Ankita Patnaik
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MAKING LEAVE EASIER:

BETTER COMPENSATION AND DADDY-ONLY ENTITLEMENTS

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Abstract

This paper investigates a policy reform to Parental Leave in Quebec in 2006 that increased the generosity of leave entitlements and instituted a 'daddy' quota, and its impact on fathers' participation rates, and mothers' participation rates, leave duration, exit rates and job continuity. I also explore how the impact may have differed amongst sub-groups: low-income, poorly educated or first-time mothers. Using data from the Employment Insurance Coverage Survey and a difference-in-difference analysis, I find that the reform was associated with a striking rise in fathers' participation: an increase of 55-60 percentage points in the probability of making a claim. I find a smaller increase of 13-16 percentage points in the claim rates of mothers but find that on average the duration of their leave increased, especially for first-time mothers. I find no change in exit rates but an increase of nearly 4 percentage points in the probability of returning to the pre-birth employer.

1. Introduction

Job-protected maternity leave mandates are a common public provision in developed countries, with the purpose of enhancing the welfare of infants and mothers. They vary considerably internationally - they tend to be long, universal and generously compensated in Scandinavian countries, whereas they are short, restricted and unpaid in the United States. The central aim of maternity leave is to allow for the mother to fully recover from giving birth and to form a bond with her baby. Other rationales for government provisions for leave include maintaining a productive economy by retaining female workers, sustaining birth rates, decreasing unemployment and relieving some of the parenting deficit that is growing alongside the increasing incidence of dual-earner parents with long working hours (Haas 1992; Harker 2000; Wilkinson 1997).

In countries that have well-established provisions for paid leave, the recent trend in policy-making has been towards increasing the generosity of entitlements (ILA 2010). For example, in the province of Quebec, which I examine in this study, the move to a new parental leave system in 2006 aimed to improve equity of access for a majority of men and women. This was likely in response to heavy criticism of the old Employment Insurance (EI) system for its weak and gendered coverage of that portion of the population that was more likely to have non-standard employment (Vosko 2000 and 2006). Such workers who undertake part-time, casual, seasonal or temporary employment, work for several employers or are self-employed are not only less likely to be eligible but also more likely to face financial circumstances that make taking leave prohibitively expensive. Accordingly, there have been moves towards not only relaxing eligibility criteria so that more people qualify to use the provisions, but also making benefits more substantial such that they offer a viable substitute for regular pay.

As the single breadwinner model increasingly gives way to the dual-earner household, another increasingly common objective of leave policies is gender equality. There has been a trend in policy-making, beginning in Scandinavia but now catching on in other countries, towards promoting equality by modifying the traditional division of labor between the sexes so that both financial and household responsibilities are fairly shared by women and men.[1] One such strategy is to encourage fathers' leave taking with the aim of increasing fathers' contact with and care for their infants, reducing work-family frictions by labeling working men as fathers in the workplace, and strengthening the ties of fathers to their family and simultaneously the ties of mothers to working life.

In this study I explore the effects of the increase in generosity of leave entitlements, as well as the policy push towards active fathering, on the labor market behavior and leave-taking behavior of fathers and mothers around the birth event. I am specifically interested in examining the effects of extensions in paid leave mandates on fathers' benefit claim rates, maternity leave duration, and mothers' job continuity and benefit claim rates. Specifically, I seek to answer three main questions. First, how does the leave-taking behavior of fathers respond to the increase in generosity of payments as well as more direct incentives for fathers to participate? Second, how does the generosity of parental leave mandates affect the length of time the average mother takes off work to care full-time for her newborn? Third, how does the use of parental leave affect mothers' decisions regarding staying in the labor market and with the same employer? I pay particular attention to groups of women who may be vulnerable to additional pressures

[1] The belief that paternity leave can promote these changes is expressed in a series of white papers "Likestilling og Likelonn" (http://www.regjeringen.no/nb/dep/bld/pressesenter/pressemeldinger/2010/likestilling-for-likelonn.html?id=626450, accessed 10/05/2012.http://www.regjeringen.no/nb/dep/bld/dok/regpubl/stmeld/2010-2011/meld-st-6-20102011/10.html?id=625781 accessed 10/05/2012.) and "Reformerad Föräldraförsäkring – Kärlek, Omvardnad, Trygghet (http://www.regeringen.se/sb/d/5140/a/49766 - accessed 10/05/2012)

surrounding the issue of leave-taking – namely, mothers from low-income families, those with poor education credentials, and those having their first child.

My strategy is rooted in exploiting differences in paid leave provision across Canadian provinces over time. On 1st January 2006 Quebec left the national EI system and established the Quebec Parental Insurance Plan (QPIP). This new program lowered the eligibility criteria so that many more parents could qualify, increased the income replacement rate offered by benefits, raised the earnings ceiling that benefits could be claimed on, offered flexibility through more leave options, and established a father's individual non-transferable right to paternity leave (Doucet 2010). This paper is the first to examine this policy episode and its effect on leave-taking behavior at this level of detail.[2] The reform offers an attractive basis for inference due to the orthogonality of the increase in the generosity of leave entitlements to unobserved individual characteristics. The reform spoke directly to the large share of mothers who cited ineligibility or inadequate financial compensation as the main obstacle to leave-taking, as well as the large proportion of fathers who cited the above and mothers' unwillingness to share leave as obstacles to leave-taking (Smith 2001). This paper is also the first study to analyze the impact of daddy quotas on fathers' leave-taking using a difference-in-difference technique. I employ a rich dataset that spans ten years and contains information about parents' actual and planned behavior as well as the characteristics of pre-birth jobs.

The results are noteworthy. The most striking finding is in the area of father's leave-taking: the policy reform was associated with an increase of more than sixty percentage points in the probability of an eligible father making a claim. I also find an increase in the claim rates of mothers and an increase in maternity leave duration, especially for first-time mothers. I find no

[2] Marshall (2008) examines fathers' use of paid leave after the reform but her study examined 2006 EICS data, compares statistics for only Quebec across time, and looks at overall patterns. My paper extends her preliminary analysis by examining a longer span of data, exploiting variation across provinces and across time, and conducting detailed regression analyses.

effect on the exit rates on average, though mothers from low-income families or less-educated backgrounds are now less likely to leave the workforce after their leave ends. There was an increase of nearly 4 percentage points in the probability of returning to the pre-birth employer after her leave ended.

The paper is structured as follows: Section 2 discusses the background for this paper, outlining the motivation for the questions I ask as well as discussing prior research. I also provide a background to the Canadian parental leave system and the QPIP program, as well as a discussion of *a priori* expectations regarding the policy reform. In section 3 I provide details of the data that are used as well as the empirical strategy I employ to answer the main questions. In section 4 I present regression results and a discussion of their robustness and implications. In Section 5 I conclude.

2. Background

2.1 Motivation

The importance of the outcomes under study is highlighted by the literature supporting a positive association between maternity leave and early child outcomes, though the research on long-term outcomes has been inconclusive. It is thought to result in better pre- and post-natal care, a longer duration of breastfeeding, more powerful parental bonding, more doctor visits, lower mortality rates and a decline in accident rates in the first years of the child's life (Ruhm 2000; Lindberg 1996; Baker and Milligan 2005; Berger, Hill, & Waldfogel 2005), improved maternal health (Hyde et al 1995), as well as a drop in the probability of severe depression (Chatterji and Markowitz 2008). There is also concern over the impact of mothers' leave-taking on their labor market opportunities. The expansion of leave mandates tends to increase

employment continuity over the birth event (Waldfogel 1998; Baker and Milligan 2005). At the same time, longer leaves may increase depreciation of human capital and job-specific skills, decrease mothers' incentive to invest in training, or alter their tastes with respect to employment versus child care. Lastly, leave provisions may impact the probability of returning to the pre-birth employer, which offers potential advantages: higher wages, retention of good matches, utilization of job-specific skills, clear record of productivity so less need to signal, and removal of the disutility of job search.

I am interested in fathers' leave taking behavior due to the arguments made by advocates of father-leave: that using it helps new fathers accommodate the demands of parenting, promote greater involvement and attachment with their offspring, and diminish the proportion of childcare responsibilities that fall on the mothers. To the extent that fathers' leave-taking facilitates men establishing relationships with their newborns and being more involved with their children as they grow up, such policies have potential consequences for child health and well being (Lamb 1997). There is evidence to suggest that fathers who take parental leave are more involved in care-giving even after the leave period ends (Tanaka and Waldfogel 2007; Neponmyaschy and Waldfogel 2007).[3] Fathers' leave-taking can have direct as well as indirect positive effects on women's careers. The evidence suggests that when the amount of leave reserved to the father increases, the mother returns to work faster, even controlling for her own statutory length of leave (Pylkannen and Smith 2004). As fathers' participation rates in leave

[3] This could be due to fathers who spend more time with the child developing a taste for care-giving, or if, as Backet (1987) writes, some aspects of parenting are not an inherent talent but learned "on the job", then they may simply be developing competence in care giving. However, it is unclear that the relationship between leave-taking and continued participation in childcare is entirely causal. It is possible there is a selection effect whereby more child-oriented fathers will choose to take parental leave. Seward *et al* (2006) write that the parents' beliefs about gender roles and their income and education (all of which influence fathers' decisions about taking leave) had more influence than actual leave-taking on fathers' involvement in childcare.

programs rise, employers may give female workers more credibility and be more willing to invest in their occupational potential, as increasingly women will not be the only ones taking breaks to care for children (Haas 1992). Parenthood tends to crystallize a gendered division of labor, largely by reshaping wives', not husbands', routine – often with negative consequences for the mother's career (Sanchez and Thompson 1997). Since fathers' leave-taking is associated with greater involvement later in the child's life, this may relieve mothers of some childcare responsibilities, freeing up some time and resources for her to dedicate to her own career.

One key rationale for expanding paid leave programs is to increase economic equality, hence, it is imperative to assess which groups benefit most from these policy reforms. Since low-income families lack other financial resources, mothers from these families may not be able to afford even small reductions in take-home earnings occasioned by taking leave. Therefore their leave participation may be more sensitive to increases in generosity of benefits. Moreover, low-income or poorly-educated women are more likely to have part-time or temporary jobs or otherwise have weaker ties to the labor market; this makes them less likely to be eligible for benefits, or less likely to work for employers who are cooperative and supportive about extended family leave. I am also interested in a "first-child" effect arising from the novelty of a first birth and a potential association between younger parents and egalitarian beliefs. There is some evidence that fathers are more likely to take leave for their first child than for children born later (Sundstrom and Duvander 2002). There is also evidence to suggest that a father's quota may pressure fathers into taking leave, who then develop a taste for it, and want to take more leave the second time around (Brandth and Kvande 2002). I am thus interested in the impact of the policy reform on first-time fathers since they have just had their "gateway child.

2.2 Literature review

There has been considerable research on the effects of paid leave programs and their extensions on the labor market behavior of mothers. For a full review of the literature please consult Berger & Waldfogel (2004). In this paper, I offer a very brief overview of the previous research on mothers' careers, and focus mainly on the recent trend in research towards fathers' leave-taking and involvement.

An expansion in paid family leave, either through a reduction of eligibility criteria, an increase in duration, or in the level of financial compensation, likely results in some women delaying their return to work (Ronsen & Sundstrom 1996; Baum 2003; Ondrich et al 2003; Schonberg and Ludsteck 2007). At the same time parental leave programs are associated with an increase in the relative employment rate of young mothers in the first few years of a child's life (ten Cate 2000, 2003; Ruhm 1998). The essence of the pattern is that since eligible women tend to use their full entitlement, expansions in paid leave tend to encourage women to take longer leave periods; but they also result in higher employment re-entry rates at the end of the leave period. Baker and Milligan (2008) investigated the extension of the Canadian EI program in 2001, and confirmed that the extension in leave mandates to 52 weeks increased the period of time before mothers return to work post-birth by about 2.73 weeks. Not only do leave mandates make it less likely for eligible women to exit the labor force after having a child, but also there is considerable evidence to support the idea that parental leave programs have increased job retention (Waldfogel 1998, 1999; Hofferth and Curtin 2006). Berger and Waldfogel (2003) found that nearly 80% of those who were covered by leave mandates would return to their old job compared to only 63% of uncovered mothers. This is partly due to a fall in exit rates

generally, but could also be due to the extra time at home giving mothers time to adjust to their new circumstances at home and feel less pressured to find a newborn-compatible job.

It is common to model the main determinants of parental leave decisions using the opportunity costs of forgone wages, missed opportunities and human capital depreciation during the leave period. The general predictions have been that highly educated women return to the labor market faster since they face higher costs associated with each of the above and also enjoy a larger wage-benefit differential. Hanratty and Trzcinski (2006) confirmed this differential response to leave mandates according to education and earnings in the context of Canada. They found that the leave expansion in 2001 led to a considerable increase in the duration of time that new mothers spent at home, and that this increase was more significant for more economically advantaged groups of women: the share of college educated mothers remaining at home for twelve months rose by nearly 30 percentage points, compared to only 2 percentage points for high school drop-outs.

Despite access to unpaid leave in almost all developed nations and entitlement to generous paid leave in many nations, participation rates of fathers remain quite low. Since the father is usually the higher-earning parent, the family suffers a larger opportunity cost of lost wages when he takes a break from employment – accordingly, studies have consistently showed that the loss of earnings is a primary reason for the low levels of participation in parental leave among fathers (Beckmann 2001). It is also common for fathers to cite workplace attitudes as an obstacle to utilizing leave even when they are entitled to it, out of fear it could damage their careers (Haas & Hwang 1995; Byrgen and Duvander 2006). Socio-psychological factors may also play a role: it's possible men display a lower taste for childcare than women, that social gender constructs push men to see themselves as the primary breadwinner who must provide for

the family, and they are rarely exposed to role models in the form of men who care for infants. Since women have a greater "taste" for childcare, their desire to spend time with the baby may be stronger – in some cases, mothers may want to have as many weeks at home with their baby as possible, and are loathe to concede a portion of the shared leave to the fathers – indeed, Seward et al (2011) report that some fathers cite mothers' unwillingness to share as a reason for not taking leave.

Has legislation granting fathers access to leave succeeded in convincing fathers to use this leave? Not so in the case of unpaid leave: Han, Ruhm and Waldfogel (2009) found that an increase of 10 weeks of unpaid leave was predicted to increase the probability of being on leave in the birth month by 3 percentage points and on leave for "other reasons" in the birth month by 2 percentage points. In comparison we see much higher participation rates for fathers when the parental leave on offer is paid, as it is in Scandinavia. Some policies have been more successful than others in promoting father participation: mainly those that are adequately compensated financially, of reasonable duration and flexibility, and send a clear message of government encouragement for men to take leave (Haas 1992; Smith 2001). However, perhaps the policy feature that has been the most successful in terms of increasing fathers' leave uptake has been the institution of individual, non-transferable period of paternity leave. This is because the introduction of the father-only leave not only acts to bring the issue of father participation to the forefront of people's minds, but also helps fathers get past organizational constraints to leave-taking and bargaining with spouses who are unwilling to share leave. When policy provides for a gender-neutral shared entitlement, it becomes the default for mothers to make predominant use of the leave - parental leave is more likely to be utilized by fathers if they enjoy an individual non-transferable entitlement (Haas and Rostgaard 2011; Bruning and Plantenga 1999).

2.3 Policy Environment

In Canada, every mother who has worked over 52 weeks with her current employer can take up to a year of unpaid, job-protected leave from her job. Eligible mothers can take paid leave through the Employment Insurance (EI) Program in Canada, which offers maternity benefits, and shared parental benefits. Residents of all Canadian provinces enjoyed access to the EI Program from 2001 through 2005. On the 1st of January 2006, Quebec introduced the Régime Québécois D'assurance Parentale or the Quebec Parental Insurance Plan (QPIP), to which employees contributed instead of the traditional EI system. QPIP aimed to loosen eligibility criteria in order to improve access for those from less advantaged backgrounds, as well as make the option of taking paid leave more affordable. It differed from the traditional EI system in 4 main ways: (1) easier eligibility criteria (2) increased income replacement rate (3) raised ceiling for maximum eligible earnings (4) non-transferable paternity leave and (5) flexibility in the form of a basic or special plan new parents could choose from. The current details are as follows:

	Employment Insurance	**Quebec Basic Plan**	**Quebec Special Plan**
Eligibility	600 hours of insurable employment	$2000 of insurable earnings	
Self-employed workers	Not covered	covered	
Basic replacement rate[4]	55% for 50 weeks	70% for 25 weeks 55% for 25 weeks	75% for 40 weeks
Maximum insurable earnings[5] (in 2010)	$43,200	$62,500	
Waiting period	2 weeks	None	
Duration	15 weeks maternity 35 weeks parental no paternity leave	18 weeks maternity 32 weeks parental 5 weeks paternity	15 weeks maternity 25 weeks parental 3 weeks paternity

[4] Families with very low incomes are eligible for a family supplement, which increase replacement rate to up 80% – but I ignore this since it did not change across provinces during our time period.

[5] Any weeks with little or no earnings (under CAN$150) are not included when calculating the amount of benefits, but the hours do count toward the 600-hour eligibility requirement

QPIP reduced the amount of shared leave and dedicated more time to individual non-transferable leave for each parent. The net result is that the mothers have access to the same amount of leave as before, but a larger share now comes through maternity leave. However, there is a net increase in the number of weeks of leave to which fathers are entitled, from 35 to 37 – the reduction in shared leave was offset by the new paternity leave. Importantly, the establishment of QPIP made Quebec the only province to guarantee an individual non-transferable leave period for fathers.

In terms of leave-taking and employment behavior, what effects can we expect?

Fathers' Participation rates: Since the 5 weeks of paternity leave are offered on a 'use it or lose it' basis, if a father did not take this leave, his family would be leaving some potential leave 'on the table'. In other words, the father taking the 'Daddy leave' is now a necessary condition for optimal behavior for a family that wishes to maximize total leave taken, to fully utilize the provisions and/or maximize time the children spend with a parent. Further, since many fathers cite foregone wages as the primary reason for not taking leave, the improved generosity of compensation should have softened the impact of fathers' leave-taking on household budgets. Moreover, the non-transferability of paternity leave means that at least 5 weeks have been safeguarded for fathers' sole use, and they do not need to battle with their spouses for it. In addition, its "use-it-or-lose-it" nature and the very clear government message promoting fathers' involvement could ease socio-psychological barriers to taking leave, both by making fathers more amenable to the idea of taking leave and by making co-workers more understanding about their using it.

Mothers' Participation rates: The easier eligibility criteria of the QPIP, intended to particularly help women who worked part-time or on a temporary basis, or who were otherwise

disadvantaged to meet the 600 hour requirement, likely led to an increase in mothers' participation rates.[6]

Duration of maternity leave: The QPIP reform didn't change the maximum number of weeks mothers' were entitled to take off, but the lowering of the eligibility criteria should have enabled those who previously couldn't afford to take unpaid leave to take the paid leave for which they now qualified. The increased generosity of payments likely encouraged mothers on leave to stay away a few weeks longer because they now had more financial resources. The only factor that may have exerted downward pressure on maternity leave is increased leave take-up from fathers who have now become eligible, financially able, or otherwise more willing to take paid leave.

Exit rates: It tends to be the case that increases in the length of job protection decreases exit rates, while increases in paid leave provisions increase duration of leave (Pronzato 2009) Since the QPIP reform did not change the length of total paid leave or job-guaranteed leave for mothers, I do not expect much effect on exit rates within the one-year-from-childbirth time period under study. For those mothers who were always eligible, the reform made it possible to stay on leave longer, but did not change the incentives to return to work. It could be argued that newly eligible women could now can now take leave and return to work, whereas before, they may have left the workforce altogether – leading to a fall in exit rates. However, since they had always been entitled to unpaid job-protected leave, the changes in paid leave provisions should not have greatly altered their incentives to exit the workforce.

Job continuity: The effect of the reform on the probability of mothers returning to their pre-birth employers may work in either direction. On the one hand, more generous maternity leave means

[6] For example, the earlier change to the EI system in 2001, which reduced the hour requirement from 700 to 600 across all provinces, led to an increase in average monthly claims by 4,900 – that is, every month 4,700 more mothers and 200 more fathers, who would not have been eligible under the old program, now claimed parental benefits (Perusse 2003)

women are less compelled by financial worries to return to work when their babies are very young, and so don't face pressure to find more child-compatible jobs – increasing job continuity. On the other hand, being able to take longer leave gives women more time to carry out a job search- they are not just most likely to exert the effort but also the search is more likely to be successful; this would decrease job continuity. *Ex ante* it is not clear which of these effects will dominate.

Differential impacts for sub-groups: I expect the lowered eligibility criteria and increased generosity of QPIP to have had a larger impact on mothers from disadvantaged backgrounds who could not qualify earlier and who faced greater financial pressures. I also expect more significant effects for first-time parents, who likely desire more time at home with the child due to the novelty and increased pressures of their situation.

3. Data and Methodology

I use data from the Employment Insurance Coverage Survey of Canada for the periods 2001-2004 and 2007-2010. While this survey was initially intended to investigate access and eligibility for benefits amongst the jobless and the underemployed, it has been extended alongside the EI system to cover access to maternity and paternity benefits. The primary sample comprises 11,338 mothers, interviewed from 2000 to 2010, with roughly equal observations before and after 1st January 2006, the year in which the policy change came into effect in Quebec. Approximately 19% of the observations are from Quebec, the treatment group, while the rest of the observations come from the control group of 5 provinces, Ontario, Alberta, British Columbia, Atlantic Region, and Manitoba and Sakatchewan, where the EI system has stayed the same over the entire period. The sample contains pooled cross-sections of observations on

mothers who have a child under one year old – this enables me to capture the labor market behavior of parents in the early months following the birth of the child, but unfortunately does not allow me to explore questions about parents' longer-term employment or child-caring decisions.

I have information on whether the mother falls into the age band of 18-25 or is older than 25.[7] I excluded any mothers who report themselves as "unattached individuals" or "single parents" for two reasons. First, I am concerned that other changes during the period such as the enhancements of the National Child Benefit may particularly influence their behavior since they are more likely to qualify. Second, given the tighter limitations on the financial resources of single parents, I expect them to respond to changes in the generosity of benefits differently than their partnered counterparts, but I lack adequate sample sizes to conduct a separate analysis of this group. I therefore restrict myself to mothers who consider themselves part of a union, at least for economic purposes. One caveat concerning the data is that being in an economic union this does not necessarily mean that the mother resides with her spouse. Since I have information only on economic families, I cannot differentiate between cohabitating couples and those couples who are economically tied together but non-cohabitating. For example, if the father lives in a different part of the country for work reasons, he may not only face different eligibility criteria and EI benefits, but also the geographic distance may mean he cannot easily substitute for the mother's care. However, it is probable that such fathers will take less leave around the child's birth than fathers who actually reside with the mother. If so, my estimates may understate the amount of paternity leave that would be used.

[7] It is possible that very young mothers make work-family decisions differently, because they are more likely to be partially dependent on their parents for financial support or childcare, may be engaged in full-time education or otherwise not be engaged in a serious career. So for each of our regressions I also estimated the basic model for a subsample that eliminated younger mothers. However we found that the results did not differ significantly and I do not include those results in this paper.

One particular shortcoming of the EICS data is the lack of information regarding spouses – I have no details about the fathers' education or income, his job characteristics or the specifics of his leave-taking. Because of these constraints, I can only control for the characteristics of the mother and her pre-birth job in the regressions of father outcomes. I can only investigate the probability of a father making a claim, since I do not observe how long his leave lasts nor whether he is using paternity or shared leave. The number of fathers claiming EI benefits doesn't necessarily capture all the fathers taking leave for child-care purposes, since the data would not capture fathers using other paid leave in the form of vacation, sick or personal days instead of paid parental leave or just taking unpaid job-protected leave if they are ineligible for paid parental leave. The EICS is rich in other information that compensates for these shortcomings. I not only have information on the proportion of mothers who received benefits, but also on the duration and amounts of those benefits, the reasons why some mothers did not receive benefits and the way in which these parental benefits were shared between couples. The EICS contains details about mothers' employment patterns, characteristics of the pre-birth job, reasons for not receiving or for not claiming EI benefits, the timing and circumstances related to mothers' decisions to return to the workplace, and household incomes by source.

Table 1: Summary Statistics

Proportion of mothers	**Quebec**	**Other Provinces**
Aged 25+	0.8290	0.8576
	(0.3766)	(0.3866)
Family size	3.7732	3.8674
	(0.7608)	(0.7912)
First child	0.4224	0.3815
	(0.4941)	(0.4858)
Low-Income Family	0.1193	0.1013
	(0.3360)	(0.3017)
Medium Income Family	0.5564	0.5225
	(0.4970)	(0.4995)
High Income Family	0.2045	0.2183
	(0.4034)	(0.4131)
High school Dropouts	0.1099	0.0893

	(0.3128)		(0.2852)	
High School Graduates	0.1545		0.2462	
	(0.3615)		(0.4308)	
Post-graduate certification below Bachelor's	0.4483		0.3628	
	(0.4975)		(0.4808)	
University Degree	0.2850		0.2982	
	(.4515)		(0.45749)	
Hourly Wage	17.14		17.75	
	(8.5816)		(10.08)	
Part-time	0.1968		0.2265	
	(0.3978)		(0.4186)	
Union	0.4011		0.3107	
	(0.4903)		(0.4628)	
Tenure <2 years	0.3137		0.3489	
Tenure<5 years	0.3019		0.3079	
Tenured > 5 years	0.3484		0.3432	
	2001-2004	***2007-2010***	***2001-2004***	***2007-2010***
Potentially Eligible for EI	0.7584	0.8709	0.7209	0.7571
	(0.4283)	(0.3354)	(0.4486)	(0.4289)
Spouses are ineligible for EI	0.1232	0.0856	0.1094	0.994
	(0.3288)	(0.2799)	(0.3122)	(0.2993)
Claimed parental leave benefits	0.8719	0.9693	0.8527	0.8542
	(0.3344)	(0.1725)	(0.3545)	(0.3529)
Spouse claimed parental leave benefits	0.1686	0.7600	0.0910	0.1049
	(0.3747)	(0.4273)	(0.2876)	(0.3065)

Table 1 presents the means and standard deviations for the variables in the analysis. The demographic characteristic means are similar for the control and treatment group, rendering them comparable. The only noteworthy concern is that there appears to be slightly more students in Quebec pursuing education beyond a high school degree. However when I explore differential effects in terms of education I focus on High school dropouts, which seem to be comparable across groups. The other two groups I focus on are low-income families, defined as those households that earn less than CAN$20,000 per annum, which hover at around 10% of our sample, and families who have just had their first child, which hover at around 40% of the sample. The vast majority of the sample (around 85% of new mothers) is older than 25 years old. The hourly wage is roughly CAN$17 in both groups. There does not appear to be systematic differences in job characteristics across provinces either, except that the proportion of union members is slightly higher in Quebec.

The after-and-before columns show a clear rise in the proportion of potentially eligible mothers across Canada.[8] Note that the share of mothers potentially eligible for EI benefits rose from 72% in 2002 to 77% in 2008. However, when comparing the periods 2001-2004 and 2007-2010 we see that a large part of this rise was being driven by Quebec where there was an increase of from 76% to 86%, compared to just from 71% to 75% in the other 5 provinces. Over the same period, the share of fathers reported as being ineligible for EI entitlements rose in the 5 other provinces, whereas in Quebec the proportion of ineligible fathers actually fell after the policy reform.[9] Foreshadowing our regression results, we also see a clear rise in claim rates for

[8] We define potentially eligible mothers as those who reported having had insurable employment in the last two years.

[9] The variable for the father's ineligibility is constructed from the mother's answers regarding their spouses' EI claims, and reasons for not claiming. It should be noted that there is some concern here regarding reporting errors, since there were other options available such as "1. Mother wants to stay home", "2. Mother can take time off easier", "3. More financially advantageous", alongside the one we focus on: "4. Spouse not eligible for EI". It is possible that in some household where it is

both sets of parents, though the high baseline rate for mothers doesn't leave room for much of an increase.

When examining maternity leave duration, I do not examine women who choose to exit the labor market at childbirth, because I want to consider the decision to stay in the workforce separately from the decision of how soon to return to work. I include women who are still on leave, since the survey only covers women who have an infant under a year old, and so limiting our sample to women who have already returned would likely miss many women who took longer leaves and skew the sample towards small to medium leave periods. Consequentially, I treat duration of leave to be length of completed leave for those who have returned, and length of planned leave for mothers still on leave. One limitation of the data is that I do not know where precisely in their planned leave period these women are at the time of survey. Note also that the question in the survey asks mothers how many months of leave they have taken after childbirth and not what kind of leave. It is possible that mothers choose to use vacation days or sick leave rather than utilizing their maternity/parental leave – however this is very unlikely given the very generous leave provisions, and in a culture where there is limited social stigma to mothers' leave taking.

Armed with data from the EICS, I estimate several difference-in-difference models that compare outcomes in Quebec to those in the rest of Canada in the time period surrounding the establishment of QPIP. The "pre-reform" period consists of data covering survey years 2001 through 2004, and the "post-reform" period consists of data from 2007-2010. I omit the years 2005 and 2006 because they represent a period of transition from the old policy regime to the

absolutely presumed that the mother will take all the leave, either due to her preferences or their traditional beliefs, they would not even consider the fathers' eligibility. However I believe this is unlikely, not only because answering option 4 involves the least amount of value judgment, but because 4 is a discrete imposed-upon circumstance which renders the other 3 options involving continuous, subjective, more complex decisions moot.

new.[10] The dependent variables are, in order: (1) the event that new fathers claim EI benefits, (2) the event that new mothers claiming EI benefits, (3) the duration of maternity leave in months, (4) the event that new mothers exit from the workforce after having a child, (5) the event that new mothers return to the same employer after maternity leave ends, conditional on not exiting from the workforce.

I estimate several specifications of the basic model: (i) the basic D-in-D model and (ii) D-in-D-in-D estimates involving low-income families, high-school dropout mothers, and first-time mothers. I also report estimates for the D-in-D model including controls for personal characteristics such as age and education, as well as job characteristics including indicators for temporary employment, self-employed status, part-time status, and union membership. In the case of (1) and (2), *i.e.* regressions involving EI benefit claims, I also estimate regressions for all mothers and fathers, and also regressions including only eligible mothers and fathers. With the exception of maternity leave duration, all our dependent variables are dichotomous and so I report estimates of the marginal effect at the mean from probit models.[11]

The basic difference-in-difference regression equation takes the form: [12]

$$Outcome_i = \beta_0 + \beta_1 Quebec_i + \beta_2 Post_i + \beta_3 Quebec_i * Post_i + \lambda Z_i + \varepsilon_i$$

where i indexes individuals. *Quebec* denotes a dummy variable for whether the observation was from an individual residing in Quebec, *Post* denotes a dummy variable for whether the observation was in a survey year after 2005 *i.e.* when the policy reform came into effect,

[10] The results from regressions where I included those sample years were not significantly different and can be found in Appendix A.1

[11] For robustness checks I also conducted the regressions using linear probability models, since there is disagreement regarding calculation of the marginal effects especially when multiple interaction terms are involved causing the level of the covariates to be important. The magnitudes and significance of the marginal effects were very similar to the results from the linear probability models, indicating that predictions from the probit estimates are both informative and accurate.

[12] For the Probit Equations, we have $\Pr(Outcome_i = 1 \mid x_i) = \Phi(x_i'\gamma)$ where Φ is the standard normal cdf and x_i is a vector of the explanatory variables and γ is a vector of the parameters.

*Quebec*Post* is an interaction term. The parameter of interest, β_3, captures the differential effect on outcomes for Quebecois residents that can be attributed to the policy reform. Z_i is the set of personal and job characteristics that are included in some of our regressions.

For regressions exploring the differential effects of the policy reform on specific groups, the estimating equation is:

$$Outcome_i = \beta_0 + \beta_1 Quebec_i + \beta_2 Post_i + \beta_3 Group_i + \beta_4 Group_i * Quebec_i + \beta_5 Group_i * Post_i + \beta_6 Quebec_i * Post_i + \beta_7 Group_i * Quebec_i * Post_i + \lambda Z_i + \varepsilon_i \quad [13]$$

where in addition to the variables outlined above, I also include a dummy for the target group as well as its interactions with the other dummies. The parameters of interest in this case are β_6, the coefficient on *Quebec*Post,* which describes how the policy reform affected the average person in the sample, and β_7, the coefficient on *Group*Quebec*Post,* which explores how the effect of the reform on members of the particular group compared to the average effect of the reform.

One disadvantage of my identification strategy is that the estimates would be affected by any Quebec-specific shocks that may have coincided with the institution of the QPIP program. One example is welfare reforms across the provinces, and province-specific reactions to changes in the federal benefits – for this reason I exclude single parents since they are a group particularly susceptible to have been affected by this due to the eligibility restrictions. The availability of data for five years before the policy change permits us to test whether our results are simply capturing long-run divergent trends in labor market and leave behavior in Quebec. Another vulnerability of the D-in-D method is that it assumes that the change in EI policies did not causally affect the labor market behavior of the control group. This seems reasonable, although there could be small spillover effects. For instance, if people planning to start a family

[13] For the Probit Equations, we have $\Pr(Outcome_i = 1 \mid x_i) = \Phi(x_i'\gamma)$ where Φ is the standard normal cdf and x_i is a vector of the explanatory variables and γ is a vector of the parameters.

soon are more attracted to settling in Quebec this may lead to an increase in the employment of young mothers-to-be in Quebec and a relative decrease in other provinces. However very few people have such control over the geographic location of their job that they could manipulate their residence to take advantage of generous leave policies.

4. Results

In Tables 2 and 3 I consider the impact of the policy change on the rates of participation amongst fathers and mothers in the EI program, using an indicator variable for whether or not the father or the mother claimed or intended to claim EI benefits. I estimate equations for the case of all new parents, and also for a subsample considering only those who are eligible for the program.

Table 2 shows the most striking contribution of this paper: the move from the EI system to QPIP in 2006 was associated with an increase of between 55 and 60 percentage points in the probability of a father making a claim for parental benefits. This result is both economically and statistically significant – the sheer magnitude of the marginal effect is remarkable, even if it is based on a baseline participation rate of approximately 17%.[14] From the marginal effect on "*Quebec*", it appears fathers are generally more likely to claim benefits in that province; this culture of higher father participation may have been the impetus for the policy change intended to make it easier for fathers to take leave. Note that as we move from column 1 which includes all fathers, to columns 2-6, where we only look at eligible fathers, all the estimates increase slightly. Particularly important is the marginal effect of "*Quebec*Post*"- there has been an increase in father participation rates generally, but amongst the fathers who are actually eligible

[14] This is the mean claim rate amongst spouses in Quebec in the years 2001-2004.

to take paid leave *i.e.* those who are making an active choice, the effect of the policy has been even stronger. This suggests that in addition to making more fathers eligible to claim EI, the policy has also succeeded in encouraging a higher proportion of the eligible fathers to actually take up the option. In cases where there was a problem with financial affordability, the improved generosity of EI has made it feasible for more fathers to take leave, and the introduction of the 5-week father-only leave may have improved the cultural perception of fathers taking leave and has changed the circumstances in which fathers can negotiate with their employers and spouses.

Table 2: Probability of Fathers claiming benefits

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All fathers	Potentially Eligible Fathers	Potentially eligible fathers	Potentially eligible fathers	Potentially eligible fathers	Potentially eligible fathers	Potentially eligible fathers
Quebec	0.0847***	0.0987***	0.4073***	0.4010***	0.4005***	0.0998***	0.0857***
	(0.0106)	(0.0119)	(0.0088)	(0.0090)	(0.0089)	(0.0121)	(0.0114)
Post	-0.0176	-0.0193	0.0667***	0.0664	0.0684	-0.0222	-0.0286
	(0.0201)	(0.0207)	(0.0189)	(0.0188)	(0.0183)	(0.0220)	(0.0181)
Quebec*Post	0.5580***	0.6137***	0.6177***	0.6144***	0.6220***	0.6121***	0.6352***
	(0.0164)	(0.0142)	(0.0124)	(0.0123)	(0.0125)	(0.0202)	(0.0178)
Low-income* Quebec * Post			-0.1416***				
			(0.0340)				
HS Dropout * Quebec * Post				-0.0712**			
				(0.0305)			
First-child * Quebec * Post					0.0430***		
					(0.0167)		
Low-income			0.0249				
			(0.0160)				
Low-income * Quebec			-0.0755***				
			(0.0159)				
Low-income * Post			0.0435				
			(0.0301)				
HS Dropout				(0.0102)			
				(0.0176)			
HS Dropout * Quebec				-0.0955***			
				(0.0180)			
HS Dropout * Post				-0.0087			
				(0.0297)			
First-child					0.0269***		
					(.0094)		
First-child * Quebec					0.0766***		
					(0.0087)		
First-child * Post					0.0121		
					(0.0172)		
Age, education & wage	No	No	No	No	No	Yes	Yes
Job characteristics	No	No	No	No	No	No	Yes
N =	8486	7490	7490	7490	7490	7465	6057

1. All standard errors are clustered by province and presented in parentheses
2. All results offer marginal effects from a probit with the dependent variable is an indicator taking value 1 if the spouse has already claimed or plans to claim EI benefits and 0 if neither.
3. All regressions included linear and quadratic term for time
4. *=Significant at the 10% level **=Significant at the 5% level ***=Significant at the 1% level
5. I re-ran all regressions using the smallest sample (from Column 7) and can confirm the results do not differ significantly.

However, the effects of the reform have been smaller for two groups that policymakers have been particularly concerned about: households with limited incomes and those with lower-educated mothers. Low-income families in Quebec experienced a smaller, though still positive effect, approximately 14 percentage points lower than that experienced by other families. Households where the mother is a high school dropout also experienced a diminished effect, but the difference is smaller. Note that the latter estimation, shown in column 4, is controlling only for the mother's education and not that of the spouse. This result is difficult to interpret since there could be several explanations for the diminished effect. Firstly, with positive assortative mating mother's education would be a good proxy for father's education. Education can be an instrument of 'modernity': if poorly educated people are more likely to hold on to traditional views of gender roles, it is likely that couples from those backgrounds will have fathers with a lower share of leave-taking, and the mothers will accept this as the right way to do things. Poorly educated mothers are likely to have less rewarding careers, so the opportunity costs of their leave-taking is perceived as low within the household. When the conversation about who is going to take leave arises, it may seem less costly for the mother to do the lion's share. However, perhaps the results are capturing is the effect of education differentials in terms of relative resources in a bargaining situation: poorly educated mothers may have less bargaining power against their better educated husbands, and so negotiations regarding leave-taking lead towards the dominant player's preferences. (Geisler and Kreyenfield 2011).

We see from column 5 that first-time fathers experienced a slightly higher effect of the policy change than average. If, as previous evidence has suggested (Brandth and Kvande 2002), there is habit-formation in father participation, then this evidence of first-time fathers taking more leave after the policy change indicates that there will eventually be higher overall take-up

rates. Adding controls for age and education and job characteristics have no effect whatsoever, but this is expected since these variables relate to the mother and we are looking at the father's

Table 3: Probability of mothers claiming benefits

	(1) All mothers	(2) Potentially Eligible mothers	(3) Potentially eligible mothers	(4) Potentially eligible mothers	(5) Potentially eligible mothers	(6) Potentially eligible mothers	(7) Potentially eligible mothers
Quebec	0.0447***	0.0156***	0.0801***	0.0783***	0.0776***	0.0167***	0.0000
	(0.0213)	(0.0074)	(0.0100)	(0.0084)	(0.0105)	(0.0066)	(0.0062)
Post	-0.0374***	-0.0657***	-0.0357***	-0.0329***	-0.0363***	-0.0670***	-0.0600***
	(0.0209)	(0.0161)	(0.0151)	(0.0149)	(0.01346)	(0.0151)	(0.0124)
Quebec*Post	0.1656***	0.1294***	0.1283***	0.1277***	0.1283***	0.1318***	0.1296***
	(0.0074)	(0.0159)	(0.0168)	(0.0154)	(0.0145)	(0.0160)	(0.0144)
Low-income * Quebec * Post			0.1230***				
			(0.0486)				
HS Dropout * Quebec * Post				0.0456			
				(0.0572)			
First-child * Quebec * Post					-0.0324		
					(0.0244)		
Low-income			-0.1764***				
			(0.0181)				
Low * Quebec			0.0824***				
			(0.0240)				
Low * Post			-0.0669*				
			(0.0404)				
HS Dropout				-0.1813***			
				(0.0217)			
HS Dropout * Quebec				0.1706***			
				(0.0295)			
HS Dropout * Post				-0.0744**			
				(0.0422)			
First-child					0.0416***		
					(0.0097)		
First-child * Quebec					-0.0448***		
					(0.0139)		
First-child * Post					0.0049		
					(0.0176)		
Age, education & wage	No	No	No	No	No	Yes	Yes
Job characteristics	No	No	No	No	No	No	Yes
N=	9050	6816	6816	6816	6816	6798	6528

1. All standard errors are clustered by province and presented in parentheses
2. All results offer marginal effects from a probit with the dependent variable is an indicator taking value 1 if the mother has already claimed or plans to claim maternity or parental benefits and 0 if neither.
3. All regressions included linear and quadratic term for time
4. *=Significant at the 10% level **=Significant at the 5% level ***=Significant at the 1% level
5. I re-ran all regressions using the smallest sample (from Column 7) and can confirm the results did not differ significantly.

decision to take up leave. These factors do affect the mother's leave-taking decisions, and consequently could also impact the father's participation. It can also be argued that with assortative marriages the mother's job and personal characteristics are positively correlated with those of the father, still it is not surprising that there is no significant difference

Reviewing Table 3, there is an economically and statistically significant increase in the probability of mothers claiming EI benefits after the policy reform. The magnitude of the marginal effect, approximately 13 percentage points amongst eligible mothers, is large enough to overpower the small decrease in general take-up rates in the "post" period . Moving from column 1 which considers all mothers to columns 2-6 where I restrict the sample to eligible mothers, the marginal effect on the "*Quebec*Post*" decreases slightly, from 16.5 percentage points to approximately 13 percentage points. This suggests that while there has been an increase in mother participation rates generally, a portion of that has come through an increase in the proportion of eligible mothers as a result of more lenient qualifying criteria. Amongst the mothers who are eligible to take paid leave *i.e.* those who are making an active choice, the magnitude of the effect of the policy change is slightly smaller, but still substantial. In low-income families, mothers are considerably less likely to claim EI leave even before the policy change, but the estimated impact of the policy change is almost doubled for mothers from these families, which is important for policy makers, who may have been targeting this disadvantaged group. Controlling for personal and job characteristics does not dramatically alter the magnitude of the marginal effects on the main interaction terms, indicating that sorting has a small role to play in explaining the impact of the reform on the probability of mothers claiming EI benefits.

Figures 1 and 2 show the clear uptake in participation rates amongst mothers and fathers after the policy reform. The change in fathers' uptake is much more dramatic, though of course it began from a much lower baseline so it had more room to grow. The trend lines for the pre-reform (2001-2004) and post-reform (2007-2010) periods are nearly parallel, this gives us confidence in our D-in-D assumptions since it shows that the uptake rates showed a big spike around the time of introduction, but then returned to trend level of growth.

Fig 1. Proportion of fathers who claim Benefits

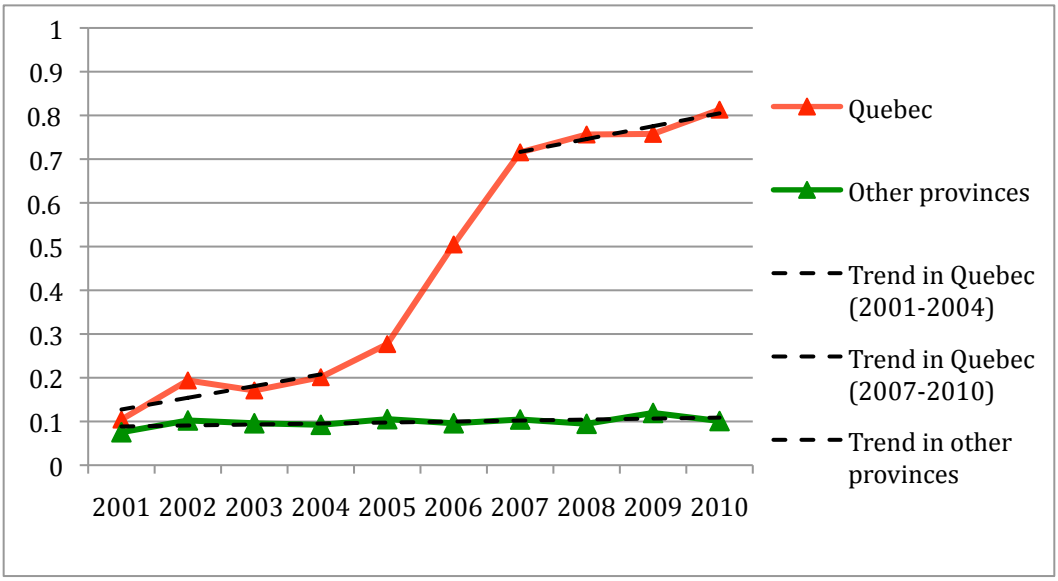

Fig 2. Proportion of mothers who claim Benefits

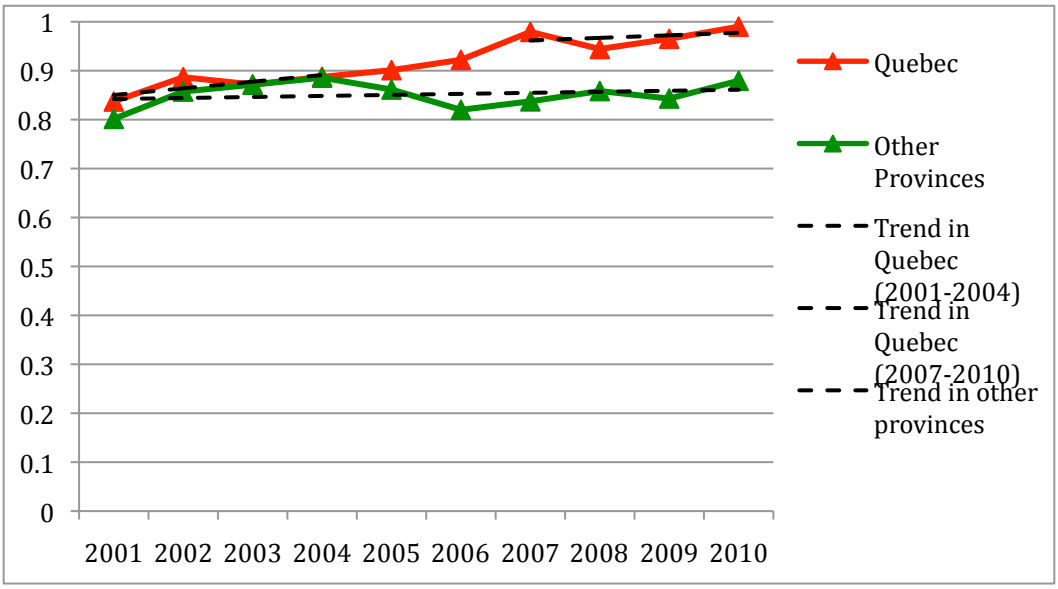

Table 4 presents results for the impact of the policy on the duration of maternity leave taken by new mothers. I find that the establishment of QPIP was associated with an increase in average maternity leave duration of over half a month. This estimate, inferred from the marginal

Table 4: Length of maternity leave (months) | they returned to the workforce

	(1)	(2)	(3)	(4)	(5)	(6)
Quebec	0.0867	0.0343	-0.0435	0.8243**	0.1428	-0.2459
	(0.1297)	(0.1273)	(0.1211)	(0.2256)	(0.1406)	(0.1846)
After	-0.2629	-0.1861	-0.2897	-0.3190	-0.3126	-0.1127
	(0.2036)	(0.2801)	(0.1842)	(0.1802)	(0.2219)	(0.2596)
Quebec*Post	0.5550***	0.5864***	0.5500***	0.2450**	0.4501***	0.3265***
	(0.0715)	(0.0593)	(0.0508)	(0.0928)	(0.0805)	(0.0833)
Low-income * Quebec * Post		-0.0346				
		(0.5278)				
HS Dropout * Quebec * Post			0.6646***			
			(0.6356)			
First-child * Quebec * Post				0.6705		
				(0.3495)		
Low-income		0.1032				
		(0.1180)				
Low-income * Quebec		0.4098**				
		(0.1124)				
Low-income * Post		-0.9403				
		(0.5301)				
HS Dropout			1.2339*			
			(0.4174)			
HS Dropout * Quebec			2.0908***			
			(0.4198)			
HS Dropout * Post			0.4439			
			(0.6410)			
First-child				0.9972***		
				(0.2141)		
First-child * Quebec				-2.0292***		
				(0.2094)		
First-child * Post				-0.1717		
				(0.3682)		
Constant	7.6498	7.6314	7.7728	7.3207	5.9788	6.4883
	(0.2224)	(0.2304)	(0.2208)	(0.2641)	(0.4194)	(0.5836)
Age, education and wage	No	No	No	No	Yes	Yes
Job characteristics	No	No	No	No	No	Yes
N =	7824	7824	7824	7824	7801	7032

1. All standard errors are clustered by province and presented in parentheses
2. All results offer coefficient from a simple linear regression where the dependent is the number of weeks of leave the mother has taken. The sample has been restricted to only those mothers who have returned to employment at the time of the survey.
3. All regressions included quadratic term for time
4. *=Significant at the 10% level **=Significant at the 5% level ***=Significant at the 1% level
5. I re-ran all regressions using the smallest sample (from Column 6) and can confirm the results did not differ significantly.

effect on the *Quebec*Post* term is both economically and statistically significant, especially when you consider that the earlier median level of maternity leave taken over the sample was approximately 7 months (see Appendix). The increase was particularly prominent in the case of first-time mothers: they reported increasing their leave periods by more than 1.25 months on average. Moreover, while controlling for personal, wage and job characteristics reduces the size

of the marginal effect for our full sample – there remains a significant increase of approximately 0.33-0.45 months.

In table 5 I present results from regressions that estimate the probability of a new mother exiting the workforce after taking maternity leave instead of returning to work. In accordance with my *a priori* expectations, there has been little impact of the policy reform on mothers' exit rates: the marginal effect calculated for the *Quebec*Post* term is economically and statistically insignificant in most cases. Both low-income and poorly-educated mothers start out with higher probabilities of exiting the workforce compared to the average new mother, but experience a significant relative decrease in these probabilities after QPIP, though the marginal effect is only statistically significant in the case of poorly educated mothers. Controlling for age and education doesn't change the results substantially. However, when I control for job characteristics I find that there is an increase in exit rates, though the marginal effect of 1.3 percentage points, while statistically significant, is quite small in magnitude. This suggests that sorting into certain types of occupations may play some role in determining whether or not women choose to exit the labor market after their maternity leave.

In Table 6 I present results from regressions estimating the effect of the policy change on the probability of a new mother returning to her pre-birth employer when the leave period ends. The main finding is that the policy change was associated with an increase of 3-4 percentage points in this unconditional probability of returning to the pre-birth job. Both low-income and poorly educated mothers start out with lower probabilities of staying with the same employer – they are less likely to have jobs that are flexible regarding a new mother's responsibilities or that are well matched, hence they aren't too concerned about losing these jobs. Poorly educated mothers appear to have experienced a much smaller improvement compared to their better-

Table 5: Probability of exiting the workforce

	(1)	(2)	(3)	(4)	(5)	(6)
Quebec	-0.0558***	-0.0484***	-0.0511***	-0.0486***	-0.0626***	- 0.0536***
	(0.0138)	(0.0149)	(0.0138)	(0.0143)	(0.0126)	(0.0109)
Post	0.0132	0.0142	0.0156	0.0136	0.0132	0.0021
	(0.0131)	(0.0133)	(0.0126)	(0.0129)	(0.0115)	(0.0096)
Quebec*Post	-0.0017	0.0000	0.0039	-0.0028	0.0050	0.0139***
	(.0077)	(0.008)	(0.0081)	(0.0079)	(0.0075)	(0.005)
Low-income *Quebec * Post		-0.0621				
		(0.0426)				
HS Dropout * Quebec * Post			-0.0584**			
			(0.0235)			
First-child *Quebec* Post				-0.0126		
				(0.0145)		
Low-income		0.0705***				
		(0.0080)				
Low-income *Quebec		-0.0372***				
		(0.0105)				
Low-income * Post		0.0143				
		(0.0319)				
HS Dropout			0.1564***			
			(0.0111)			
HS Dropout * Quebec			-0.0159			
			(0.0152)			
HS dropout * Post			-0.0397			
			(0.0140)			
First-child				-0.0094		
				(0.0067)		
First-child*Quebec				-0.0087		
				(0.0090)		
First-child*Post				-0.0375***		
				(0.0117)		
Age, education, wage	No	No	No	No	Yes	Yes
Job characteristics	No	No	No	No	No	Yes
N =	6944	6944	6944	6944	6923	6236

1. All standard errors are clustered by province and presented in parentheses
2. All results offer marginal effects from an ordered probit with the dependent variable is an indicator taking value 1 if they have exited or plan to exit the workforce when their leave ends and 0 otherwise.
3. All regressions included quadratic term for time
4. *=Significant at the 10% level **=Significant at the 5% level ***=Significant at the 1% level
5. I re-ran all regressions using the smallest sample (from Column 6) and can confirm the results did not differ significantly.

educated counterparts – to the point of facing a net decrease in the probability of returning. However, the policy change had a significantly positive effect on low-income mothers, since their probability of returning to the pre-birth employer rose by considerably more than it did for Quebecois mothers from higher income backgrounds. First-time mothers also start out with lower probabilities of returning, possibly because the novelty and extra pressures of the first

Table 6: Probability of a mother returning to her pre-birth employer

	(1)	(2)	(3)	(4)	(5)	(6)
Quebec	0.0151	0.0381*	0.0376**	0.0373*	0.0233*	0.0186
	(0.0177)	(0.0217)	(0.0191)	(0.0202)	(0.0116)	(0.0112)
Post	-0.0088	0.0000	-0.0027	-0.0011**	-0.0114	0.0063
	(0.0175)	(0.0206)	(0.0181)	(0.0163)	(0.0189)	(0.0186)
Quebec*Post	0.0398***	0.0367***	0.0399***	0.0362***	0.0259***	0.0119***
	(0.0071)	(0.0100)	(0.0083)	(0.0070)	(0.0069)	(.0072)
Low-inc * Quebec * Post		0.1371*				
		(0.0720)				
HS Dropout * Quebec * Post			-0.1089**			
			(0.0441)			
First-child * Quebec * Post				0.0837***		
				(0.0161)		
Low-income		-0.2371***				
		(0.0213)				
Low * Quebec		0.0599**				
		(0.0273)				
Low * Post		-0.0329				
		(0.0577)				
HS Dropout			-0.2750***			
			(0.0148)			
HS Dropout * Quebec			0.0512***			
			(0.0192)			
HS dropout * Post			0.06912*			
			(0.0418)			
First-child				0.0057		
				(0.0090)		
First-child*Quebec				-0.0286**		
				(0.0112)		
First-child*Post				0.0097		
				(0.0124)		
Include age and education controls	No	No	No	No	Yes	Yes
Includes job description controls	No	No	No	No	No	Yes
N =	6339	6339	6339	6339	6322	5877

1. All standard errors are clustered by province and presented in parentheses
2. All results offer marginal effects from a probit with the dependent variable is an indicator taking value 1 if they have returned or plan to return to their pre-birth employer and 0 if not.
3. All regressions included linear and quadratic term for time
4. *=Significant at the 10% level **=Significant at the 5% level ***=Significant at the 1% level
5. I re-ran all regressions using the smallest sample (from Column 6) and can confirm the results did not differ significantly.

experience of motherhood motivates more of them to exit or seek more mother-friendly jobs, but they experience a larger increase in this probability than the average mother. However, controlling for job characteristics does reduce the marginal effect by more than half. This makes sense, since the nature of the job rather is something mothers will consider carefully when

evaluating how good a match it is, how compatible it will be with their new parenting responsibilities, and whether they should hold on to it. The results for the probability of staying with the same employer, conditional on not exiting the workforce, are presented in the Appendix, and are not substantially different from the results regarding unconditional probability.

5. Conclusion

I have studied the impact of a large expansion of parental leave entitlements through the establishment of a more generous and flexible program in Quebec. I explore the impact of lower eligibility criteria, higher income replacement rates, and a father-only leave entitlement on fathers' participation rates and mother's participation rates, leave duration, and employment continuity. There are several interesting and relevant findings. First, the reform was associated with a remarkable increase of 55-60 percentage points in the probability of a father making a claim. This very dramatic result is robust across all our specifications and are not simply being driven by higher eligibility rates: among fathers who are choosing whether or not to take leave, the reform seems to have convinced many more to do so. The reform had a smaller impact on fathers from less advantaged groups, but the increase in their claim rates was still considerable, about 45-55 percentage points. The move from EI to QPIP also increased the likelihood of Quebecois mothers filing claims, and this increase was particularly large for low-income mothers. Although there has been a rise in claim rates for all new mothers, our results suggest a significant portion of this result is due to more women being eligible due to relaxed criteria.

I also find that the Quebec reforms increased the average length of maternity leave taken, especially for first-time mothers. In accordance with *a priori* expectations there were no significant effects on exit rates for the average mother – though the vulnerable groups such as

low-income families and high school dropouts now seem considerably less likely to exit the workforce after the reform. On average the policy reform resulted in an increase in mothers' job continuity with the pre-birth employer, but the results for the sub-groups are mixed.

My results point to the success of the QPIP in attaining several of its goals: increasing access, improving labor market outcomes for women, and most notably, encouraging fathers' participation. However, they also open the door to more research regarding fathers' leave utilization, with the aim of digging deeper into the forces behind this observed increase in benefit claims. For example, did the reform impact the duration of paid leave taken by fathers? This is interesting because, given the large number of fathers who took no leave previously, the marginal effect of even a small increase in leave could be significant. What is the elasticity of the effect of the daddy quota *i.e.* how many days of leave must be reserved for the father to result in a 50% utilization rate? Has the use of the daddy-only leave been accompanied by a decrease in fathers' use of shared leave? Has the institution of the daddy leave increased the amount of time fathers take off work or simply replaced some of the paid vacation days, sick days or personal days fathers used to previously take? Future research on these questions, perhaps using panel data such that one can control for unobserved heterogeneity in beliefs and preferences, would be particularly enlightening.

My findings should be of interest to two groups of policymakers. First, they suggest practical options to officials who are searching for ways to reduce the negative impact of having children on women's careers without sacrificing the welfare of mother or child. Second, for policymakers interested in promoting gender equality, it appears the institution of a "use it or lose it" daddy quota increases leave taking which likely encourages early father involvement, and may go some way towards a more equitable and less gendered division of household

responsibilities. The rise of the dual-earner model, declining fertility rates, and increased skepticism of traditional gender norms have encouraged governments in developed nations to consider policies that make gender equity an explicit goal of parental leave. The encouragement of fathers to get involved in childcare from early on, and to then continue to share the burden of housework and care-giving with the mother is on the agenda. My results indicate that an effective means of doing so is by improving financial compensation and establishing an individual right to non-transferable leave for fathers. The findings have relevance for the growing number of other developed nations, such as Australia and the United Kingdom, that are considering or are in the process of introducing daddy-only leave quotas.

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7. Appendices

A.1: Regressions including the sample years 2005 & 2006

Table A.1.1: Summary Statistics

Proportion of mothers	**Quebec**		**Other Provinces**	
Aged 25+	0.8408 (0.3660)		0.8614 (0.3455)	
Family size	3.7755 (0.7555)		3.8633 (0.7898)	
First child	0.4180 (0.4933)		0.3844 (0.4864)	
Low-Income Family	0.1222 (0.3275)		0.0993 (0.2992)	
Medium Income Family	0.5604 (0.4965)		0.5337 (0.4989)	
High Income Family	0.2114 (0.4084)		0.2252 (0.4177)	
High school Dropouts	0.1000 (0.3001)		0.0873 (0.2823)	
High School Graduates	0.1503 (0.3575)		0.2457 (0.4305)	
Post-High-School degrees	0.7473 (0.4347)		0.6637 (0.4725)	
	2001-2005	***2006-2010***	***2001-2005***	***2006-2010***
Eligible for EI | worked in the last 2 years	0.7702 (0.4209)	0.8637 (0.3433)	0.7252 (0.4464)	0.7537 (0.4309)
Spouses are ineligible for EI	0.1124 (0.3160)	0.0951 (0.2934)	0.1079 (0.3103)	0.1300 (0.3364)

Table A.1.2: Probability of Father claiming EI benefits

	(1) All fathers	(2) All Eligible Fathers	(3) All eligible fathers	(4) All eligible fathers	(5) All eligible fathers	(6) All eligible fathers	(7) All eligible fathers
Quebec	0.0988***	0.1137***	0.3845***	0.3841***	0.3837***	0.1139***	0.1166***
	(0.0100)	(0.0111)	(0.0076)	(0.0108)	(0.0076)	(0.0110)	(0.0387)
Post	-0.0552	-0.0699	0.0051	0.0040	0.0048	-0.0696	-0.0742
	(0.0401)	(0.0453)	(0.0448)	(0.0436)	(0.0438)	(0.0454)	(0.0487)
Quebec*Post	0.4639***	0.5137***	0.5237***	0.5188***	0.5228***	0.5105***	0.5319***
	(0.0313)	(0.0286)	(0.0181)	(0.0221)	(.0221)	(0.0297)	(0.0288)
Low-income* Quebec * Post			-0.1750***				
			(0.0248)				
HS Dropout * Quebec * Post				-0.0776***			
				(0.0232)			
First-child * Quebec * Post					0.0549***		
					(0.0151)		
Low-income			.0178				
			(0.0129)				
Low-income * Quebec			-0.0676***				
			(0.0128)				
Low-income * Post			.0102				
			(0.0217)				
HS Dropout				(0.0013)			
				(0.0168)			
HS Dropout * Quebec				-0.0802***			
				(0.0166)			
HS Dropout * Post				-0.0001			
				(0.0220)			
First-child					0.0160**		
					(.0081)		
First-child * Quebec					0.0548***		
					(0.0077)		
First-child * Post					-0.0063		
					(0.0149)		
Age and education controls	No	No	No	No	No	Yes	Yes
Job characteristics controls	No	No	No	No	No	No	Yes
N =	10649	9337	9337	9337	9337	9308	7664

1. All standard errors are clustered by province and presented in parentheses
2. All results offer marginal effects from a probit with the dependent variable is a dummy taking value 1 if the spouse has already claimed or plans to claim EI benefits and 0 if neither.
3. All regressions included quadratic term for time
4. *=Significant at the 10% level **=Significant at the 5% level ***=Significant at the 1% level

Table A.1.3: Probability of mothers claiming benefits

	(1) All mothers	(2) All Eligible mothers	(3) All eligible mothers	(4) All eligible mothers	(5) All eligible mothers	(6) All eligible mothers	(7) All eligible mothers
Quebec	0.0553*** (0.022)	0.0216*** (0.0097)	0.0783*** (0.0114)	0.0759*** (0.0102)	0.0753*** (0.0105)	-0.0027 (0.0110)	0.0050 (0.007)
Post	-0.0655*** (0.0224)	-0.0737*** (0.0142)	-0.0455*** (0.0130)	-0.0458*** (0.0126)	-0.0481*** (0.0124)	-0.0536 (0.0169)	-0.0695 (0.0132)
Quebec*Post	0.1506*** (0.0091)	0.1207*** (0.0143)	0.1161*** (0.0143)	0.1205*** (0.01301)	0.1198*** (0.0132)	0.0766*** (0.0181)	0.1218*** (0.0739)
Low-income * Quebec * Post			0.1414*** (0.0420)				
HS Dropout * Quebec * Post				0.0124 (0.790)			
First-child * Quebec * Post					-0.0370 (0.0227)		
Low-income			-0.1782*** (0.0168)				
Low * Quebec			-0.0562* (0.0223)				
Low * Post			-0.0892 (0.0326)				
HS Dropout				-0.1720*** (0.0171)			
HS Dropout * Quebec				0.1388*** (0.0240)			
HS Dropout * Post				-0.078** (0.0339)			
First-child					0.0418*** (0.0067)		
First-child * Quebec					-0.0407*** (0.0096)		
First-child * Post					0.0032 (0.0163)		
Age and education controls	No	No	No	No	No	Yes	Yes
Job characteristics controls	No	No	No	No	No	No	Yes
N=	11338	8549	8549	8549			

6. All standard errors are clustered by province and presented in parentheses
7. All results offer marginal effects from a probit with the dependent variable is a dummy taking value 1 if the mother has already claimed or plans to claim EI benefits and 0 if neither.
8. All regressions included quadratic term for time

*=Significant at the 10% level **=Significant at the 5% level ***=Significant at the 1% level

Table A.1.4: Duration of maternity leave | they returned or plan to return to the workforce

	(1) All mothers	(2) All mothers	(3) All mothers	(4) All mothers	(5) All mothers	(6) All mothers
Quebec	0.0867	0.0343	-0.0435	0.8243**	0.1428	-0.2459
	(0.1297)	(0.1273)	(0.1211)	(0.2256)	(0.1406)	(0.1846)
Post	-0.2629	-0.1861	-0.2897	-0.3190	-0.3126	-0.1127
	(0.2036)	(0.2801)	(0.1842)	(0.1802)	(0.2219)	(0.2596)
Quebec*Post	0.5550***	0.5864***	0.5500***	0.2450**	0.4501***	0.3265***
	(0.0715)	(0.0593)	(0.0508)	(0.0928)	(0.0805)	(0.0833)
Low-income * Quebec * Post		-0.0346				
		(0.5278)				
HS Dropout * Quebec * Post			0.6646***			
			(0.6356)			
First-child * Quebec * Post				0.6705		
				(0.3495)		
Low-income		0.1032				
		(0.1180)				
Low-income * Quebec		0.4098**				
		(0.1124)				
Low-income * Post		-0.9403				
		(0.5301)				
HS Dropout			1.2339*			
			(0.4174)			
HS Dropout * Quebec			2.0908***			
			(0.4198)			
HS Dropout * Post			0.4439			
			(0.6410)			
First-child				0.9972***		
				(0.2141)		
First-child * Quebec				-2.0292***		
				(0.2094)		
First-child * Post				-0.1717		
				(0.3682)		
Constant	7.6498	7.6314	7.7728	7.3207	5.9788	6.4883
	(0.2224)	(0.2304)	(0.2208)	(0.2641)	(0.4194)	(0.5836)
Age and education	No	No	No	No	Yes	Yes
Job characteristics	No	No	No	No	No	Yes
N =	7824	7824	7824	7824	7801	7032

1. All standard errors are clustered by province and presented in parentheses
2. All results offer marginal effects from an ordered probit where the dependent variable takes value 1 if mother has claimed or plans to claim maternity/parental benefits and 0 if she does not. The sample has been restricted to only those mothers who have returned or plan to return to employment once their maternity leave ends.
3. All regressions included quadratic term for time
4. *=Significant at the 10% level **=Significant at the 5% level ***=Significant at the 1% level

Table A.1.5: Probability of exiting the workforce after maternity leave

	(1)	(2)	(3)	(4)	(5)	(6)
Quebec	-0.0541*** (0.0172)	-0.0513*** (0.0165)	-0.0524*** (0.0158)	-0.0506*** (0.0160)	-0.0541*** (0.0135)	- 0.0485*** (0.0138)
Post	0.0168*** (0.0096)	0.0160* (0.0089)	0.0152 (0.0099)	0.0160 (0.009)	0.01391 (.01015)	(0.0056) (0.0135)
Quebec*Post	-0.0045 (.0041)	-0.0057 (0.0052)	-0.0054 (0.0059)	-0.0104** (0.005)	-0.0042 (0.0051)	0.0016 (0.0077)
Low-income *Quebec * Post		-0.0819** (0.0361)				
HS Dropout * Quebec * Post			-0.0493* (0.0276)			
First-child *Quebec* Post				-0.0121 (0.0099)		
Low-income		0.0702*** (0.0065)				
Low-income *Quebec		-0.0231*** (0.0085)				
Low-income * Post		0.0151 (0.0241)				
HS Dropout			0.1462*** (0.0071)			
HS Dropout * Quebec			0.0001 (0.0111)			
HS dropout * Post			-0.0129 (0.0124)			
First-child				-0.0044 (0.008)		
First-child*Quebec				-0.0094 (0.0118)		
First-child*Post				-0.0345**** (0.0079)		
Include age and education controls	No	No	No	No	Yes	Yes
Includes job description controls	No	No	No	No	No	Yes
N =	8743	8743	8743	8743	8718	8718

6. All standard errors are clustered by province and presented in parentheses
7. All results offer marginal effects from an ordered probit with the dependent variable is a dummy taking value 1 if they have left or plan to exit the workforce when their leave ends and 0 otherwise.
8. All regressions included quadratic term for time
9. *=Significant at the 10% level **=Significant at the 5% level ***=Significant at the 1% level

Table A.1.6: Probability of staying with the same employer after maternity leave

	(1)	(2)	(3)	(4)	(5)	(6)
Quebec	0.0287*** (0.0223)	0.0448* (0.0232)	-0.0431** (0.0212)	0.0433** (0.022)	0.0336 (0.0165)	0.0231 (0.0159)
Post	-0.0301** (0.0121)	-0.0237 (0.0125)	-0.0253** (0.0121)	-0.0257** 0.0118	-0.0315 (0.0142)	-0.0166 (0.0197)
Quebec*Post	0.0287*** (0.0031)	0.0223*** (0.0047)	0.0280*** (0.0032)	0.0246*** (0.0031)	0.0177*** (0.0029)	0.0112*** (.0049)
Low-inc * Quebec * Post		0.1127* (.0667)				
HS Dropout * Quebec * Post			-0.0853* (0.0513)			
First-child * Quebec * Post				0.0769*** (0.0065)		
Low-income		-0.2325*** (0.0120)				
Low * Quebec		0.01954 (0.0161)				
Low * Post		-0.0451 (0.0558)				
HS Dropout			-0.2607*** (0.0157)			
HS Dropout * Quebec			0.0153 (0.0200)			
HS dropout * Post			0.04144 (0.0387)			
First-child				-0.0013 (0.0097)		
First-child*Quebec				-0.0357*** (0.0122)		
First-child*Post				0.0177*** (0.005)		
Include age and education controls	No	No	No	No	Yes	Yes
Includes job description controls	No	No	No	No	No	Yes
N =	7028	7028	7028	7028	7335	7335

6. All standard errors are clustered by province and presented in parentheses
7. All results offer marginal effects from a probit with the dependent variable is a dummy taking value 1 if they plan to return to work and 0 if they plan to leave the workforce.
8. All regressions included quadratic term for time
9. *=Significant at the 10% level **=Significant at the 5% level ***=Significant at the 1% level

Appendix A.3:

Table A.3.1: Probability of continuing with the same employer | you are not exiting the workforce (Sample excluding 2005 and 2006)

	(1)	(2)	(3)	(4)	(5)	(6)
Quebec	-0.0292*** (0.0075)	-0.0071 (0.0072)	-0.0076 (0.0062)	-0.0078 (0.0072)	-0.0194*** (0.0051)	-0.0163*** 0.0045
Post	-0.0042 (0.0190)	0.0083 (0.0199)	.0010 (0.0199)	0.0031 (0.0183)	0.0007 (0.0226)	0.0213 (0.0146)
Quebec*Post	0.0404*** (0.005)	0.0434*** (0.0056)	0.0503*** (0.0052)	0.0373*** (0.0044)	0.0404*** (0.0030)	0.0246*** (0.0044)
Low-income * Quebec * Post		0.01339 (0.0552)				
HS Dropout * Quebec * Post			-0.2971*** (0.0530)			
First-child * Quebec * Post				0.0768*** (0.0113)		
Low-income		-0.2146*** (0.0214)				
Low * Quebec		-0.0157 (0.0276)				
Low * Post		-0.0567 (0.0529)				
HS Dropout			-0.2054*** (0.0242)			
HS Dropout * Quebec			0.0202 0.0315)			
HS dropout * Post			0.01561 (0.0545)			
First-child				-0.0038 (0.0070)		
First-child*Quebec				-0.0334*** (0.0085)		
First-child*Post				-0.0233*** (0.0091)		
Include age and education controls	No	No	No	No	Yes	Yes
Includes job description controls	No	No	No	No	No	Yes
N =	7386	7386	7386			

1. All standard errors are clustered by province and presented in parentheses
2. All results offer marginal effects from an ordered probit with the dependent variable is a dummy taking value 1 if they have returned or planned to return to the same employer and 0 otherwise.
3. All regressions included quadratic term for time
4. *=Significant at the 10% level **=Significant at the 5% level ***=Significant at the 1% level

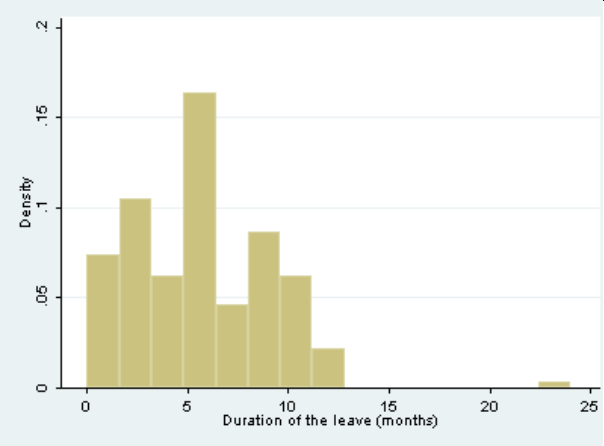
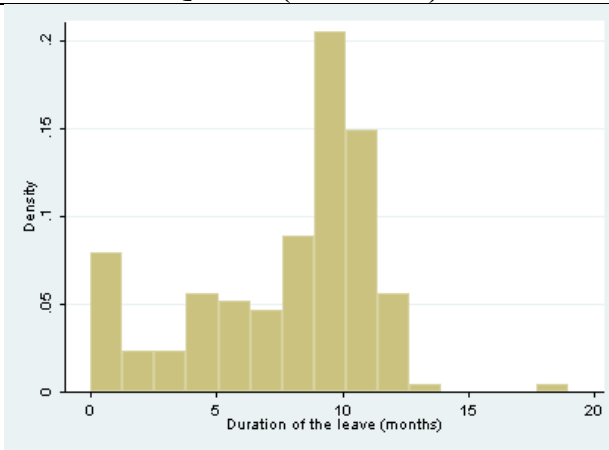
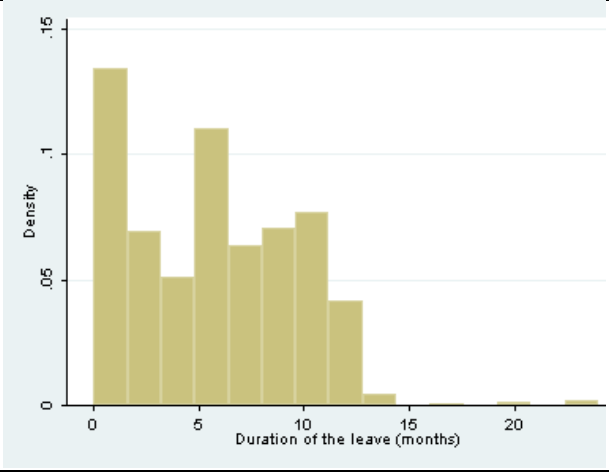
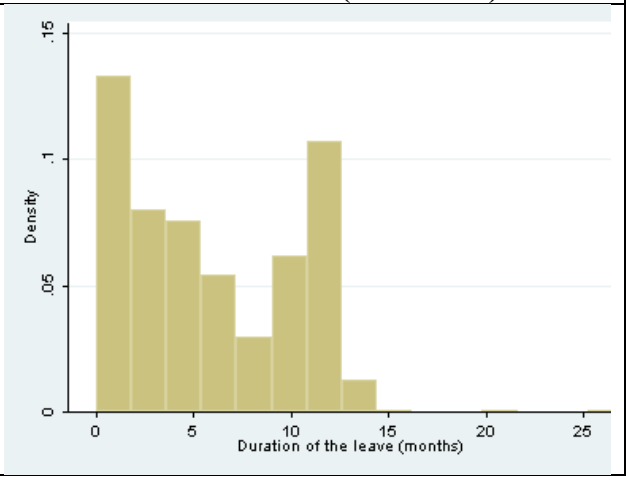
Table A.3.2: Probability of continuing with the same employer | you are not exiting the workforce

(Sample including 2005 and 2006)

	(1)	(2)	(3)	(4)	(5)	(6)
Quebec	-0.0188*** (0.0088)	-0.0035*** (0.0079)	-0.0067 (0.0067)	-0.0059 (0.0075)	-0.0158*** (0.0063)	-0.0140*** 0.0037
Post	-0.0113 (0.0140)	-0.0041 (0.0138)	-.0107 (0.0142)	-0.0074 (0.0139)	-0.0141 (0.0151)	0.0122 (0.0128)
Quebec*Post	0.0221*** (0.0030)	0.0218*** (0.0021)	0.0282*** (0.0022)	0.0188*** (0.003)	0.0164*** (0.0035)	0.0120*** (0.0045)
Low-inc * Quebec * Post		-0.0089 (0.0491)				
HS Dropout * Quebec * Post			-0.2129*** (0.0406)			
First-child * Quebec * Post				0.0678*** (0.0076)		
Low-income		-0.2117*** (0.0138)				
Low * Quebec		-0.0218 (0.0021)				
Low * Post		-0.0608 (0.0445)				
HS Dropout			-0.1888*** (0.0247)			
HS Dropout * Quebec			-0.0097 0.0315)			
HS dropout * Post			0.01744 (0.0406)			
Constant						
First-child				-0.0026 (0.0072)		
First-child*Quebec				-0.0435*** (0.0091)		
First-child*Post				-0.0134*** (0.0030)		
Include age and education controls	No	No	No	No	Yes	Yes
Includes job description controls	No	No	No	No	No	Yes
N =	7386	7386	7386			

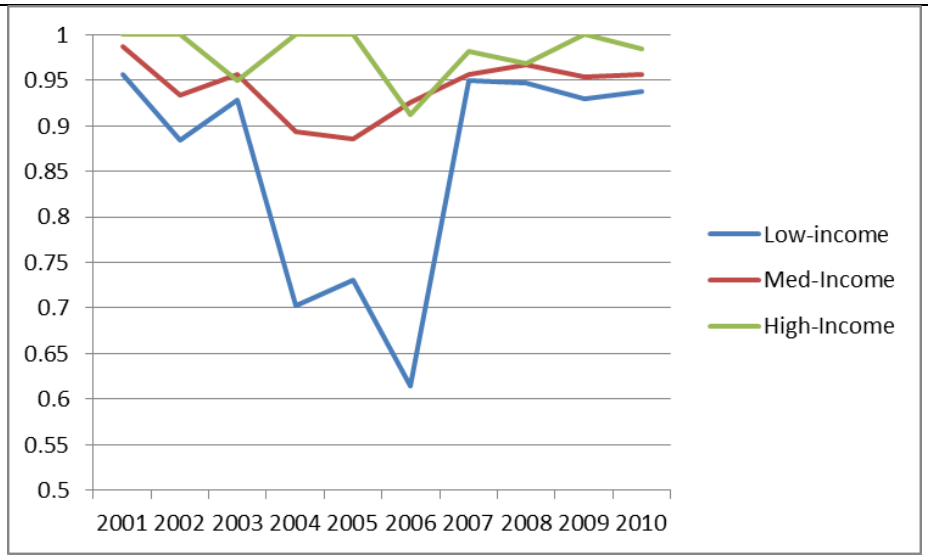
1. All standard errors are clustered by province and presented in parentheses
2. All results offer marginal effects from an ordered probit with the dependent variable is a dummy taking value 1 if they have returned or planned to return to the same employer and 0 otherwise.
3. All regressions included quadratic term for time
4. *=Significant at the 10% level **=Significant at the 5% level ***=Significant at the 1% level

Appendix A.4 : Distribution of Maternity leave

Quebec (2001-2004)	Quebec (2007-2010)
	
Other Provinces (2001-2004)	**Other Provinces (2007-2010)**
	

Appendix A.5: Eligibility rates among new parents

Quebec



Other Provinces