run return-to-work probability. We estimate the causal effect of the parental benefit extension on mothers' employment

probability after the end of the job protected PL. In other words, we identify the impact of the extension of the payment of benefits from 36 to 48 months, on mothers' employment probability after the 36th month. Our outcome of interest is the employment status at the end of the parental leave, i.e. as soon as the child turns 3. For this purpose, we consider mothers' economic activity status directly at the quarter following the transition of the child's age from 2 to 3. This employment status variable is self-reported, and alternative answers include ML, PL, unemployment or staying at home for child care purposes. At this moment, the parental leave rights expired less than 3 months ago, and the potential difference in labour supply between eligible and non-eligible can be observed. The following table sums up the mechanism of the 1995 reform for a clear understanding of the evaluation to come.

TABLE 1 DESIGN OF THE 1995 REFORM					
	<i>Targeted by the reform</i>	<i>Job protection (=PL)</i>	<i>Parental benefit</i>	<i>Child's age on October 1 1995</i>	<i>Situation after Oct 1 1995</i>
<i>Child born before Oct 1 1992</i>	No	36 months	36 months	More than 36 months (already aged 3)	PL over, benefit payment over
<i>Child born after Oct 1 1992</i>	Yes	36 months	48 months	Less than 36 months (not yet aged 3)	PL over, 12 extra months of benefit

In the preliminary step, we estimate a simple before/after model, where mothers from the 1st row of the table above serve as control (they quit the parental benefit system between January and September 1995, they are non-eligible but close to the limit), and mothers from the 2nd row of the table serve as treated (the transition from 2 to 3 years is recorded between January and September 1996, they are entitled to 12 extra months of benefits but close to the limit). In other words, we compare employment probability of mothers whose child reached 36 months before October 1st 1995 to that of mothers whose child reached 36 months after October 1st 1995. We estimate a linear probability model, where we correct for heteroskedasticity. However, this approach is insufficient to reveal casual relation between the reform and the outcome of interest, because the observed difference can be affected by maturation bias: we don't control for the fact that Czech mothers may simply lower their labour supply from one year to another. Moreover, seasonality may affect the outcome. As we cannot grant the temporal stability of mothers' employment rates over the considered period, we pursue with a different method, applying a double comparison.

We use the differences-in-differences design, by comparing the evolution of employment rate within a cohort around the reform date, with the evolution of employment rate within a different cohort, around a date when no reform occurred. We assume that mothers have fairly similar characteristics around these 2 dates⁸. This double comparison captures possible seasonality, and most importantly, possible trend in the outcome. This trend would be independent of the reform and due for instance to economic situation. This is a very plausible pitfall of the causal analysis here, as the reform aims at withdrawing mothers from employment in the context of rising unemployment and therefore raises the issue of endogeneity. The differences-in-differences design allows for the existence of such a trend: it accounts for the deterioration of the labour market situation from one year to the next, while isolating the causal effect of the reform by contrast with the change occurred around the non-reform date. Here, we select October 1st 1997 as the non-reform date, and therefore we compare the change occurred after the reform implementation with the same date 2 years after. As we use 3 quarters before and after the reform in the regression, we had to settle for this 2 year distance between the reform date and the non-reform date, for the two cohorts not to overlap.

5. Results

Due to its length, generosity and universal access, parental leave and benefit system is a major criterion for Czech mothers' labour market participation decisions. The 1995 reform changes substantially the benefit payment setup, and we can expect this to have an impact on mothers' return to work between the end of the job protected PL and the end of the benefit payment. Estimation results confirm this presumption and indicate significant negative causal relation between the extension of the benefit and the probability of employment in the months following the end of the PL.

5.1. Before/After comparison

A simple before/after comparison by a linear probability model suggests that the probability of employment decreases by 19,8% for mothers who are targeted by the reform and who become eligible for the 12 extra benefits (i.e. who end their job protected PL)

⁸ See the Table 3 with summary statistics of the sample, in Appendix.

between the January 1st 1996 and September 30th 1996, as compared to mothers who are non-eligible and who ended their PL between the January 1st 1995 and September 30th 1995. We correct for heteroskedasticity, and we show that neither the significance nor the size of the effect varies with the survey weighting setup, or with the choice of covariants. It is however interesting to note that 3 covariants contain a value which is significantly related to the employment probability. Superior education has a large and positive effect on the probability of employment: *ceteris paribus*, having attended superior education comparatively to having graduated high school increases the probability of employment at the end of the PL by 16%. As to age, belonging to the age group 30-39 comparatively to the age group 25-29 increases also the probability of employment, by 8%. Last but not least, having 3 children comparatively to having 1 child decreases the probability of employment by 10,5%. None of this result is surprising; they rather confirm general knowledge about factors of female labour supply.

The modification of the number of quarters before and after the reform gives less unambiguous results. The restriction to 2 quarters instead of 3 does not impact the significance of the parameter (it is still significant at 1% level), and its value remains comparable (18,8%). When we restrain to only 1 quarter before and after, however, the significance decreases to the 10% level and the size of the effect goes down to 10,5%. We should note that the size of the sample becomes very low with this restriction, only 164 treated and 155 control individuals.

TABLE 2 IMPACT OF THE EXTENSION OF PARENTAL BENEFIT (1995) ON POST-PL
EMPLOYMENT PROBABILITY, 1st step (LPM)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent var.: To be employed or not to be employed					
post	-0.198*** (0.0281)	-0.198*** (0.0284)	-0.195*** (0.0302)	-0.191*** (0.0305)	-0.187*** (0.0386)	-0.103* (0.0528)
<i>Graduated HS</i>				<i>ref</i>		
none or elementary				-0.0795 (0.0558)	-0.0567 (0.0754)	-0.0377 (0.109)
did not graduate HS				-0.0172 (0.0329)	-0.0231 (0.0401)	-0.0238 (0.0536)
superior education				0.161** (0.0641)	0.117 (0.0776)	0.236** (0.103)
married				-0.0249 (0.0501)	0.00867 (0.0584)	0.0317 (0.0732)
<i>age_2529</i>				<i>ref</i>		
age_1524				-0.0296 (0.0353)	0.00160 (0.0437)	-0.00587 (0.0563)
age_3039				0.0810** (0.0378)	0.0994** (0.0451)	0.0961 (0.0649)
<i>child1</i>				<i>ref</i>		
child2				-0.0329 (0.0337)	-0.0586 (0.0421)	-0.0358 (0.0562)
child3				-0.105** (0.0443)	-0.110** (0.0524)	-0.141** (0.0671)
Constant	0.344*** (0.0202)	0.344*** (0.0231)	0.345*** (0.0244)	0.382*** (0.0656)	0.363*** (0.0787)	0.278*** (0.0994)
Observations	879	879	879	879	607	319
R-squared	0.054	0.054	0.051	0.085	0.077	0.083

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The 6 columns report the results of the following estimations: simple before/after comparison (1), robust (2), robust and weighted (3), robust, weighted and with covariants (4), robust, weighted, with covariants and with restricted number of quarters (5 and 6). The stability and the scope of the result suggest that the reform has indeed contributed to change mothers' return-to-work patterns; however it is not sufficient to assert causality.

5.2. Differences-in-differences estimation

The results obtained with the differences-in-differences method are fairly similar to the preliminary results; the effect of the reform appears now to be slightly higher (by 2 percentage points). In the following table, the column (1) reports the result of the before/after

comparison, the columns (2) and (3) report the differences-in-differences estimation, without then with weights and covariants. The effect of the reform is represented by the variable “treat”.

TABLE 3 IMPACT OF THE EXTENSION OF PARENTAL BENEFIT (1995) ON POST-PL EMPLOYMENT PROBABILITY, 2nd step (Dif-in-Dif)

VARIABLES	(1) To be employed vs. not to be employed	(2)	(3)
post	-0.191*** (0.0305)		
<i>Graduated HS</i>		<i>ref</i>	
None or elem.	-0.0795 (0.0558)		-0.102*** (0.0298)
HS, no grad	-0.0172 (0.0329)		-0.0413* (0.0213)
Superior	0.161** (0.0641)		0.127*** (0.0460)
married	-0.0249 (0.0501)		-0.00844 (0.0273)
<i>age_2529</i>		<i>ref</i>	
age_1524	-0.0296 (0.0353)		-0.0313 (0.0215)
age_3039	0.0810** (0.0378)		0.0603** (0.0250)
<i>child1</i>		<i>ref</i>	
child2	-0.0329 (0.0337)		-0.0297 (0.0213)
child3	-0.105** (0.0443)		-0.0713** (0.0292)
Season		0.0116 (0.0241)	0.0170 (0.0236)
Trend		0.211*** (0.0284)	0.220*** (0.0292)
Treat		-0.210*** (0.0372)	-0.209*** (0.0383)
Constant	0.382*** (0.0656)	0.133*** (0.0165)	0.162*** (0.0376)
Observations	879	1,703	1,703
R-squared	0.085	0.050	0.084

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The two last columns show that the result is independent of the survey weighting setup and of the choice of covariants. With the restriction of the number of quarters, the result

follows the same evolution as in the linear probability model: same significance and fairly same scope if 2 quarters used, lower significance level and lower effect if 1 quarter used. Superior education, 30-39 age group and having 3 children remain relevant categories among mothers' labour supply determinants, and another value comes to the surface for the education variable. Having none or elementary education appears to lower the probability of employment by 10,6%, which is also coherent with stylised facts. The differences-in-differences estimation features 2 additional variables, which capture seasonality and trend. The seasonality parameter appears to be non-significant, which is logical given the structure of the sample: we compare the same period of the year, or should we say almost the whole year (9 months), with a 2 years interval. As to the trend, the coefficient is sizeable⁹ and significant, which was expectable given the evolution of the economic situation over the period. Indeed, the probability of mothers' employment was 22% higher in the first cohort (1995-1996) compared to the second one (1997-1998), simply because the situation in the labour market was worsening. With the rising threat of unemployment, workers' perspective in the labour market was degrading and the overall activity and employment rates were decreasing among the Czech labour force. Therefore a trend of lower employment rate exists in our data, and we account for it in the model. Once the trend captured, we get closer to the possibility to assert causality in the change of employment probability before and after the 1995 reform. We can now assert that the extension of the parental benefit, while leaving unchanged the duration of the PL, lowers the share of mothers who returned to work in the quarter after the end of their PL by 20,9%¹⁰. The complete review of the different estimation methods results are reported in Table 6 in Appendix.

In order to go further in the interpretation of the results, we focus on the scope of the impact along the covariants values. The education appears particularly relevant for this specification. With the linear probability model, the negative effect of the reform is twice as strong for mothers who did not graduate high school compared to mothers who did graduate high school (28% and 14%). The differences-in-differences estimation gives a fairly similar result, respectively 29% and 17%. The values "graduated high school" and "did not graduate high school" represent more than 80% of the sample: the lack of significance of the

⁹ The positive sign might be misleading, but the interpretation of the coefficient is the probability of employment in the first cohort (1995-1996), taken the second cohort as reference (1997-1998). The employment rates were higher in the first period, the coefficient is therefore positive.

¹⁰ In order to make sure that the observed effect is not due to some specific feature of the chosen variable, we perform the differences-in-differences estimation on 2 alternative variables that account for economic activity in the survey (the recorded answers are correlated but not identical). The effect of the reform remains significant, of a comparable scope.

coefficients of the remaining levels is most likely due to an insufficient sample size. It is not surprising to note that mothers with lower education tend to be more sensitive to labour market withdrawal incentives, and it confirms once again general knowledge about labour market attachment of women with different educational levels. The educational level can be used as a proxy for qualification and hence labour income: here the interpretation is that less educated mothers are more attracted to the extended parental benefit at the expense of employment, as the replacement rate is higher for them than for high paid female workers. The table of results for different educational levels is reported in Table 7 in Appendix.

5.3. Robustness checks

We challenge our estimation results, in order to confirm or disprove the stability of the coefficients we observed so far, by two robustness checks. The first one consists in selecting an alternative control cohort for the differences-in-differences estimation. Indeed, the 1997-1998 cohort might not be the clearest comparison group: even though we do not observe any legislative shock at the chosen date, the cohort is in fact exposed to the reform that occurred 2 years prior. Therefore, selecting the control cohort 2 years before the reform (1993-1994), instead of 2 years after the reform (1997-1998), would be a good alternative. However, the bad quality of the very first quarters of the survey at the beginning of the 1990's does not allow us to consider such cohort. We can only build the differences-in-differences estimation around October 1st 1993 if we consider 1 quarter at each side of the date¹¹ instead of 3. It can therefore be useful at least as a robustness check, and it confirms the significance at 1% and the substantial size of the causal effect of the 1995 reform on mothers' employment probability.

¹¹ The summary statistics for that cohort are reported along with the other cohorts in Table 4 in Appendix.

TABLE 8 IMPACT OF THE REFORM ON EMPLOYMENT PROBABILITY
WITH A CONTROL COHORT 1993-1994

VARIABLES	Employment
Season	0.116** (0.0515)
Trend	0.0776 (0.0485)
Treat	-0.237*** (0.0729)
<i>Graduated HS</i>	<i>ref</i>
None or elem.	-0.144** (0.0595)
HS, no grad	-0.0585 (0.0402)
superior	0.0908 (0.0694)
married	-0.0263 (0.0614)
<i>age_2529</i>	<i>ref</i>
age_1524	-0.0213 (0.0406)
age_3039	0.0769* (0.0458)
<i>child1</i>	<i>ref</i>
child2	-0.0774* (0.0419)
child3	-0.134** (0.0521)
Constant	0.330*** (0.0794)
Observations	702
R-squared	0.058

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The second application adds to the first one the idea of a placebo regression. In order to confirm that the change in mothers' employment probability before and after the reform is genuinely due to the reform, we will test the change in employment probability for another group of mothers who are not concerned by the reform. The legislative change applies to mothers whose child recently turned 3, therefore the labour market participation of mothers whose child recently turned 2 or 4 should remain unchanged before and after the reform. Or, more precisely, their employment probability may differ before and after the reform if there is

a global trend of decreasing employment rates, but the causal analysis should be inconclusive. We compare therefore the differences inside the placebo treated cohort (95-96) to the differences inside the placebo non-treated cohort (93-94), and indeed, the results confirm that this reform has no significant impact on mothers of younger or older children. The results for both are reported in table 8 in Appendix.

6. Conclusions

The Czech post-transitional family policy drops the former emphasis on female labour market participation and strong intervention in public childcare supply. The new trend is therefore a rather family-conservative policy, the epitome of which is the evolution in the parental leave scheme. The 1995 Act on State Social Support brought along an unexpected extension of parental benefit payment by 12 months for all current and future recipients of this universally accessed benefit. This extension led to a disjunction of the job protected parental leave and the parental benefit duration, leaving to mothers the choice of 12 extra months of benefits at the expense of a secure post-PL return-to-work. We find a substantial impact of this reform on mothers' probability of employment within the first post-PL quarter. Indeed, the probability of employment of the eligible mothers decreased by 20% compared to the non-eligible pre-reform cohort. Unsurprisingly, the decrease in employment probability is twice as strong for women with low educational level compared to women who graduated high school.

This reform had an explicit objective of withdrawing mothers from the labour market, in order to appease in the short-run the uprising unemployment threat. While we confirm that the reform reached its intended effect, further investigation is needed in order to assess medium-run effects on mothers' labour market attachment: we could expect this reform to negatively affect further career and labour income of fragile groups of workers such as the above mentioned low educated women. The lack of good quality data for this period is however the major obstacle for analysing this turbulent post-transitional legislation and its effects on work-life balance behaviours. This could be a possible explanation of the scarcity of family policy evaluations in the Czech Republic, along with other Central Eastern European countries. Yet the persistence of the phenomenon until these days, 10 years after the European Union accession, suggests rather a certain lack of interest.

The European Union social integration process has played a major role in modelling family policy with respect to female employment, as the European Commission puts emphasis

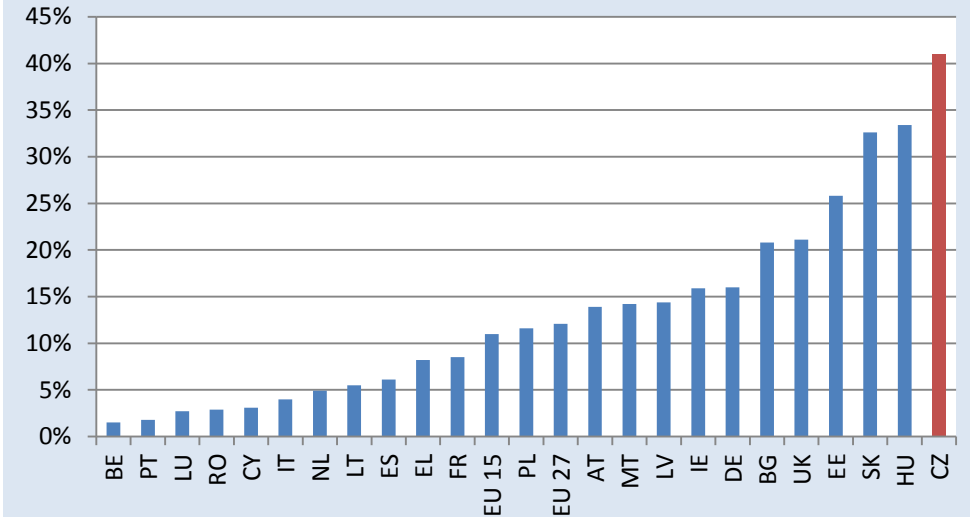
on female labour market attachment and on public child care services as tools for increasing mothers' labour supply. While childcare supply remains to this date a second-tier issue, the parental leave scheme has recently been remodelled in a way to fit the European trend and to incentivize faster return to employment: the effects of this policy shift remain to be assessed.

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Appendix

FIGURE 1 EMPLOYMENT GAP – WOMEN WITH CHILDREN UNDER THE AGE OF 6



Source : EU Labour Force Survey, in European Commission Indicators for monitoring the Employment Guidelines (2010)

The motherhood-related employment gap is defined as the difference in employment rates between women without children in pre-school age and with children in pre-school age.

TABLE 4 SUMMARY STATISTICS OF THE SAMPLE (1)			
		Non treated (Jan - Sept 1995)	Treated (Jan - Sept 1996)
Controlled variables			
Mean age		27,3	27,4
Age groups, %			
15-24		31,3	30
25-29		37,1	38,5
30-39		31,5	31,5
Mean number of children		1,8	1,9
Number of children, %			
1		33,8	37,7
2		52,5	44,8
3 and more		13,7	17,5
Married, %		91,7	89
Educational level, %			
None		0,28	0,5
Elementary		10,2	8
High school without exams		37,7	44,2
High school graduated		42,2	39,7
Superior		9,7	7,6
Dependent variable			
Economic activity, %			
ML or PL		37,7	56,3
Study		0,6	0,1
Work		34,5	15
Unemployed		8,7	1,9
Homemaker		18,2	26,1
N		425	454

TABLE 5 SUMMARY STATISTICS OF THE SAMPLE (2)

	Reform cohort (1995-1996)	Control cohort 1 (1997-1998)	Control cohort 2 (1993-1994)
Controlled variables			
Mean age	27,4	27,5	27,5
Age groups, %			
15-24	30,7	28,5	27,7
25-29	37,8	42	44,8
30-39	31,5	29,5	27,5
Mean number of children	1,9	1,8	1,9
Number of children, %			
1	35,8	37,9	26,8
2	48,5	48,2	57,6
3 and more	15,7	13,9	15,7
Married, %	90,4	87	94,2
Educational level, %			
None	0,4	0,2	0
Elementary	9,1	10,3	11,5
High school without exams	41,1	43,7	40,5
High school graduated	40,1	38,5	37
Superior	8,6	7,2	11,1
Dependent variable			
Economic activity, %			
ML or PL	47,3	55,8	57,3
Study	0,4	0,8	0,3
Work	24,4	13	27,1
Unemployed	5,2	1	7,6
Homemaker	22,3	29	6,5
N	879	824	383

TABLE 6 IMPACT OF THE EXTENSION OF PARENTAL BENEFIT (1995) ON POST-PL
EMPLOYMENT PROBABILITY, Summary

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Dependent var.: To be employed vs. not to be employed						
post	-0.198***	-0.195***	-0.191***	-0.187***	-0.103*		
	(0.0284)	(0.0302)	(0.0305)	(0.0386)	(0.0528)		
<i>Graduated HS</i>				<i>ref</i>			
None or elem.			-0.0795	-0.0567	-0.0377		-0.102***
			(0.0558)	(0.0754)	(0.109)		(0.0298)
HS, no grad			-0.0172	-0.0231	-0.0238		-0.0413*
			(0.0329)	(0.0401)	(0.0536)		(0.0213)
superior			0.161**	0.117	0.236**		0.127***
			(0.0641)	(0.0776)	(0.103)		(0.0460)
married			-0.0249	0.00867	0.0317		-0.00844
			(0.0501)	(0.0584)	(0.0732)		(0.0273)
<i>age_2529</i>				<i>ref</i>			
age_1524			-0.0296	0.00160	-0.00587		-0.0313
			(0.0353)	(0.0437)	(0.0563)		(0.0215)
age_3039			0.0810**	0.0994**	0.0961		0.0603**
			(0.0378)	(0.0451)	(0.0649)		(0.0250)
<i>child1</i>				<i>ref</i>			
child2			-0.0329	-0.0586	-0.0358		-0.0297
			(0.0337)	(0.0421)	(0.0562)		(0.0213)
child3			-0.105**	-0.110**	-0.141**		-0.0713**
			(0.0443)	(0.0524)	(0.0671)		(0.0292)
Season						0.0116	0.0170
						(0.0241)	(0.0236)
Trend						0.211***	0.220***
						(0.0284)	(0.0292)
Treat						-0.210***	-0.209***
						(0.0372)	(0.0383)
Constant	0.344***	0.345***	0.382***	0.363***	0.278***	0.133***	0.162***
	(0.0231)	(0.0244)	(0.0656)	(0.0787)	(0.0994)	(0.0165)	(0.0376)
Observations	879	879	879	607	319	1,703	1,703
R-squared	0.054	0.051	0.085	0.077	0.083	0.050	0.084

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The first 5 columns report the results of the preliminary before/after comparison (LPM). The column (2) is weighted, (3) is extended with covariants, (4) and (5) restrain the quarters taken into account before and after the reform to respectively 2 and 1 instead of 3.

The columns (6) and (7) report the results of the differences-in-differences estimation strategy.

“Season” accounts for seasonality, “Trend” for maturation bias, i.e. trend in the outcome independent of the reform.

TABLE 7 IMPACT OF THE EXTENSION OF PARENTAL BENEFIT (1995)
 ACCORDING TO EDUCATIONAL LEVEL

VARIABLES	Graduated HS		Did not graduate HS	
	Dependent var. : To be employed vs. not to be employed			
Season		0.0333 (0.0436)		0.0110 (0.0302)
Trend		0.178*** (0.0472)		0.279*** (0.0453)
Treat		-0.171*** (0.0642)		-0.286*** (0.0549)
married	-0.0103 (0.123)	-0.0559 (0.0710)	0.00883 (0.0588)	0.0164 (0.0328)
<i>age_2529</i>			<i>ref</i>	
age_1524	-0.0269 (0.0571)	-0.0458 (0.0397)	-0.0174 (0.0494)	-0.0185 (0.0276)
age_3039	0.0918 (0.0576)	0.0422 (0.0399)	0.0985 (0.0609)	0.0745* (0.0387)
<i>child1</i>			<i>ref</i>	
child2	-0.0432 (0.0534)	-0.0437 (0.0365)	-0.0341 (0.0491)	-0.00915 (0.0286)
child3	-0.115 (0.0784)	-0.0928* (0.0550)	-0.0383 (0.0654)	0.00535 (0.0440)
post		-0.140*** (0.0472)		-0.276*** (0.0467)
Constant	0.345*** (0.122)	0.227*** (0.0767)	0.365*** (0.0859)	0.0679 (0.0429)
Observations	357	679	366	718
R-squared	0.036	0.032	0.125	0.105

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 8 PLACEBO REGRESSIONS, IMPACT OF THE REFORM ON EMPLOYMENT PROBABILITY; NON-ELIGIBLE POPULATION

VARIABLES	2 year-old child To be employed or not	4 year-old child To be employed or not
Season	-0.0196 (0.0248)	-0.0615 (0.0510)
Trend	-0.0193 (0.0244)	0.0395 (0.0510)
Treat	0.0233 (0.0364)	0.0433 (0.0767)
<i>graduated HS none or elem.</i>	0.0510 (0.0394)	<i>ref</i> -0.196*** (0.0614)
HS, no grad	0.00896 (0.0205)	-0.000904 (0.0431)
superior	0.0208 (0.0424)	-0.0948 (0.0727)
married	0.0226 (0.0272)	-0.0610 (0.0620)
<i>age_2529</i>		<i>ref</i>
age_1524	0.0143 (0.0251)	-0.190*** (0.0473)
age_3039	0.0323 (0.0257)	0.184*** (0.0444)
<i>child1</i>		<i>ref</i>
child2	0.0252 (0.0237)	-0.311*** (0.0465)
child3	-0.0409 (0.0273)	-0.503*** (0.0569)
Constant	0.0171 (0.0331)	0.844*** (0.0720)
Observations	748	711
R-squared	0.015	0.162

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1