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The Impact of Provincial Maternity and Parental Leave Policies on

Employment Rates of Women with Young Children in Canada

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ABSTRACT

Maternity and parental leave policies are on the forefront of the current political agenda in Canada. This paper answers the question: does maternity and parental leave (M/PL) policy raise or lower the probability of employment for women? One unique feature of M/PL policy in Canada is the variation in mandated unpaid job-protected leave allowances across provinces. This variation is used in this study to identify the effect of provincial M/PL policies on employment rates of women with young children. Using the Canadian Labour Force Survey (LFS) data from 1976 to 2000, I find evidence that M/PL policy reduces the gap between the employment probabilities of women with young children versus women with older children. Moreover, a difference-in-differences model predicts a 3 to 4 percent increase in the probability of employment for women with young children (aged 0 to 2) relative to women with older children as a result of M/PL policy.

I. Introduction

Maternity and parental leave (M/PL) policy is on the forefront of the current political agenda in Canada.[1] In the 1999 Speech from the Throne, the Government of Canada announced an expansion of the maternity and parental benefits available under its Employment Insurance (EI) program.[2] This move was a part of the Government's larger and continuing National Children's Agenda aimed at improving the well-being of Canada's children and providing support to parents and families. In addition to more weeks of parental EI benefits, both federal and provincial governments have expanded the length of job-protected parental leave available under their respective Employment Standards Acts and Labour Codes.

While these policy changes undoubtedly give parents greater flexibility in their children's first year of life, little is known about the impact of M/PL policy on the parents' labour market outcomes. Economic theories put forward to predict the impact of the M/PL policy on labour market outcomes leads to ambiguous conclusions (e.g., Klerman and Leibowitz, 1997). The right to job-protected maternity leave may lead mothers with a strong attachment to the labour force to take more time off work than they would in the absence of M/PL policy. However, for women with a weak attachment, it may mean that they remain attached to the labour force and return to work after childbirth instead of dropping out of the labour force for several years to rear their children. Given the ambiguous theoretical predictions, the effect of M/PL policy on labour market outcomes is an empirical question.

Canada provides a unique opportunity for studying the impact of M/PL policy on labour market outcomes. While legislated benefits are paid through the federal employment insurance system, the right to job security during and after a leave of absence surrounding the birth or adoption of a child is granted by provincial and federal labour standards legislation. Provinces have implemented M/PL policy at different times and to differing degrees, so there is cross-provincial variation in the policy at a point in time and substantial within-province variation over time; this provides a unique opportunity to empirically assess the impact of these policies. In spite of this feature of Canadian M/PL policy, to date there are only a handful of papers on the effects of

Canadian M/PL policy and none of them exploits the provincial variation.[3]

This paper estimates the effect of provincial M/PL on the employment rates of women with young children. The paper is divided into six sections. Section II describes the history of maternity and parental leave legislation in Canada. Both unemployment/employment insurance (UI/EI) benefits and provincial unpaid leave allowances are discussed.[4] Section III reviews current literature on the impact of M/PL policy on labour market outcomes. Section IV describes the estimation strategy and econometric model. Section V describes the data used and provides a descriptive look at female employment rates from 1976 to 2000. The results are found in section VI. Section VII concludes.

II. Maternity and Parental Leave Legislation in Canada

Legislation protecting women's labour market position after childbirth falls under both provincial and federal jurisdiction in Canada. First, unpaid leaves of absence are granted by provincial and federal employment standards legislation.[5] Second, benefit payments while on maternity or parental leave are covered by the federal UI/EI legislation and private or union contracts. Third, general human rights statutes provide additional rights.[6] Note that the provincial and federal employment standards legislation only stipulates the minimum standards that firms must adopt. In general, it is possible for firms to offer longer leaves and more generous benefits. For example, registered supplemental unemployment benefit (SUB) plans allow firms to provide benefits in addition to UI/EI benefits.[7]

Unpaid Leave

Provincial and federal employment standards give employees the right to time off during pregnancy and in order to care for newborn (or newly adopted) children.[8] At the end of the 1960s, the provinces of British Columbia and New Brunswick introduced legislation to protect the health and job security of women workers before and after childbirth.[9] The federal government amended the Canada Labour Code, in 1970 to include similar provisions.[10] Other jurisdictions introduced

comparable legislation over the next two decades; by 1988 all provinces and territories had implemented minimum leave allowances.

Provincial legislation was founded on the principal of protecting the mother's health as well as the employer's interests. Applicants are generally required to have a minimum tenure with their current employer in order to qualify for an unpaid leave of absence. The required tenure ranges from 0 weeks to 12 months depending on jurisdiction. In addition, five provinces (Newfoundland, Prince Edward Island, Ontario, Alberta and British Columbia) require that six weeks of post-natal leave be taken. Since the introduction of M/PL legislation, provinces have expanded their legislation in order to give pregnant women and new parents more rights. For example, provisions have been included to protect women against a layoff due to their pregnancy. Moreover, in some jurisdictions (federal, British Columbia, Northwest Territories and the Yukon) women on maternity leave have the right to any wage increases or promotions that they would have received had they not been on leave. In addition, in some jurisdictions seniority and benefits continue to accrue while on leave.

The most notable changes that have occurred over time are the increasing flexibility in the timing with which a woman can take her maternity leave (provinces now require pre-natal leave only in certain circumstances) and the addition of parental and adoption leave. Parental leave can be shared between parents and allows fathers to take a leave of absence to care for a newly born (or adopted) child. More importantly, the introduction of parental leave resulted in increases in the maximum total weeks of leave for women. A summary of the maximum unpaid job-protected leave available in the ten provinces and the federal jurisdiction can be found in Table 1.

Benefits

Provincial legislation only provides for a job-protected, ***unpaid*** absence from work. However, employers may provide payments during the absence and, through the federal employment insurance program, all workers who meet specified qualification requirements can have access to UI/EI benefits during that absence. Fifteen weeks of UI maternity benefits were

introduced in 1971 when the Unemployment Insurance Act (UI Act) replaced previously existing legislation. Adoption benefits were introduced in 1985 and, in 1990 parental benefits (which included adoption benefits, therefore replacing existing adoption benefits) were introduced. The introduction of 10 weeks of parental benefits (which could be shared between parents) significantly increased the amount of benefits available to birth mothers, with an increase in the maximum total weeks of benefits from fifteen to twenty five (a combination of 15 weeks of maternity benefits and 10 weeks of parental benefits). In 1996 the Employment Insurance Act (EI Act) replaced the UI Act. With the implementation of the EI Act, the employment requirements were changed from a minimum number of weeks to a minimum number of hours of work in the year prior to M/PL. In 2001, parental benefits were further extended to a total of 35 weeks bringing the total combined maternity and parental benefits available to birth mothers to 50 weeks (15 weeks of maternity benefits and 35 weeks of parental benefits). The amount of benefits paid to new parents is based on a percentage of insurable earnings in the year prior to childbirth. Further details about the Unemployment Insurance Act, 1971 and the Employment Insurance Act, 1996 can be found in the Appendix.

Inherent in the structure of the legislation in Canada is the possibility of a lack of coordination between the federal and provincial governments. Maternity leave was introduced in most provinces after the Unemployment Insurance Act allowed for benefits. During the transition period, a woman was able to collect benefits if she took time off after giving birth but her job was not protected by legislation. Hence, if she did not have an agreement with her employer from before the birth, she was not guaranteed her same job upon her return to the labour force. It took until 1982 before all provinces had some form of maternity leave legislation in place. Moreover, it took some provinces a few years after the introduction of parental benefits to adapt their provincial labour codes to bring them in line with the changes to federal legislation. In fact, Alberta did not provide any parental leave until 2001. For a woman in Alberta, this meant that prior to 2001 she would risk losing her job if she collected the full number of weeks of benefits to which she was entitled under the UI Act or the EI Act.

Given that UI/EI benefits are administered federally, all new parents face the same legislation when it comes to benefits. Differences that arise across provinces in the average number of weeks and dollars of M/PL benefits received will be due to the varying likelihood of meeting the requirements for qualifying for benefits in the different regions of Canada and provincial variations in average incomes. Once an employee qualifies for M/PL benefits, the duration of benefits available is the same across all provinces. Moreover, the total length of benefits available to a birth mother has changed only three times, with the introduction of maternity leave benefits in 1971, the introduction of parental leave benefits in 1990 and their expansion in 2001. In contrast, the right to an unpaid, job-protected leave of absence varies by province and over time. This latter aspect of the legislation will be used in this study to identify the impact of maternity leave legislation on female employment rates.

III. Literature

To date there are only a handful of papers on the labour market effects of Canadian M/PL policy.[11] Phipps (2000) used the Labour Market Activities Survey (1988-1990) to study labour market behaviour preceding childbirth. She found that women do not seem to increase their labour supply in the year preceding birth suggesting that women do not alter their labour market behaviour in order to qualify for maternity and parental leave benefits. She further finds that fertility is not sensitive to the availability of maternity benefits.

Marshall (1999), using the Survey of Labour and Income Dynamics (SLID), found that while 16% of paid workers returned to work by the end of the first month after childbirth, 80% of the self-employed returned in that first month. She further found that 89% of mothers returned to the same work status (full-time versus part-time) after childbirth and 83% returned to the same employer. Marshall (2003) using the Employment Insurance Coverage Survey (EICS) found that the average time away from work rose from 6 months in 2000 to about 10 months in 2001. This increase was correlated with the extension of parental benefits under the Canadian Employment Insurance Act. She further found that after the extension of parental benefits, fathers were more

likely to participate in the program.

While Phipps, Burton and Lethbridge (2001) do not specifically investigate maternity and parental leave, their paper provides some evidence on the importance of M/PL policy for improving labour market outcomes for women. Using the Canadian General Social Survey, 1995 they find that general interruptions to paid work (e.g., maternity leave, layoffs, and quits) involving a change in job upon return to work result in a downward shift in earnings profiles which is greater than would occur from lost experience alone. Furthermore, they find that an interruption followed by a return to the old job bears no additional cost beyond the lost return to experience. Their results suggest that maternity and parental leave programs will reduce the penalty associated with a job interruption for women who have children by allowing them to retain their jobs after childbirth. Moreover, in a report prepared for Human Resources Development Canada (HRDC, 2001), Phipps finds that whether or not a mother received UI/EI did not affect the probability that she returned to the same job after childbirth.[12] She further found that those mothers whose leaves exceeded provincially available job-protected leaves were less likely to return to the same job. Therefore, it is not necessarily the right to *paid* leave that is important, but the right to job-protected leave (paid or unpaid) that is relevant for the employment rate of women with young children.

Given the scarcity of Canadian research on the labour market impact of maternity or parental leave policy, we must look to international research to provide more evidence in this area. Most other industrialized countries have also implemented some kind of M/PL policy (Ruhm 1998; Phipps 1995). Recent research on M/PL policy in other countries focuses on several different issues. First, M/PL policy is expected to have an impact on employment rates, labour force attachment and the duration of leave after childbirth. Second, the policy is also hypothesized to have an effect on tenure, wages and job continuity. More recently, research has turned to the impact of M/PL policy on child health.

Ruhm (1998), in a study of 16 European countries, finds that the right to paid leave raises the employment rate of women in their prime-child bearing years by between 3 and 4 percent.

Zveglich and van der Meulen Rodgers (2003) find that the introduction and enforcement of maternity leave in Taiwan led to a rise in the employment rate of young women by 2.5 percent. The results of Klerman and Leibowitz (1997) with regard to the employment rate are more ambiguous. They find that the estimated effect of state mandated maternity leave is sensitive to model specification and conclude that some of the increase in employment was due to improvements in economic conditions. Rønsen and Sundström (1996 and 2002) find that the right to paid maternity leave with job security increases the probability of employment in the three years after childbirth in Norway, Finland and Sweden.

Waldfogel (1998), in addition to investigating the impact of maternity leave on employment probabilities, also focuses on the positive effect of returning to the previous job after childbirth on work experience, job tenure and pay. Finally, Waldfogel, Higuchi and Abe (1999), in a study using data from the United States, Britain and Japan, find that family leave coverage increases the likelihood a woman returns to her previous employer after childbirth.

IV. Estimation Strategy

In this paper, the impact of M/PL entitlement on the probability of employment is estimated in the spirit of the difference-in-differences model outlined by Angrist and Krueger (1999). The difference-in-differences model identifies the effect of a policy by assuming that the policy has an impact on the group of interest that it does not have on other groups. The model requires the selection of a comparison (or control) group where differences in the employment probability between the control group and the group of interest are not correlated with the variation in the policy. The difference in the changes in the outcomes of the two groups after changes in the legislation gives an estimate of the true effect of the legislation on the group of interest.

This study assumes that because only new mothers are eligible for maternity and/or parental leave (paid or unpaid), M/PL policy has a direct impact on new mothers. The LFS data used here codes the age of the youngest child in a household as a categorical variable, hence, the group of interest is defined as women whose youngest child is aged 0-2. Women whose

youngest child is aged 3-5 are used as a control group. While other control groups have been used in the literature (e.g., single males, childless women, and older women), these women seem more likely to be similar to the women in the group of interest in terms of unobservable characteristics. For example, both groups of women have children who are not yet of school age and, hence, both groups will face child-care costs.[13] The women whose youngest child is aged 3 to 5 are, however, no longer eligible for maternity and parental leave; it is, therefore, expected that the legislation will have a different impact on these two groups of mothers. The similarity between these two groups on unobservable characteristics is an important feature in identifying the impact of M/PL policy statistically.

I estimate the effect of M/PL policy on the likelihood that a mother is employed by using the following equation:

$$P\big[Y_i = 1 \mid observables\big] =$$
$$\Phi\left(\beta' X_i + \eta_{ml} maxleave_{py} + \beta_k\ ychild_i + \gamma_p prov_i + \theta_y year_i + \delta\ ychild_i * maxleave_{py} \right) \quad (1)$$

where Y_i is a binary variable equal to 1 when a woman is employed and equal to 0 when she is not employed. X_i contains a constant and individual characteristics and *ychild* is a binary variable equal to 1 when a woman's youngest child is aged 0 to 2 and equal to 0 when the youngest child is aged 3 to 5.[14] The *maxleave*$_{py}$ variable is equal to the number of weeks of job-protected unpaid maternity and parental leave that is provided by labour legislation in each province and each year.

Equation (1) is a probit equation where $\Phi(.)$ is the cumulative normal distribution. If we difference this equation across provinces, years and the *ychild* variable, we would be left with η_{ml} and δ. The first coefficient, η_{ml}, represents the effect of M/PL legislation on both groups of

women. The second, δ, represents the differential impact of the legislation on women whose youngest child is aged 0 to 2. The inclusion of η_{ml} allows for the possibility that M/PL policy also affects women with youngest child aged 3 to 5.[15] When $\eta_{ml} = 0$, there is no effect of M/PL policy on women with youngest child aged 3 to 5, when $\eta_{ml} \neq 0$ there is an indirect effect of the policy. M/PL policy may indirectly affect women whose youngest child is aged 3 to 5 as the presence and length of M/PL may be correlated with the political and social culture towards working mothers. The coefficient, η_{ml}, picks up the effects of province and time specific differences that are not captured by either the provincial or year effects. For women with a child aged 0 to 2, the total effect of M/PL policy on the probability of employment is $\eta_{ml} + \delta$ but it is the differential impact, δ, that we are interested in here.

Instead of simply comparing outcomes before and after the implementation of (or a change in) leave entitlement, equation (1) estimates the effect of the maximum available leave on employment status using all changes in the maximum leave entitlement. Note that this model assumes that fertility behaviour is exogenous to the policy. This assumption is supported by Phipps (2000). However, it could be challenged if it becomes evident that the advanced announcement of the government's intention to extend parental leave EI benefits to 35 weeks as of January 1, 2001 is shown to have had fertility effects. Given that the intention was announced more than a year in advance, individuals planning on having children may have postponed pregnancy in order to take advantage of the new law. A similar argument could be made for the period when parental leave benefits were introduced, however, the changes may be less likely to have an impact on the total number of children a woman has than on the timing of those children.

V. Data

This study uses the public-use microdata files of the Canadian Labour Force Survey (LFS) from 1976 to 2000 to study the effect of M/PL policy on the employment rates of women in

Canada. The LFS is a monthly survey of a sample of households containing civilian, non-institutionalized persons aged 15 or older in Canada's ten provinces.[16] The survey was redesigned both in 1976 and at the beginning of 1997. The changes in the survey in 1976 were significant, and therefore the sample included here starts in 1976. Changes to the survey in 1997 were also significant but mainly affected the categorization of the non-employed. As this study classifies women as being either employed or not employed, the changes that occurred in 1997 will not significantly affect the measurement of the classification of employment status used here. As such, the sample used here encompasses the period 1976 to 2000.

The LFS has a rotating six-month panel design. Households are surveyed for six consecutive months and then dropped. Panels overlap so that at any point five-sixths of the sample is retained for the next month. However, because the identifiers that link households from month to month were not available, the panel nature of the survey cannot be used each month must be treated individually. This leads to a non-independence of observations associated with sampling the same household twice without the necessary information to determine which households are the same from month to month. Only the March and September samples are used in order to circumvent this problem.

Another reason to use only two sample months is the sheer size of the LFS. Since 1990 about 62,000 households per month have been surveyed. Keeping only the March and September files reduces the sample to a manageable size. From 1976 to 2000, there are 1,681,435 women aged 15-44 in the March and September samples combined. Moreover, the sample of women with a youngest child aged 0-5 is close to 450,000.[17] Thus the size of the LFS proves to be one of the data's major assets, easily allowing for provincial level analysis.

Summary statistics for women whose youngest child is aged 0 to 2 (the group of interest) and 3 to 5 (the control group) can be found in Table 2. For the purpose of comparison, summary statistics for all women aged 15 to 44 have been included in the last column of the table. I have chosen the range 15 to 44 to approximate the childbearing age for women.[18] Less than one percent of women who have children under the age of 5 were aged 45 and over during the sample

period, hence it seems reasonable to compare their characteristics with women under 45.[19]
Note that Table 2 contains statistics across all years in the sample period.

The summary statistics suggest that both the labour force participation rate and the employment rate of women with young children (both aged 0 to 2 and 3 to 5) are below that of women aged 15 to 44 in general.[20] Moreover, women whose youngest child is aged 0 to 2 are less like to be participating in the labour force and are less likely to be employed than women whose youngest child is aged 3 to 5. Women with young children are more likely to be married, and slightly more educated, than women (aged 15-44) in general. However, one must interpret these figures in light of the fact that all women (from 1976 to 2000) have been included in the calculation of these statistics. The raw percentages could be masking large generational differences in characteristics. For example, average educational attainment of women has increased over time.

Women's employment rates have increased dramatically since the 1970s. Figure 1 shows the trend in women's employment rate over the sample period by depicting the average yearly employment rate for all provinces. The top line represents the employment rate of all women aged 15 to 44. There is a general upward trend until 1990 at which point the rate plateaus until the late-1990s, when the upward trend continues. The middle line represents those women whose youngest child was aged 3 to 5 at the time they were surveyed. The bottom line represents the women whose youngest child was aged 0 to 2. Both lines are trending upwards over time. While there is also a leveling off in the early nineties, there appears to be a narrowing of the gap between women with young children and all women who are aged 15 to 44, particularly among those whose youngest child is aged 3 to 5.

The provinces that represent the shortest mandated M/PL and the longest mandated M/PL during the sample period are Alberta and Québec, respectively. During this whole period, Alberta guaranteed a woman's job for 18 weeks while Québec saw its job-protected leave increase from 0 weeks to 70 weeks. Figures 2 through 4 depict the employment rates for Québec and Alberta. As can be seen in Figure 2, Québec's employment rate has historically been below that for Alberta throughout the sample period. Although, the gap closed from an average of 10.8%

in the latter half of the 1970s to 8.5% in the latter half of the 1990s, the difference in the two

employment rates remained statistically significant throughout the period. A particularly interesting

characteristic of the data is seen in Figures 3 and 4. While Québec's employment rate is below

Alberta's for women aged 15 to 44 and generally for women whose youngest child is aged 3-5

(see Figure 3), this is not the case for women whose youngest child is aged 0-2.[21] Figure 4 shows

that after initially being below Alberta's employment rate, Quebec's rate catches up to Alberta

once maternity leave policy is implemented in Quebec in 1979. Thereafter, the rates are

statistically significant in only eight of the next 21 years. Four of those years Alberta's employment

rate for these women was above that of Quebec, during the other four Quebec's rate was above

Alberta's. These three figures (2-4) suggest that job-protected M/PL policy may play a role in the

employment rates of women with young children. Even though the employment rate of women in

Quebec is generally below that of Alberta, this is not the case among precisely those women who

are targeted by M/PL policy.

VI. Results

Estimates of the model described in equation (1) are found in Table 3 and consist of

standard probit-regression coefficients. In general, the coefficients on the control variables in

Table 3 have the expected signs. Among women with young children, all factors held constant,

those in Ontario and Prince Edward Island were the most likely to be employed and the probability

of being employed has increased over time. The probability of employment for all women with

young children peaks at age 30 to 34 and is the lowest for the youngest and the oldest in the

sample. Employment increases with educational attainment with those with a University education

being the most likely to be employed. The coefficient on the marital status dummy for single,

never-married women suggests that the probability of employment is lower for single women than

for married women (the omitted category). This result is consistent with literature on lone mothers.

The negative coefficient could also potentially be explained if single women within an age range

are younger than married women within that range (e.g. single women aged 20 to 24 may be

closer to 20 on average than married women aged 20 to 24). The younger women are less likely to be employed, as indicated by the coefficients on the age categories.

Coefficients on the maximum job-protected leave variable and the interaction term (η and δ) are small compared to the coefficients on most other variables; they are, however, both significant at the one-percent level. Moreover, even though η is negative, the overall effect of leave entitlement on the employment of women with youngest child aged 0 to 2, $\eta + \delta$, is positive. Note, however, that in spite of the positive effect of M/PL policy, there is a strong negative association between the probability of employment and having the youngest child aged 0 to 2.[22]

In addition to the maximum available job-protected leave (in each province and year), presence of a youngest child aged 0-2 and the interaction term between maximum leave and the young child variable, province and year dummies where also included. Furthermore, the provincial (prime-age male) unemployment rate, marital status, age of respondent, educational attainment, and seasonality were also included as controls.[23]

To understand the magnitude of the estimated effect of M/PL policy, Table 4 shows the predicted effect of increases in the weeks of available maternity/parental leave on the employment rate. The predictions were calculated using the coefficients estimated in the model. Predictions are given for three provinces, two levels of education and five different lengths of available M/PL (including the current 52 weeks found in most provinces since 2001). All figures are for 2000 and for a married woman aged 30 to 34 whose youngest child is aged 0 to 2. The appropriate 2000 provincial unemployment rate is used for each province. The model predicts a 2.8 to 3.6 percent increase in the employment rate in the presence of leave. This increase is statistically significant at the one-percent level. The result is similar to the 3 to 4 percent found by Ruhm (1998) for length of paid M/PL in European countries and the 2.5 percent increase in employment found by Zveglich and van der Meulen-Rodgers (1999) for Taiwan. Job-protected leave results in a larger increase in the employment rate of women with high school education than for those who are university educated, perhaps because employment rates among those with post-secondary education tend

to be higher regardless of labour market policies.

Coefficients on the year dummies are plotted in Figure 5. As seen in the raw data, there is a strong upward trend until about 1990 at which point the year effect flattens out. There is a continuation of the upward trend starting in 1997, but it is unknown whether this means it will continue to trend upwards. Figure 6 demonstrates, however, how important the secular trend appears to be relative to the effect of M/PL. Both lines plot predicted values for a "reference woman" – in this case, a married woman in Ontario, aged 30 to 34, with a high school education, and whose youngest child is aged 0 to 2. One line represents the "pure" year effect by allowing the year to vary but sets the maximum leave variable to the overall average for the sample period.[24] The other line (with squares) also allows the year to vary, but this time the maximum leave variable is set to the yearly average (across provinces). The difference between these two lines is the change in leave policy effect. The size of the leave effect is quite small relative to the year effect.

Note that in Canada, employees who work for federally regulated employers are covered by the Canada Labour Code.[25] The amount of unpaid leave stipulated by this federal statute is found in Table 1, column 2. Unfortunately, the LFS only distinguishes whether an individual is a private sector employee, a public sector employee or self-employed. The public sector category includes those who work for provincial governments (employees of provincial governments are covered by provincial legislation). Therefore, it is unsatisfactory to assign the maximum leave as stipulated by the Canada Labour Code to all public employees. Moreover, doing this leads to the prediction that an increase in M/PL allowance from 0 weeks to 52 weeks increases the probability of employment by 25%.[26] Obviously, this is a statistically significant result. However, it is most likely to be a spurious result driven by the simultaneous occurrences of two events. First, the federal jurisdiction was the only one to have an increase in M/PL allowances during the 1980s. Second, all provinces experienced strong growth in their employment rates during this period. As such, it appears that the best solution (adopted here) is to assign the provincial legislation to all individuals, whether or not they were a public employee. Table 5 estimates the model without

public employees and finds a stronger positive effect associated with longer job-protected leave and a stronger negative effect of having the youngest child aged 0 to 2 than was found in the base model. This result suggests that legislated leave plays a more important role among employees in the private sector. Data limitations prevent further exploration of this issue, however.

Model Robustness

The results of this study hinge on the acceptability of defining women whose youngest child is aged 3 to 5 as a control group. If the control group is affected by M/PL in a way that is not accounted for, then the estimate of the impact of M/PL policy may be over or under estimated. There is possibility that women whose child is aged 1 to 2 are affected by M/PL policy similarly to women with youngest child aged 3 to 5. Ideally, the group of interest should contain only those women who are directly affected by the legislation. It may be more appropriate to use women whose youngest child is aged 1 to 5 as a control group for women whose youngest child is less than one. The latter group could conceivably be eligible for maternity or parental leave whereas mothers of older children are not eligible in Canada. Using more detailed data on the age of the youngest child will allow this issue to be addressed in the future.

To test whether the estimated effect is robust to the use of other control groups available in the public-use LFS, the model was estimated using women whose youngest child was aged 6 to 10. The results can be found in Table 6. Here η is still negative and significant, but it is smaller relative to δ than previously. This version of the model predicts a 6 to 7 percent increase in the employment rate of women whose youngest child is aged 0 to 2 when legislated job-protected leave increases from 0 weeks to 52 weeks. Again note that controlling for M/PL, having a youngest child aged 0 to 2 has a strong negative effect on probability of employment.

Another specification of the model was also tried. The effect of the provincial unemployment rate on the probability of employment was allowed to vary with the age of youngest child in order to test whether these women are affected differently than the control group by the

unemployment rate. Results for both control groups can be found in Table 7. The negative

effect of the unemployment rate is weaker for women whose youngest child is aged 0 to 2 than for

either control group. This suggests that labour market behaviour may be less affected by labour

market conditions and more affected by personal attitudes when a woman's child is very young.

By the time the youngest child is aged 3 to 5 (and more so when the child is aged 6 to 10)

economic conditions may start to play a larger role in labour market decisions. The versions of the

model found in Table 7 lead to a predicted increase of 2 to 3 percent in the employment rate of

women whose youngest child is aged 0 to 2 when the control group is women whose youngest

child is 3 to 5 years of age and 5 to 6 percent when the control group is women whose youngest

child is aged 6 to 10.

Finally, the primary model (Table 3) was re-estimated 10 times. Each time, respondents

from one of the ten provinces were completely dropped from the sample. While it varied in

magnitude, the primary effect always remained positive and significant. Moreover, in all but one

case, the primary effect outweighed the secondary effect leading to a prediction that increases in

weeks of legislated M/PL will lead to increases in employment among mothers whose youngest

child is aged 0 to 2. Predicted increases in the probability of employment ranged from 1.0 to 4.3

percentage points when M/PL was allowed to increase from 0 to 52 weeks. When respondents

from Quebec were dropped from the sample, the negative secondary effect, η, outweighed the

positive primary effect, δ, resulting in the predication that employment of mothers would decrease

with increases in weeks of M/PL.

In an effort to understand the presence of the negative and significant secondary effect, η,

fathers whose youngest child was aged 0-2 was also tried as a control group.[27] This time a

variable indicating the respondent's sex and an interaction term between sex and M/PL were

included. Generally the estimated coefficients on the individual characteristics were the same as

in models using only women. As expected, mothers had a lower probability of employment than

fathers, *ceteris paribus.* The direct impact of M/PL on mothers, δ, was estimated to be positive.

This model predicts that increasing legislated M/PL from 0 to 52 weeks will lead to an increase in

the probability of employment for mothers of between 10.9 and 13.5 percentage points. As before, the secondary effect was estimated to be negative and significant suggesting that there is a negative association between increases in legislated M/PL and the probability of employment for both mothers and fathers whose youngest child is aged 0-2. Further estimation which restricted the sample to fathers whose youngest child is aged 0 to 2 and those fathers whose youngest child is aged 3 to 5 indicates that while there is no differential impact of M/PL on these two groups, the negative secondary effect persists.[28]

The persistence of the secondary effect, regardless of control group, suggests that the M/PL variable may be spuriously associated with decreases in employment. Perhaps provinces increased legislated weeks of M/PL during years when employment was low. While further investigation is warranted, the current results suggest that the true impact of the M/PL on mothers of young children is found in the coefficient on the interaction term (the primary effect). Regardless of specification or sample, this coefficient was always positive and significant suggesting that M/PL policy is indeed associated with increases in employment among women whose youngest child is aged 0 to 2. In fact, if one were to calculate predicated increases in the probability of employment based only on the primary effect, δ, the predicted impact of the policy would be even greater than that estimated here.

Employed, but Absent

An important issue raised by Klerman and Leibowitz (1997) is the distinction between "employment" and "work"; an individual may be employed, but not at work (e.g., they are on "leave"), during the survey reference week. While absences from work can be costly for employers, they may increase productivity if the result is reduced conflict between work and family-life and / or provision of needed rest and respite from work. In their paper, these authors develop a theory of the labour supply effects of maternity leave statutes. Their theory predicts that both "employment" and "leave" will increase with the passage of maternity leave legislation; "work"

will therefore decrease.

The public-use LFS used in this study provides some evidence on the impact of M/PL on absences from work. Not all those respondents who reported being employed during the survey reference week were at work during the reference week. In fact, 13.2% of employed mothers were absent from their job for either all or part of the survey reference week; over 70% of these absences were for personal or family responsibilities.[29] Absences were much more common among women whose youngest child was aged 0 to 2; over 17% of these women were absent during the reference week, compared with only 7.2% of those whose youngest child was aged 3 to 5. (Note that this observation is not surprising since the definition of "absence" used in the LFS includes those on M/PL.) Of those absent from work, 80.1% of mothers whose youngest child was aged 0 to 2 were absent for personal or family responsibilities. Only 39.8% of women whose youngest child was aged 3 to 5 were absent for this reason.

A probit model was used to estimate the probability of being absent from work during the survey reference week among all employed mothers whose youngest child was aged 0 to 5; results are presented in Table 8. The directional impacts of the estimated coefficients are generally the same whether all absences or only absences for personal or family responsibilities are considered. *Ceteris paribus*, the probability of being absent from work decreases with age but increases with educational attainment. Results also indicate that the probability of an absence has increased over time, is higher for those who are married, is highest in Quebec and Ontario and, not surprisingly is higher for mothers whose youngest child is aged 0 to 2relative to those whose youngest child is aged 3 to 5.

The coefficients estimated for the M/PL variables indicate that, there are two counter-acting effects on the probability of being absent from work. The primary effect, δ, is positive suggesting that an increase in the length of legislated job-protected leave increases the probability of being absent among those with the youngest child aged 0 to 2. This finding parallels the theory put forward by Klerman and Leibowitz (1997), However, there appears to be a secondary effect, η, that is larger than δ, and the model predicts that an increase in the length of legislated job-

protected leave leads to an overall decrease in absences from work. The predicted decrease in the probability of being absent among the provinces of Ontario, Quebec and Alberta ranges from 1.4 to 2.5 percentage points for those mothers with their youngest child aged 0-2. An overall depiction of the effect of M/PL on the probability of being absent from work can be found in Figure 7. Here we see that M/PL does appear to counteract the upward trend in absences from work.

One plausible explanation may include that overall absence levels decrease among mothers who have returned to work because longer M/PL leads to increased breastfeeding while on leave which, in turn, leads to improved child health and fewer family-related absences during the first 5 years of a child's life. There is some support for this hypothesis. Chatterji and Frick (2003) find that returning to work within 3 months is associated with a reduction in the probability that a mother will initiate breastfeeding. Health research has indicated that breastfeeding can have long-term positive implications for a child's health. However, it is clear that there is a need for further analysis as the secondary effect may again be spurious.

VII. Conclusion

This study finds that there is a small positive effect of M/PL policy on the female employment rate. The model predicts that an increase in mandated job-protected unpaid leave from 0 to 52 weeks will lead to a 2.8 to 3.6 percent percent increase in the employment rate of women whose youngest child is aged 0 to 2. In spite of the positive effect of M/PL policy on the probability of employment, there remains a strong negative effect of having a child aged 0 to 2.

The significance of the (small) coefficient on the maximum leave variable implies either that M/PL has a negative employment impact on the control group or that maximum leave is correlated with an unobserved variable. Using different specifications tested the robustness of the results – the positive association between M/PL policy and the probability of employment of women whose youngest child is aged 0 to 2 relative to women whose youngest child is aged 3 to 5 remained in all specifications.

The estimated impact of the M/PL policies on the probability of employment is small relative to the secular trend. It is crucial to note, however, that the importance of M/PL policies may lie elsewhere. By allowing women to maintain employment during the period surrounding childbirth, M/PL policies may increase mothers' long-term employment outcomes by increasing their seniority and wages. Moreover, these policies give employers some assurance that a woman will return to her job after childbirth thereby decreasing losses of job-specific capital.

Furthermore, as data becomes available, future research will be able to incorporate the most recent change in both the employment insurance program and provincially mandated job-protected leave. As of January 2001, 35 weeks of parental EI benefits and approximately 37 weeks of job-protected parental leave were made available in all provinces. Currently the 2001 and the first quarter of 2002 are available from the LFS. However, it will be January 2004 before we can be sure that all women with a youngest child aged 0 to 2 would have had their child in or after January 2001. Until then, other data sources (or the master LFS files) will have to be used to investigate the impact of the most recent legislative change on the women's employment probabilities.[30]

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Table 1: Maximum Available Leave (in weeks) [1]

Year	Federal	NFL	PEI	NS	NB	Québec	Ontario	Manitoba	SAS	ALB	BC	UI/EI [2]
1976	17	0	0	17	12	0	17	17	18	18	12	15
1977	17	0	0	17	12	0	17	17	18	18	12	15
1978	17	0	0	17	12	0	17	17	18	18	12	15
1979	17	17	0	17	17	18	17	17	18	18	12	15
1980	17	17	0	17	17	18	17	17	18	18	18	15
1981	17	17	0	17	17	18	17	17	18	18	18	15
1982	17	17	17	17	17	18	17	17	18	18	18	15
1983	17	17	17	17	17	18	17	17	18	18	18	15
1984	17	17	17	17	17	18	17	17	18	18	18	15
1985	17	17	17	17	17	18	17	17	18	18	18	15
1986	41	17	17	17	17	18	17	17	18	18	18	15
1987	41	17	17	17	17	18	17	17	18	18	18	15
1988	41	17	17	17	17	18	17	17	18	18	18	15
1989	41	17	17	17	17	18	17	17	18	18	18	15
1990	41	17	17	17	17	18	17	17	18	18	18	25
1991	41	17	17	17	17	52	17	17	18	18	18	25
1992	41	29	17	17	29	52	35	17	18	18	18	25
1993	41	29	17	17	29	52	35	34	18	18	30	25
1994	41	29	34	34	29	52	35	34	18	18	30	25
1995	41	29	34	34	29	52	35	34	30	18	30	25
1996	41	29	34	34	29	52	35	34	30	18	30	25
1997	41	29	34	34	29	70	35	34	30	18	30	25
1998	41	29	34	34	29	70	35	34	30	18	30	25
1999	41	29	34	34	29	70	35	34	30	18	30	25
2000	41	29	34	34	29	70	35	34	30	18	30	25

Notes:

1. Column 2 outlines the maximum unpaid leave available under the Canada Labour Code. The Canada Labour Code (which applies to federal employees) was the first to introduce parental (unpaid) leave.
2. To construct this table, it is assumed that the mother takes the full amount of leave in provinces where parental leave has to be shared between parents.
3. UI/EI: Maximum weeks of benefits available to the natural mother. Note that these are concurrent with the unpaid leave offered by the provinces.

Table 2: Weighted Summary Statistics

Variable	Women with youngest child aged 0-2	Women with youngest child aged 3-5	Women aged 15-44
Average legislated job-protected leave	**25.02 weeks**	**25.44 weeks**	**25.63 weeks**
Age of youngest own child (%)			
No child under 24	0.00	0.00	50.35
0 to 2	100.00	0.00	15.06
3 to 5	0.00	100.00	9.67
6 to 12	0.00	0.00	16.11
13 to 15	0.00	0.00	4.71
16 to 17	0.00	0.00	2.16
18 to 24	0.00	0.00	1.94
Province (%)			
Newfoundland	2.03	2.40	2.17
PEI	0.50	0.50	0.46
Nova Scotia	3.10	3.37	3.27
New Brunswick	2.62	2.82	2.69
Québec	25.32	25.72	25.93
Ontario	36.65	36.90	37.00
Manitoba	4.03	3.87	3.76
Saskatchewan	4.01	3.63	3.34
Alberta	10.38	9.51	9.55
British Columbia	11.35	11.28	11.85
Marital Status (%)			
Married/common law	92.85	87.72	58.82
Single-never married	4.15	4.61	35.14
Widowed	0.17	0.50	0.54
Separated/divorced	2.83	7.17	5.50
Age (%)			
15 to 19	1.97	0.16	16.04
20 to 24	17.58	5.96	17.24
25 to 29	36.45	23.55	17.82
30 to 34	30.01	36.62	17.80
35 to 39	11.38	24.16	16.29
40 to 44	2.25	8.02	14.81
45 to 49	0.28	1.39	0.00
50 to 54	0.07	0.14	0.00
Educational Attainment (%)			
0 to 8 years	5.71	8.06	6.92
9 to 10 years	14.10	15.89	18.31
High School	34.15	33.50	31.44
Some post-secondary	8.98	8.64	11.45
Post sec. cert/diploma	23.16	22.37	20.23
University	13.90	11.53	11.65
Sample size =	270,380	178,896	1,681,435

1: Summary statistics are for all years (1976-2000) of the sample.
2: The maximum leave variable indicates the number of weeks of combined unpaid job-protected maternity/parental leave available

Table 2: Weighted Summary Statistics (continued)

Variable	Women with youngest child aged 0-2	Women with youngest child aged 3-5	Women aged 15-44
Labour force participation rate (%)	55.13	61.45	68.80
Employment rate (%)	48.84	54.71	61.89
Labour force status in reference week (%)			
Employed, at work	40.32	50.76	57.31
Employed, absent from work	8.53	3.95	4.58
Unemployed	6.28	6.74	6.92
Not in the labour force	44.87	38.55	31.20
Prime-age male unemployment rate (%)	8.47	8.50	8.52
Sample size =	270,380	178,896	1,681,435

Table 3: Probit Estimation Results – Primary Model

Variables	Coefficients	Standard Errors
Maximum job-protected leave (η)	-0.001***	2.88E-04
Youngest child 0-2	-0.252***	0.008
Maxleave*child aged 0-2 (δ)	0.003***	2.76E-04
Newfoundland	-0.169***	0.023
PEI	0.146***	0.039
Nova Scotia	-0.096***	0.016
New Brunswick	-0.100***	0.018
Québec	-0.094***	0.009
Manitoba	-0.001	0.014
Saskatchewan	-0.019	0.015
Alberta	-0.072***	0.010
British Columbia	-0.153***	0.010
Unemployment rate	-0.015***	0.002
1977	0.045***	0.014
1978	0.117***	0.015
1979	0.170***	0.014
1980	0.226***	0.014
1981	0.278***	0.014
1982	0.308***	0.016
1983	0.370***	0.017
1984	0.401***	0.017
1985	0.462***	0.016
1986	0.505***	0.015
1987	0.515***	0.015
1988	0.527***	0.014
1989	0.549***	0.014
1990	0.557***	0.015
1991	0.607***	0.017
1992	0.615***	0.018
1993	0.616***	0.018
1994	0.602***	0.017
1995	0.578***	0.016
1996	0.605***	0.016
1997	0.603***	0.016
1998	0.615***	0.016
1999	0.630***	0.016
2000	0.651***	0.016
Single-never married	-0.439***	0.010
Widowed	0.113***	0.036
Separated/divorced	0.119***	0.009

1: The dependent variable is a dummy variable equal to 1 when individual is employed (either on the job or absent during the survey reference week).
2: Table 3 is continued on next page.

Table 3: Estimation Results, Primary Model (continued)

Variables	Coefficients	Standard Errors
Aged 15 to 19	-0.478***	0.020
Aged 20 to 24	-0.140***	0.007
Aged 25 to 29	-0.027***	0.005
Aged 35 to 39	-0.019***	0.006
Aged 40 to 44	-0.054***	0.010
Aged 45 to 49	-0.123***	0.023
Aged 50 to 54	-0.209***	0.063
Educ: 0 to 8 years	-0.443***	0.009
Educ: 9 to 10 years	-0.335***	0.006
Some post secondary	0.075***	0.007
Post sec. cert/diploma	0.342***	0.005
University	0.457***	0.007
nfl*march	0.010	0.029
pei*march	-0.081	0.056
ns*march	-0.015	0.023
nb*march	0.003	0.026
que*march	0.035***	0.009
ont*march	0.002	0.007
man*march	0.027	0.020
sas*march	-2.30E-04	0.020
abl*march	0.020	0.013
bc*march	0.010	0.012
constant	-0.105***	0.013
Sample size	449,276	
*** p ≤ 0.01; ** p ≤ 0.05; * p ≤ 0.10		

Table 4: Predicted Employment Probabilities

Province	Weeks of leave	High School	University
Ontario	0 weeks	58.65	75.05
	15 weeks	59.68	75.88
	30 weeks	60.70	76.69
	45 weeks	61.71	77.49
	52 weeks	62.18	77.86
Alberta	0 weeks	57.07	73.75
	15 weeks	58.11	74.60
	30 weeks	59.14	75.44
	45 weeks	60.16	76.27
	52 weeks	60.64	76.65
Québec	0 weeks	54.29	71.40
	15 weeks	55.34	72.29
	30 weeks	56.38	73.17
	45 weeks	57.42	74.03
	52 weeks	57.90	74.43

Note: This table predicts the effect of increase in unpaid weeks of Maternity/parental leave available for a reference woman. The reference woman is a woman in 2000 who is 30-34 years old, whose youngest child is aged 0-2, who is married and whose husband is present. Unemployment rates have been assigned for the relevant year and province.

Table 5: Estimation Results (no public employees)

Variables	Coefficients	Standard Errors
Maximum leave (η)	-1.00E-04	3.16E-04
Youngest child 0-2	-0.282	0.009
Maxleave*child aged 0-2 (δ)	0.004	3.01E-04
Newfoundland	-0.225	0.027
PEI	0.131	0.045
Nova Scotia	-0.126	0.019
New Brunswick	-0.135	0.020
Québec	-0.144	0.010
Manitoba	-0.033	0.016
Saskatchewan	-0.056	0.017
Alberta	-0.072	0.011
British Columbia	-0.129	0.011
Unemployment rate	-0.022	0.002
1977	0.053	0.016
1978	0.131	0.016
1979	0.171	0.016
1980	0.231	0.016
1981	0.286	0.016
1982	0.335	0.018
1983	0.396	0.019
1984	0.429	0.019
1985	0.496	0.018
1986	0.534	0.017
1987	0.554	0.017
1988	0.567	0.016
1989	0.596	0.016
1990	0.602	0.016
1991	0.659	0.018
1992	0.680	0.020
1993	0.676	0.020
1994	0.664	0.019
1995	0.640	0.018
1996	0.675	0.018
1997	0.690	0.018
1998	0.688	0.017
1999	0.699	0.017
2000	0.712	0.017
Single-never married	-0.475	0.011
Widowed	0.147	0.039
Separated/divorced	0.147	0.010

1: Table 5 is continued on next page.

2: The dependent variable is a dummy variable equal to 1
when individual is employed (either on the job or absent during survey
reference week).

Table 5: Estimation Results (continued)
(no public employees)

Variables	Coefficients	Standard Errors
Aged 15 to 19	-0.396	0.021
Aged 20 to 24	-0.067	0.007
Aged 25 to 29	0.006	0.005
Aged 35 to 39	-0.050	0.007
Aged 40 to 44	-0.094	0.011
Aged 45 to 49	-0.186	0.026
Aged 50 to 54	-0.236	0.067
Educ: 0 to 8 years	-0.356	0.009
Educ: 9 to 10 years	-0.290	0.006
Some post secondary	0.047	0.008
Post sec. cert/diploma	0.191	0.006
University	0.200	0.008
nfl*march	0.002	0.033
pei*march	-0.053	0.064
ns*march	-0.012	0.026
nb*march	-0.007	0.029
que*march	0.042	0.010
ont*march	0.011	0.008
man*march	0.019	0.022
sas*march	-0.005	0.023
abl*march	0.033	0.014
bc*march	0.008	0.013
constant	-0.210	0.015
sample size	372,323	

Table 6[1]: Estimation Results (control - youngest 6-10)

Variables	Coefficients	Standard Errors
Maximum leave (η)	-8.76E-04	2.28E-04
Youngest child 0-2	-0.532	0.008
Maxleave*child aged 0-2 (δ)	0.004	2.35E-04
Newfoundland	-0.237	0.020
PEI	0.086	0.034
Nova Scotia	-0.146	0.014
New Brunswick	-0.143	0.015
Québec	-0.134	0.008
Manitoba	0.019	0.013
Saskatchewan	0.011	0.013
Alberta	-0.037	0.009
British Columbia	-0.136	0.008
Unemployment rate	-0.017	0.001
1977	0.054	0.012
1978	0.111	0.012
1979	0.143	0.012
1980	0.198	0.012
1981	0.255	0.012
1982	0.279	0.013
1983	0.320	0.015
1984	0.343	0.014
1985	0.387	0.014
1986	0.435	0.013
1987	0.456	0.013
1988	0.485	0.012
1989	0.528	0.012
1990	0.530	0.013
1991	0.557	0.014
1992	0.547	0.015
1993	0.545	0.015
1994	0.534	0.014
1995	0.517	0.014
1996	0.537	0.014
1997	0.543	0.014
1998	0.534	0.013
1999	0.553	0.014
2000	0.560	0.013

1 Table is continued on next page.

2: The dependent variable is a dummy variable equal to 1 when individual is employed (either on the job or absent during survey week).

Table 6: Estimation Results (continued)
(control - youngest 6-10)

Variables	Coefficients	Standard Errors
Single-never married	-0.421	0.010
Widowed	-0.092	0.019
Separated/divorced	-0.084	0.007
Aged 15 to 19	-0.523	0.020
Aged 20 to 24	-0.173	0.007
Aged 25 to 29	-0.040	0.005
Aged 35 to 39	0.009	0.005
Aged 40 to 44	-0.033	0.006
Aged 45 to 49	-0.164	0.008
Aged 50 to 54	-0.423	0.013
Educ: 0 to 8 years	-0.484	0.006
Educ: 9 to 10 years	-0.319	0.005
Some post secondary	0.055	0.006
Post sec. cert/diploma	0.290	0.005
University	0.413	0.006
nfl*march	0.016	0.024
pei*march	-0.057	0.048
ns*march	-0.013	0.019
nb*march	0.013	0.022
que*march	0.036	0.008
ont*march	0.019	0.006
man*march	0.028	0.018
sas*march	0.007	0.018
abl*march	0.042	0.011
bc*march	0.029	0.010
constant	0.220	0.011
sample size	616,147	

Table 7: Estimation results (with UE rate * ychild)

For control group = youngest child aged 3 to 5		
Variables	Coefficients	Standard Errors
Maximum job-protected leave (η)	-0.001	2.90E-04
Youngest child 0-2	-0.351	0.012
Maxleave*child aged 0-2 (δ)	0.002	2.80E-04
Unemployment (UE) rate	-0.023	0.002
UE rate*child aged 0-2	0.013	0.001

For control group = youngest child aged 6 to 10		
Variables	Coefficients	Standard Errors
Maximum job-protected leave (η)	4.89E-04	2.28E-04
Youngest child 0-2	-0.690	0.010
Maxleave*child aged 0-2 (δ)	0.003	2.39E-04
Unemployment (UE) rate	-0.027	0.002
UE rate*child aged 0-2	0.021	0.001

1: The dependent variable is a dummy variable equal to 1 when the individual is employed (either on the job or absent during the survey reference week).

Table 8[1]: Estimation Results: Employed & Absent

Variables	All absences		Absence for personal or family responsibilities	
	Coefficients	Standard Errors	Coefficients	Standard Errors
Maximum leave (η)	-0.007***	5.90E-04	-0.009***	0.001
Youngest child 0-2	0.317***	0.017	0.501***	0.021
Maxleave*child aged 0-2 (δ)	0.006***	5.27E-04	0.008***	0.001
Newfoundland	-0.045	0.049	-0.263***	0.059
PEI	-0.117	0.075	-0.248***	0.086
Nova Scotia	-0.052	0.033	-0.115***	0.036
New Brunswick	-0.092***	0.037	-0.201***	0.041
Quebec	0.170***	0.017	0.140***	0.019
Manitoba	-0.036	0.027	-0.060**	0.029
Saskatchewan	-0.104***	0.028	-0.176***	0.031
Alberta	-0.073***	0.019	-0.107****	0.020
British Columbia	0.061***	0.018	-0.056***	0.020
Unemployment rate	-0.005	0.003	-0.002	0.004
1977	-0.004	0.036	0.038	0.047
1978	0.044	0.036	0.072	0.046
1979	0.066*	0.034	0.200***	0.043
1980	0.060*	0.034	0.209***	0.043
1981	0.067**	0.034	0.255***	0.042
1982	0.051	0.036	0.211***	0.045
1983	0.143***	0.038	0.327***	0.046
1984	0.241***	0.036	0.364***	0.045
1985	0.190***	0.035	0.351***	0.043
1986	0.167***	0.034	0.359***	0.042
1987	0.248***	0.033	0.438***	0.041
1988	0.246***	0.032	0.473***	0.039
1989	0.192***	0.031	0.459***	0.039
1990	0.298***	0.032	0.555***	0.040
1991	0.398***	0.035	0.596***	0.043
1992	0.440***	0.037	0.622***	0.045
1993	0.471***	0.037	0.653***	0.045
1994	0.394***	0.035	0.625***	0.043
1995	0.405***	0.034	0.666***	0.042
1996	0.395***	0.034	0.655***	0.042
1997	0.425***	0.034	0.671***	0.042
1998	0.408***	0.033	0.675***	0.041
1999	0.467***	0.033	0.723***	0.041
2000	0.358***	0.033	0.661***	0.041
Single-never married	-0.232***	0.025	-0.182***	0.027
Widowed	0.047	0.072	-0.384***	0.119
Separated/divorced	-0.223***	0.021	-0.158***	0.025

1. Table is continued on next page.

2. The dependent variable is a dummy variable equal to 1 when individual is employed and is equal to 0 when individual is employed AND absent from their job in the reference week

Table 8: Estimation Results: Employed & Absent (continued)

Variables	Coefficients	Standard Errors	Coefficients	Standard Errors
Aged 15 to 19	-0.049	0.056	0.081	0.057
Aged 20 to 24	0.105***	0.013	0.163***	0.014
Aged 25 to 29	0.058***	0.009	0.102***	0.010
Aged 35 to 39	-0.032***	0.010	-0.141***	0.012
Aged 40 to 44	-0.034*	0.018	-0.245***	0.024
Aged 45 to 49	-0.015	0.047	-0.361***	0.071
Aged 50 to 54	-0.231*	0.137	-1.314***	0.371
Educ: 0 to 8 years	-0.132***	0.023	-0.119***	0.027
Educ: 9 to 10 years	-0.093***	0.014	-0.107***	0.016
Some post secondary	0.021	0.014	0.011	0.015
Post sec. cert/diploma	0.129***	0.009	0.088***	0.011
University	0.253***	0.011	0.158***	0.012
nfl*march	0.042	0.063	0.026	0.075
pei*march	0.316***	0.104	0.082	0.125
ns*march	0.398***	0.042	-0.070	0.051
nb*march	0.040	0.053	0.040	0.060
que*march	-0.001	0.017	-0.035*	0.019
ont*march	0.290***	0.012	-0.053***	0.014
man*march	-0.040	0.038	0.002	0.041
sas*march	-0.029	0.040	0.012	0.044
abl*march	-0.063***	0.025	-0.018	0.027
bc*march	0.036	0.022	-0.034	0.026
constant	-1.666***	0.031	-2.091***	0.040
sample size	215228		215,228	

*** $p \leq 0.01$; ** $p \leq 0.05$; * $p \leq 0.10$

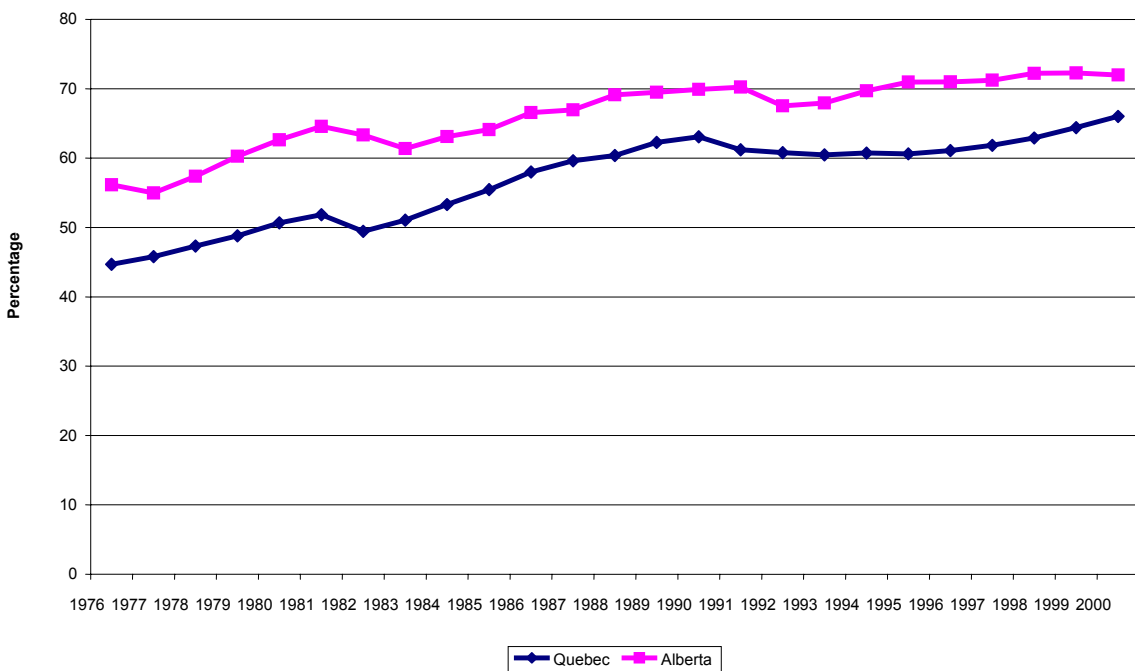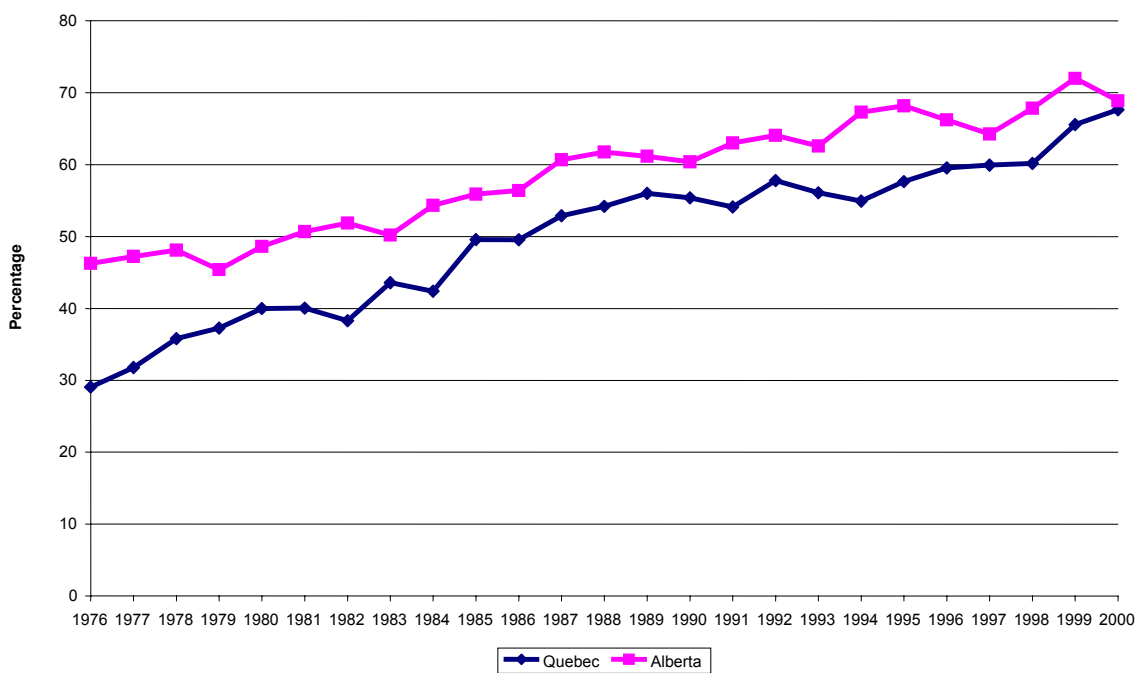**Figure 1: Employment rates - Canada, 1976-2000**
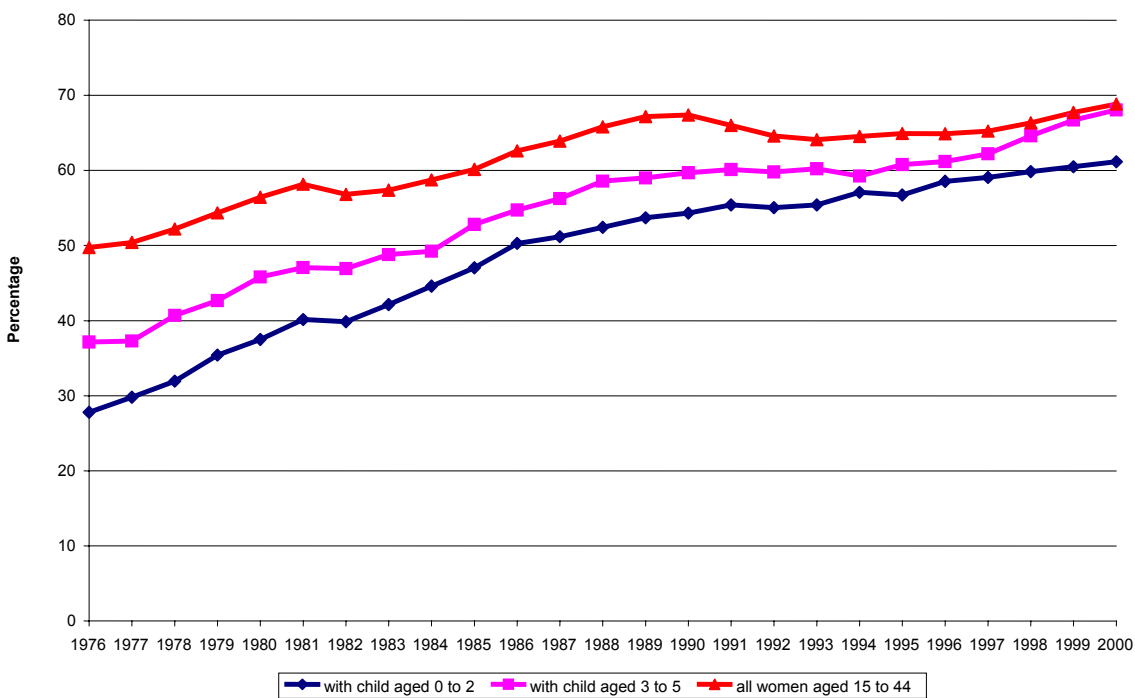
**Figure 2: Employment rates for Alberta and Quebec:
All women aged 15 to 44, 1976-2000**

**Figure 3: Employment rates for women with youngest child aged 3 to 5:
Alberta and Quebec, 1976-2000**

**Figire 4: Employment rates for women with youngest child aged 0 to 2:
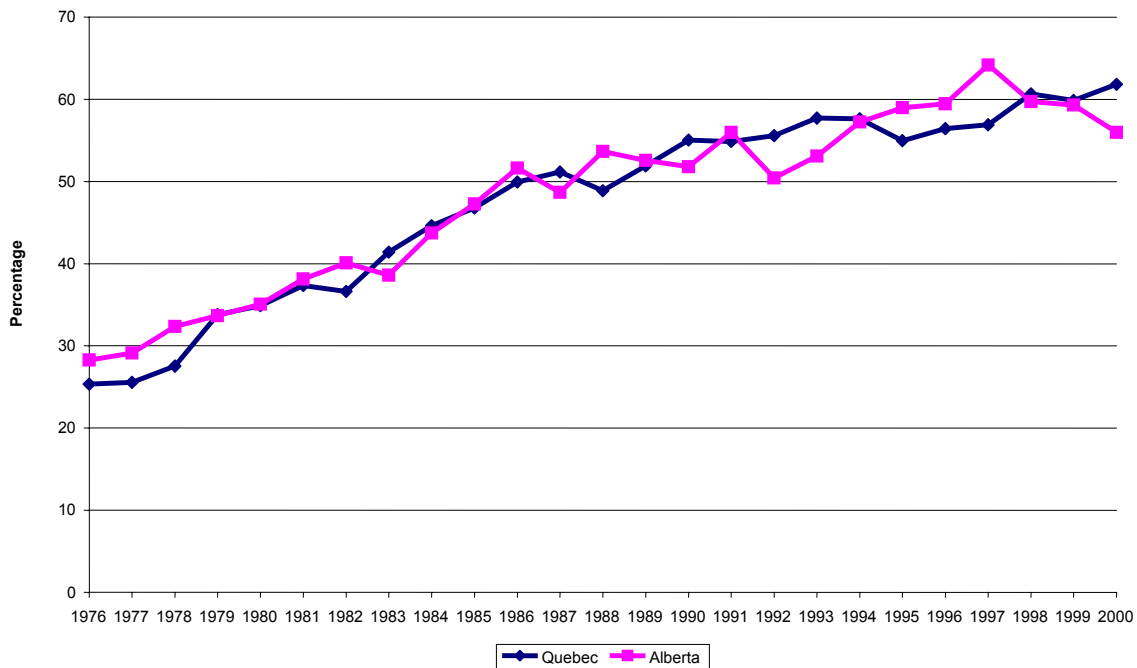Alberta and Quebec, 1976-2000**

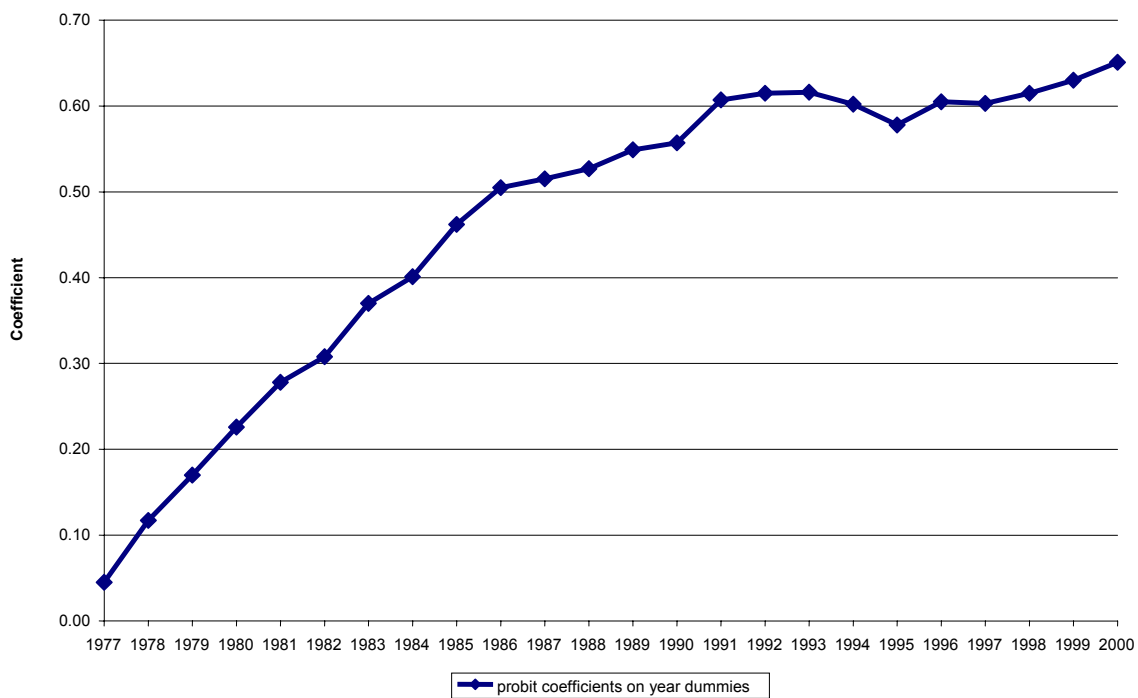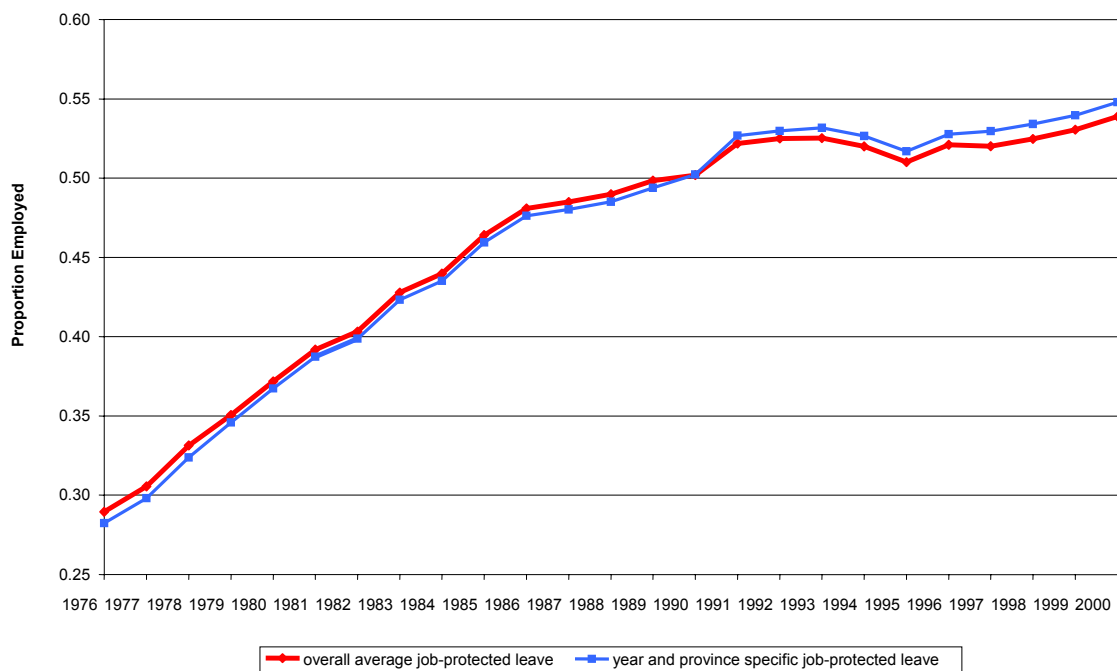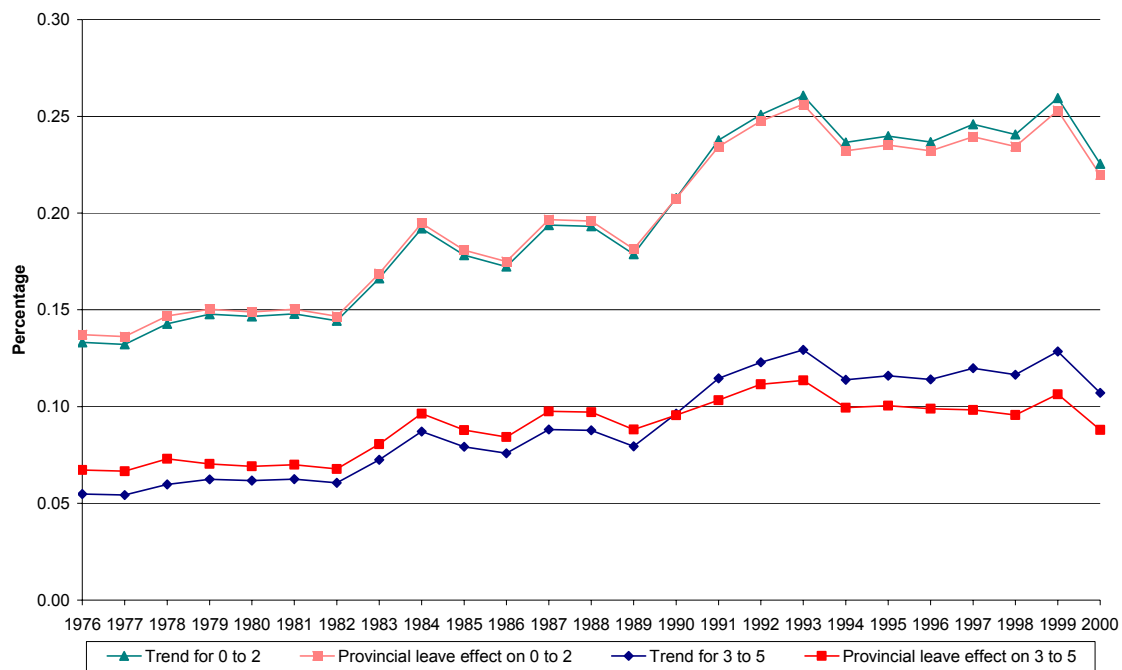**Figure 5: Trend in the employment rate (coefficients on year dummies)**

**Figure 6: Trend effect versus job-protected leave effect:
Women with youngest child aged 0 to 2, 1976-2000**

Figure 7: Trend effect versus job protected leave effect on probabilty of being employed, but absent during the reference week; Women with youngest child aged 0 to 5, 1976-2000

Appendix

Table A1: Summary of Available UI/EI Benefits

Year	Paid Leave Available	Requirements	Restrictions
Jun-71	15 weeks 66.67% Max. $100/week	Natural mother 20 or more insurable weeks Magic 10 rule applies (see note 2)	Benefits had to be collected in the 15 weeks surrounding birth. Specifically, they had to be collected in the period 8 weeks before birth and 6 weeks after week of birth.
Jan-76	15 weeks	Natural mother 20 or more insurable weeks in last 52 Magic 10 rule applies (see note 2)	Now benefits could be collected as early as 8 weeks before the expected week of birth or as late as 17 weeks after the week of birth
Jan-84	15 weeks 60% Max. $276/week	Natural mother 20 or more insurable weeks in last 52 Magic 10 rule dropped	Benefits could be collected in the period consisting of 8 weeks before and 17 weeks after week of birth. Any earnings were deducted from benefits.
	15 weeks	Adoptive parents	Benefits could be collected in the 17-week period following the placement of child in the home. Only one adoptive parent can collect.
Mar-88 (Retroactive to March 1987)	15 weeks 60% Max. $318/week	Natural mother 20 or more insurable weeks in last 52	Benefits could be collected in the period consisting of 8 weeks before and 17 weeks after week of birth. Any earnings were deducted from benefits.
		Natural father 20 or more insurable weeks in last 52	Benefits could be collected in the 17-week period following the arrival of child in the home.
		Adoptive parents 20 or more insurable weeks in last 52	Benefits could be collected in the 17-week period following the placement of child in the home. Only one adoptive parent can collect.
			For all parents, if child was hospitalized, the period during which benefits were payable was extended for the number of weeks the child was hospitalized. This period could not extend beyond 52 weeks.

Table A1: Available Benefits (continued)

Year	Paid Leave Available	Requirements	Restrictions
Nov-90	15 weeks 60% Max. $400/week	Natural mother 20 or more insurable weeks in last 52	Overall total of special benefits could not exceed 30 weeks. If mother also collected parental benefits, they had to be collected immediately after maternity leave benefits.
	10 weeks	Natural parents (shared)	Parental benefits had to be collected within 52 weeks of child's arrival at home.
	10 weeks	Adoptive parents	15 weeks were allowed if the child was six months or older when placed in home or if the child suffered from a physical, psychological or emotional condition.
Jun-96	15 weeks 55% Max. $413/week	Natural mother 700 insurable hours in the past year.	For mothers collecting maternity benefits, parental benefits had to follow the maternity benefits (unless the child was hospitalized).
	10 weeks	Natural parents (shared) 700 insurable hours in the past year.	Benefit period began the week the child was born and ended 52 weeks later.
	10 weeks	Adoptive parents 700 insurable hours in the past year.	Benefit period began the week the child was placed and and ended 52 weeks later .

1: Benefits in this summary are only those included in the Unemployment Insurance Act, 1971 and the Employment Insurance Act, 1996. In addition to these benefits, SUB plans and contract between employees and companies often include additional benefits.

2: The "Magic 10 Rule" required ten or more weeks of insurable employment in the twenty weeks that immediately preceded the thirtieth week before expected date of birth.

3: Placement of more than one child counted as one.

4: All benefits required a two-week waiting period. In the case where a natural mother collected both maternity and parental leave benefits it was not necessary to have a second waiting period.

Endnotes

[1] Maternity leave is available only to the mother, usually only a natural mother. Parental leave is available to both parents and in many cases to adoptive parents as well.

[2] The weeks of parental EI benefits were eventually increased from 10 to 35 weeks and the number of hours of insurable employment needed to qualify for both maternity and parental benefits was reduced from 700 to 600.

[3] For studies on maternity and parental leave policy in Canada see Schwartz, 1988; Moloney, 1989; Phipps 1995, and Phipps, 1998; and Marshall 1999 and Marshall 2003.

[4] Prior to 1996, Canada's insurance program was called Unemployment Insurance (UI). With the reforms in 1996, the name of the program was changed to Employment Insurance (EI) and UI benefits became known as EI benefits. This paper covers the period both before and after the reform, hence the abbreviations UI/EI will be used.

[5] In this paper "leave" will always refer to unpaid time off from work, whereas, "benefits" will refer to any monetary compensation that is provided for maternity and parental reasons.

[6]The Canadian Human Rights Commission (CHRC) was introduced in March 1978. It provided an additional vehicle through which policy issues could be raised. Some of the first complaints regarding the Unemployment Insurance Act concerned section 30 and 46. Section 30 concerned the "Magic 10" rule, a regulation insuring women were employed around the time of conception. This part of section 30 was repealed in 1984. Section 46 prevented women who were pregnant from receiving regular UI benefits during the period starting eight weeks prior to expected week of birth and six weeks after birth. In 1983, the Canadian Human Rights Act was amended to include "pregnancy" as an additional ground of discrimination. Section 46 was finally repealed that same year.

[7] Payments received by employees in addition to UI/EI benefits are often referred to as "top up" payments. SUB plans are particularly prevalent in Québec. The first major SUB plan for maternity benefits was negotiated in Québec in 1979 (Moloney, 1989). Since a change in the Regulations in 1993, maternity and parental leave top ups no longer fall under the SUB regulations. However, monies paid to employees during a maternity/parental leave are not counted as earnings for the purposes of section 35 of the Employment Insurance Act.

[8] Federal employment standards (found in the Canada Labour Code) apply to federal employees, crown corporations and other industries that are regulated by the federal government.

[9] British Columbia's Maternity Protection Act, 1966, and amendments to the Minimum Employment Standards Act, 1964, of New Brunswick provided for 12 weeks of leave of which 6 had to be postnatal. Both Acts also protected against dismissal for reasons due to pregnancy for a period of 16 weeks.

[10] The Canada Labour Code applies to federal employees, crown corporations and other industries that are regulated by the federal government.

[11] For studies on maternity and parental leave policy in Canada see Schwartz, 1988; Moloney, 1989; Phipps 1995, and Phipps, 1998; and Marshall 1999 and Marshall 2003.

[12] This report used the Canadian Out of Employment Panel (COEP) for 1995-1998 to investigate the implications of the change from Unemployment Insurance (UI) to Employment Insurance (EI), a legislative change that took place in 1996.

[13] Unless these women have someone to care for their children for free while they return to work, the costs of child-care will influence their labour market behaviour. Unfortunately, data on the cost of child-care for the entire sample period is not readily available and, therefore, cannot be controlled for; presumably, child-care costs will influence these two groups of women in a similar fashion. It is recognized, however, that some differences in child-care costs may exist between these two groups of women. Generally, child care for children aged 0-2 is more expensive than for children aged 3-5. The coefficient on the variable indicating that a woman's youngest child was aged 0-2 will pick up this differential.

[14] Note that income and earnings information is not available in the LFS for the years used in this study.

[15] It is η_{ml} that makes equation (1) different from a true difference-in-differences model.

[16] The residents of the Yukon, the Northwest Territories and Indian reserves are excluded. The Yukon has been included in the LFS since 1992 but the sample size is too small to be considered reliable on a monthly basis.

[17] The sample of women whose youngest child is aged 0-5 includes women outside the 15-44 age group. However, as can be seen later in Table 2, only a small percentage of these women are aged over 44.

[18] The LFS provides the age of respondents in five-year groups. In choosing the child bearing age range I was limited to 15-44, 20-44, 15-50, or 20-54.

[19] In the LFS less than one-fifth to one-half of a percent of the women who had children aged 0 to 2 were older than 44 for the period sampled.

[20] The employment rate used here refers to the proportion of the population of interest that is employed. Unlike the unemployment rate, it is not a proportion of only those in the labour force.

[21] The difference in the employment rate between women whose youngest child was aged 3 to 5 in Alberta versus the same women in Quebec was statistically significant at the 5% level in all years except for 2000. Moreover, the average difference decreased from 12.3% in the 1976-1980 period, to 5.3% in the 1996-2000 period.

[22] The negative effect of young children on both employment and wages is a familiar result in the literature. See, for example, Waldfogel et al. (1999) and Waldfogel (1997).

[23] While most of the dummies that account for seasonality were statistically insignificant, they were jointly significant.

[24] All years and all provinces contributed to the average length of leave and were weighted by approximate sample size.

[25]Federally regulated employers include those who work for most federal Crown Corporations, federal Special Operating Agencies and private businesses necessary for the operation of a federal Act, those who work in interprovincial trucking, shipping, ports, canals, tunnels and bridges, those who work in air transportation including airlines, airports and aerodomes, those who for work railways, telephone, telegraph and cable systems, those who work in radio and television broadcasting (including cable vision), those who work for banks, in grain elevators, feed and seed mills, uranium mining and processing, those who work for a business dealing with the protection of fisheries as a natural resource and those who work in many First Nations activities. Finally, anyone who works directly for the federal government is also federally regulated.

[26] Full results for this model are available from the author.

[27] Estimation results for this model are available from the author.

[28] Estimation results for this model are available from the author.

[29] Individuals reported being absent for either the full week or part of the week for one of the following reasons: (a) own illness of disability, (b) personal or family responsibilities, (c) vacation or civic holiday, or (d) working short-time or (e) other.

[30] The master LFS files tend to be only available to employees of Statistics Canada and hence were not used in this paper.