

PARENTAL INSURANCE POLICIES AND SELF-EMPLOYMENT: THE EFFECT OF THE QUEBEC PARENTAL INSURANCE PLAN ON THE PROPENSITY OF BEING SELF-EMPLOYED

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ABSTRACT

This paper uses 2002 – 2008 microdata from the Survey of Labour and Income Dynamics to study the effect the Quebec Parental Insurance Plan had on self-employment for women in the province. Using a difference-in-difference model, it is found that women in Quebec experience a higher probability of being self-employed after the implementation of the new Quebec parental plan. This paper also presents results that suggest that younger women living in Quebec, who are married with no children, have an increase probability of becoming self-employed in response to the Quebec Parental Insurance Plan.

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INTRODUCTION

The self-employment sector in Canada has received a lot of attention in recent years, but there has been little formal analysis on the sector's relationship with parental insurance policies. The reason undoubtedly relates to the fact that no self-employed individual was entitled to parental benefits in Canada up until 2006. In 2006, the Québec Parental Insurance Plan (QPIP) was created. The QPIP was the first insurance plan to extend the parental benefits to self-employed workers. Parental and maternity leave mandates are public policies aimed at improving the welfare of mothers and infants. They usually vary rather considerably across countries; they are often universal, long and paid in Europe; and in contrast targeted, short and unpaid in the United States. In Canada, maternity leaves can last from 15 weeks – 18 weeks, while parental leave last from 35 – 52 weeks. Recipients are often given a percentage of their income for the duration of time they are away. Until recently, parental benefits in Canada were only available to individuals who identified themselves as wage-employed; self-employed individuals were not entitled to any parental benefits. In 2006, Quebec extended the parental benefits to include self-employed individuals. Four years later, the national Employment Insurance plan was likewise revised and allowed self-employed individuals to apply for and receive parental benefits. As more self-employed women have access to parental leave benefits it is important to examine the what effect this would have on the self-employment sector for women in Canada.

In this paper I examine the effectiveness of the QPIP as a factor in “pulling” the women into the self-employment sector. The “pull” theory of self-employment reflects the idea that individuals are drawn to a certain type of employment because of their personal

preferences and natural ability (Lin, Picot, & Compton, 2000). My analysis focuses on women for a good reason; Phipps, Burton & Lethbride (2001) found that women have substantially more job interruptions than men and that the reasons for these interruptions, on average, have an 80 percent probability of being family related and taken in the form of maternity leave. Women are therefore more likely to use parental benefits and consequently more likely to be affected in their choice of employment status by the availability of parental leave benefits. I argue that this paper is a necessary contribution to the existing literature and an important step in the evaluation of public parental policies. The purpose of this paper is to provide new insight into the effect of parental policy on individual incentive. My analysis in this essay helps provide a more complete understanding of the “entrepreneurial pull” of parental/maternity benefits on women living in Quebec. Other objectives of this thesis include: 1) To illustrate and correctly identify characteristics peculiar to the women that respond to the QPIP and 2) To somewhat predict the effect of the inclusion of self-employment parental benefits on a national level.

Studying and understanding self-employment is needed not only to clarify its implications on individuals' choices, but also to give policy makers full insight as to what to expect with a change in the insurance programs. First, on a very pragmatic level, understanding program uptake is important in managing the financial sustainability of the program. For example, if people become self-employed for only a short period to benefit from the parental leave benefits and drop out of the labour force shortly after, this implies that the government should increase premiums in order to control for the increased number of self-employed women.

Furthermore, this insight would allow government officials to correctly manage their respective states identifying which role they choose to play in the job creation process and the degree of change to anticipate. For example in Canada, arguing that small business and self-employment offer the greatest potential for regenerating the Canadian economy, governments have opted for a role as “facilitators,” rather than “creators,” of job growth (Hughes, 1999). For governments, quantifying the change in the self-employment sector provides a clear comprehension of how to achieve set employment-related goals in any role they chose to adopt.

The analytical strategy I employ in this paper is very basic. I take an empirical approach to comparing the self-employed women in Quebec before and after the implementation of the QPIP to a control group in that same time period. My analysis is based on information collected by the Survey of Labour and Income Dynamics (SLID). The SLID is a panel data that documents personal and labour characteristics of a large sample of Canadian residents. I measure the impact of the policy change on individual’s labour status over the years 2002-2008, which I conveniently divided into two periods; before 2006 and after 2006. For the purpose of my analysis I restrict the age of women in my data set to be within the ages 18-54. The empirical analysis consists of a combination of variables that affect the dichotomous choice to be self-employed or not. By using Quebec as my treatment group and the rest of Canada as a control I was able to arrive at results that support the idea that the introduction of the QPIP brought about an increase in self-employed women in Quebec. To preview my results briefly I make use of Figure 1. I find significant results that suggest that QPIP lead to an increase in the number of self-employed women in Quebec.

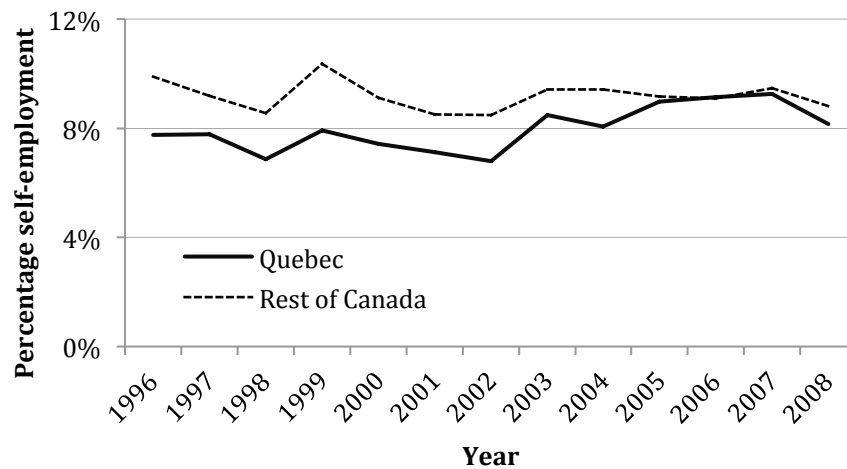


Figure 1—Graph showing the percentage self-employment for Quebec and the rest of Canada for women between the ages 20 – 45. This graph was created by the author using data from the Survey of Labour and Income Dynamics.

BACKGROUND

The Canadian labour market possesses a sharp distinction between women and men in terms of job attachment and choice. Research shows that a woman's attachment to the labour market is closely related with her family characteristics and fertility rates (Boden, 1999). Similarly, Carr (1996) hypothesized that since women's labour decisions are often closely tied to family considerations, that some women seek self-employment to avail themselves flexible working hours. Using a logistic regression, Carr (1996) found substantial evidence linking women fertility characteristics to their tendency to be self-employed. Boden (1999), like Carr, attributes the differential impact of having children as a manifestation of women's pursuit of self-employment. "Women are apparently more likely to enter self-employment for non-pecuniary reasons, particularly reasons associated with their traditional assumptions of responsibility for child care and other

family obligations” (Boden, 1999, p. 82). Basically, both Carr and Boden argue that self-employment for women is a result of the growing entrepreneurial culture and need for independence as well as flexibility. The viewpoint taken by Carr and Boden is consistent with the idea of the “pull hypothesis” (see Lin, Picot & Compton, 2000).

If Carr (1996) is right and women seek jobs with high flexibility to allow them accommodate family obligations, can we then expect the inclusion of maternity benefits under any type of employment to attract more women to join the labour force? What about the self-employment sector, which is already sought for its flexibility and independence?

LITERATURE REVIEW AND CONTRIBUTION

For Canada, there exists a large amount of research on the relationship between women and self-employment, but far more rare is research highlighting the effect of paid maternity benefits on employment choices. In particular those relating to self-employment. Most previous studies that examine the effect of parental policies on employment decisions are based on US data. A large number of these US papers test the effects of the Family and Medical Leave Act (FMLA). The FMLA was implemented in 1993. According to the FMLA, eligible employees are entitled to 12 weeks of job-protected leave to care for newborn or adopted children, sick family members or oneself in the case of an ailment. The results seen from past studies varies considerably. Some researchers have found female employment to be associated with maternity leave mandates, while others insist that there is no relationship between the two. Table 1

highlights some key findings in previous papers.

Table 1

AUTHOR	TYPE OF LEAVE/DATA SOURCE	FINDINGS
Ruhm (1997)	Examines parental leave laws in 9 European nations over the 1969-1993 period.	Paid parental leave increases the employment-population ratios of women.
Baum (2003)	Examines the effect of FMLA on women using the National Longitudinal Survey of Youth	Maternity leave legislation has small and statistically insignificant effects on employment and wages
Phipps (2000)	Examines individual cases from the 1988-1990 Labour of Market Activities Survey in Canada	Women do not adjust their labour-supply behaviour to gain access to benefits; and maternity leaves under the EI minimize the incentives of women to join the labour force for benefits
Baker & Milligan (2008)	Examines the effect of maternity benefits on individual cases using data from Labour Force Survey in Canada	Paid maternity leaves substantially increase the likelihood of the women to remain employed after childbirth

Using European countries as his data set, Ruhm (1997) found parental leave entitlements like paid maternity, to be associated with increases in the female employment-to-population ratio. He uncovered substantial evidence that confirms a 9 percent increase in the employment of young women (ages 25 – 34) relative to older women (ages 45 – 54). Six years later, Baum (2003) tested the effect of unpaid maternity leave on employment in the United States under the Clinton administration and found very different results from Ruhm (1997). In fact what he found was quite the opposite. Baum (2003) argued that “...maternity leave legislation has small and statistically insignificant effects on

employment and wages” (p. 574). Baum attributed this result to the fact that the maternity leave provided, in his analysis, was short and unpaid.

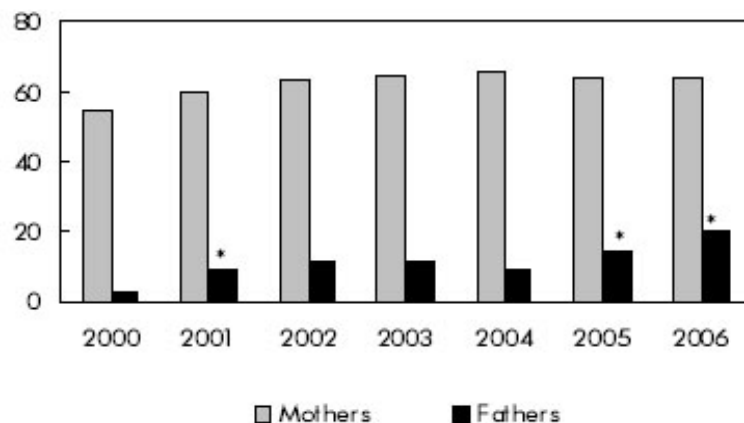
Two prominent studies done in Canada on the issue of parental benefits and employment are those by Baker and Milligan (2008) and Phipps (2000). Baker and Milligan (2008) touched on the relationship between Canadian women, maternity benefits and job selection in their 2008 paper entitled: *How Does Job-Protected Maternity Leave Affect Mothers' Employment?* Through the use of regressions on individual panel-data, Baker and Milligan discovered that: First, the introduction of modest mandates (17-18 weeks) increases both the proportion of mothers employed while on leave and their job continuity with the pre-birth employer afterwards; and second, in contrast to the shorter maternity leaves period, mandate extensions (29 – 70 weeks) significantly increase job continuity over the birth event. In a nutshell, Baker & Milligan found that longer paid maternity leaves substantially increase the likelihood of the women to remain employed after childbirth. Berger & Waldfogel (2004) found similar results stating that women with newborns showed higher reluctance to return to work when the maternity leave was unpaid.

Phipps (2000) looks at the incentive effects of paid maternity leave through the Unemployment Insurance. Using individual cases from 1988 – 1990, Phipps tested the behavioural implications the maternity leave under the UI system. The analysis done in this paper is closely resembles the paper written by Phipps, but differs by the fact that the focus here is on self-employment as opposed to wage-employment.

MATERNITY/PARENTAL LEAVE POLICY IN CANADA

Maternity and Parental leave mandates as mentioned in the introduction, as policies aimed at improving the welfare of mother and the child. Maternity leave were first introduced in Canada when BC introduced the Maternity Protection Act in 1921. The law prohibited employers from employing women within the 6 weeks of having their child. Five decades later in 1971, the Unemployment Insurance plan was expanded to provide up to 15 weeks of paid maternity leave for mothers who had up to 20 weeks of insurable earnings. In January 2001, parental leave was expanded to include the 35 weeks of leave, which could be shared between the mother and the father.

Although, the 2001 amendment to the Employment Insurance benefits sparked an increase in the proportion of fathers taking time off, research done by Statistics Canada has shown that mothers still claim the majority of the parental leave. The graph below shows the percentage of men and women claiming parental benefits from the year 2000 to 2006.



*significant difference from the previous year at the 0.05 level

Figure 2—Graph showing the percentage of men and women claiming benefits from the year 2000 to 2006. Source: Statistics Canada, Employment Insurance Coverage Survey

Maternity leave Canada is a shared responsibility between the Federal Government and the Provincial Government. Different provinces allow for different durations for the job-protected leave¹.

QPIP

The Quebec Parental Insurance Plan (QPIP) is a Quebec government program that has been in effect since January 1, 2006. The QPIP pays benefits to workers when they become new parents. As mentioned in the introduction, the QPIP differs from the federal EI plan in a variety of ways.² The new Quebec Parental Insurance Plan (QPIP) is subdivided into two parts: 1) A basic plan, where the mother receive 70 percent of their income for 18 weeks; and 2) A special plan, where mothers receive 15 weeks of pay at 75 percent of their usual income. Both plans require the individual to: 1) Be a resident of Quebec; 2) Have ceased business activities or reduced the time spent on them by at least 40 percent; 3) Have at least 2,000 dollar in insurable income (income taken into account for benefit calculation purposes) during the qualifying period; and 4) Pay premiums under the QPIP. According to the Conseil de gestion de l'assurance parentale, the Quebec Parental Insurance Plan has three main objectives. The first is to ensure income replacement of working parents during the parental leave for the new child so as to maintain their financial security and help them meet the work/family challenge, all the while still maintaining employment ties; the second, to foster the adaptation of the

¹ See Table 2 in the Appendix for the different leave mandates for the different provinces

² See Table 3 for differences between the EI plan and the QPIP

Quebec economy to present labour market conditions in order to lessen possible skill shortages and meet the expectations of younger generations of workers; and last, to facilitate the adaptation of Quebec society in a context of an aging population by harmonizing the need for both social development and economic prosperity.

Table 3

EI Maternity and Parental Benefits Compared with the Quebec Program, 2006

	FEDERAL PLAN	QPIP BASIC PLAN	QPIP SPECIAL PLAN
Beneficiaries	Employees eligible for EI	Any worker, including self-employed	Any worker, including self-employed
Criteria of eligibility	600 hours of work	\$2,000	\$2,000
Basic replacement rate	55 percent for 25 weeks	70 percent for 25 weeks	75 percent for 25 weeks
Duration	15 weeks maternity 35 weeks parental	18 weeks maternity 32 weeks parental	15 weeks maternity 25 weeks parental
Waiting period	2 weeks	None	None
Maximum insurable earnings	\$39,000	\$57,000	\$57,000

Source: Adapted from Phipps (2006), *Working for Parents*, Box 2

There have been noticeable trends in employment in Quebec women between the ages 25 and 54 in the years 2000 – 2009. As shown in Table 5, the employment rate in Quebec increased by 7 percentage points from 2002 to 2007, as opposed to two percentage points that Canada as a whole experienced. The increase in employment rates is exceptionally large between the years 2001 and 2002; and the years 2006 and 2007.³ The increase in 2002 may be attributed to the increase in the budget and use of childcare services in

³ We see this result in figure 1 as well.

Quebec⁴ (Baker, Gruber, & Milligan, 2005). The 2007 increase, on the other hand may be attributed to the establishment of the QPIP. However, this increased employment activity is not particular to Quebec women since the employment rate of other Canadian women also increased during this same period, but at a far slower pace.

Table 4

EMPLOYMENT RATE IN QUEBEC AND THE REST OF CANADA (WOMEN 25-54)		
	QUEBEC	REST OF CANADA
2000	71.4%	74.8%
2001	71.9%	75.1%
2002	74.0%	75.8%
2003	74.8%	76.3%
2004	75.5%	77.0%
2005	76.1%	76.7%
2006	76.5%	77.3%
2007	78.7%	78.1%
2008	78.6%	77.9%
2009	78.8%	76.7%

Source: Statistics Canada, CANSIM Table 282-0087

DATA

The statistics above do not serve as proof of the effect of the QPIP. In order to estimate the effects of the Quebec Parental Insurance Plan on self-employment, I use the cross-sectional public-use microdata files of the Survey of Labour and Income Dynamics (SLID). The SLID is a longitudinal survey conducted by Statistics Canada. The panels are originally selected from the Labour Force Survey and consist of households located in the ten provinces of Canada excluding indian reserves, residents of institutions and military barracks. Information regarding labour market experiences and income and

⁴ See table 5 in Appendix for childcare expenses in Quebec

family experiences are collected from the respondents in two yearly interviews for a period of six years (SLID Codebook). The microdata sets are available starting 1993 and ending 2008. For my analysis, I collect information on the income, labour and personal characteristics for women age 18 to 54. I gathered data on both the individual level and the family level. For my analysis it was useful to amalgamate the person and family files of SLID data through the household ID provided in both file sets, and provide the associated family composition of each individual. I start my analysis in 2002, a year after the EI reform of 2001. The year 2002 is also when we see start to see a distinctly different upward trend in the self-employment rate in Quebec compared to that of the rest of Canada. The fact that I begin my analysis in this year enables my regression to take into account this upward trend in self-employment, provided that the factor causing the upward trend remains constant. The analysis ends in the last available year, 2008. For simplicity sake, I exclude all the residents of Quebec that did not make the \$2000 insurable income qualification highlighted under the QPIP.

From the original sample, I create two subsamples. Both samples consist of women aged 18-54⁵ from all of the ten provinces. The first sample contains all women within the specified age range; including both employed and unemployed, either full time or part time. The second sample was modified to include only those women who were flagged as employed, either self-employed or wage-employed, year round.

⁵ For my empirical analysis, I only focus on women in their childbearing years aged 20-45.

Table 7

Summary Statistics for Sample 1								
Variables	Quebec				Rest of Canada			
	Before		After		Before		After	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Dummy for self-employment	0.077	0.267	0.090	0.286	0.098	0.298	0.097	0.296
Age	36.319	10.513	36.559	10.725	36.863	10.946	36.518	10.761
Age group dummy								
20 – 25	0.177	0.382	0.161	0.368	0.159	0.366	0.159	0.366
26 – 30	0.119	0.324	0.134	0.341	0.113	0.317	0.115	0.319
31 – 35	0.119	0.324	0.116	0.320	0.113	0.317	0.120	0.325
36 – 45	0.302	0.459	0.276	0.447	0.277	0.448	0.292	0.455
Living Situation dummy								
Single and living alone	0.130	0.337	0.087	0.282	0.073	0.260	0.112	0.316
Single and living with others	0.059	0.235	0.065	0.246	0.054	0.225	0.057	0.231
Married with no kids	0.225	0.417	0.219	0.413	0.183	0.387	0.203	0.402
Married with kids	0.399	0.490	0.431	0.495	0.446	0.497	0.409	0.492
Single Mother	0.077	0.267	0.098	0.297	0.089	0.285	0.078	0.268
Education level dummy								
Less than high school	0.107	0.309	0.095	0.293	0.102	0.303	0.112	0.315
High School	0.124	0.329	0.113	0.317	0.158	0.365	0.166	0.372
Some Post-secondary	0.571	0.495	0.575	0.494	0.540	0.498	0.542	0.498
Bachelors	0.143	0.350	0.159	0.365	0.148	0.355	0.137	0.344
More than bachelors	0.053	0.225	0.056	0.230	0.049	0.215	0.041	0.198
Dummy for Living in an urban area	0.811	0.391	0.807	0.395	0.859	0.348	0.849	0.358
Earnings	26405. 100	20584. 530	29552. 000	23467. 480	26978. 930	29113. 410	22806. 710	24606. 600
Age of youngest family mem	25.064	19.151	21.371	15.338	20.637	15.211	24.148	19.275
Unemployment rate	6.935	0.264	5.804	0.219	5.807	0.219	6.932	0.265
No. of observations	11118		7819		41324		61010	

Table 8**Summary Statistics for Sample 2**

Variables	Quebec				Rest of Canada			
	Before		After		Before		After	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Dummy for self-employment	0.091	0.288	0.102	0.303	0.130	0.337	0.132	0.338
Age	37.654	10.012	37.800	10.249	38.021	10.048	38.492	10.201
Age group dummy								
20 – 25	0.143	0.350	0.130	0.336	0.119	0.324	0.118	0.322
26 – 30	0.114	0.318	0.137	0.344	0.119	0.324	0.114	0.318
31 – 35	0.123	0.329	0.117	0.321	0.125	0.330	0.121	0.326
36 – 45	0.331	0.470	0.298	0.458	0.325	0.468	0.308	0.461
Living Situation dummy								
Single and living alone	0.134	0.340	0.090	0.286	0.115	0.319	0.077	0.267
Single and living with others	0.051	0.219	0.060	0.238	0.053	0.225	0.049	0.217
Married with no kids	0.229	0.420	0.223	0.417	0.216	0.412	0.201	0.401
Married with kids	0.405	0.491	0.437	0.496	0.413	0.492	0.444	0.497
Single Mother	0.076	0.266	0.097	0.296	0.071	0.258	0.085	0.279
Education level dummy								
Less than high school	0.097	0.296	0.084	0.277	0.076	0.265	0.067	0.250
High School	0.126	0.332	0.116	0.320	0.163	0.369	0.154	0.361
Some Post-secondary	0.564	0.496	0.566	0.496	0.549	0.498	0.544	0.498
Bachelors	0.154	0.361	0.173	0.378	0.158	0.365	0.171	0.377
More than bachelors	0.056	0.230	0.061	0.239	0.051	0.219	0.061	0.239
Dummy for Living in an urban area	0.818	0.386	0.809	0.393	0.861	0.346	0.865	0.342
Earnings	30459. 23	21016. 86	33705. 83	23913. 5	31363. 85	25515. 14	36460. 52	30399. 68
Age of youngest family mem.	25.421	19.421	21.657	15.741	24.693	19.281	21.363	15.414
Unemployment rate	6.935	0.264	5.804	0.219	5.807	0.219	6.932	0.265
No. of observations	8542		6086		39178		27021	

I created the second sample to isolate the movement of women between the self-employment sector and the wage-employment sector. For both samples I collect data on annual labour market status for women, job characteristics, demographics, and personal characteristics. I also divide the women into age groups of five-year intervals. Table 7 – 8 show the summary statistics for both data sets. In both data sets we can see an increase in self-employment in Quebec relative to the rest of Canada.

From the perspective of this research, one major caveat of the public-use microdata SLID files is the inability to follow individual cases over time, as the longitudinal portion of the dataset is not available to the public. Even so, by using the cross-sectional data I am able to arrive at significant results on the issue.

EMPIRICAL STRATEGY

For my empirical strategy I estimate a difference-in-difference probit model comparing the outcomes in Quebec and the rest of Canada around the time of this reform. My dependent variable is a dichotomous choice of yes or no, for whether or not the woman is self-employed. A woman who is self-employed would receive a dependent variable value of 1, and a woman that is not would receive a value of 0. I denote the pre-QPIP years as period 1 and the post-QPIP years as period 2. The estimating equation for my analysis is

$$SE_{ipt} = a + \alpha QPIP_{pt} + \beta Quebec_p + \gamma Year_t + \varphi X_{ipt} + \varepsilon_{ipt}$$

where i indexes individuals, p provinces, and t years. I include a dummy variable for living in Quebec and earning at least 2000 dollars insurable income, as required for the

QPIP, which I called *Quebec*. This dummy variable acts as my treatment group dummy. I also include a dummy for the time period after the QPIP was implemented, which I call *Year*. To clarify, this means that *Year* would 0 for 2002 through 2005 and 1 for 2006 through 2008. To highlight that effect living in Quebec after 2006 had on women in that area, I interacted my time period dummy and my treatment group dummy. My key explanatory variable is this interaction term between my treatment group and my time period dummy. I call this interaction variable my eligibility variable denoted as *QPIP*. Due to the model specification and the nature of difference-in-difference, I can explain the effect of the QPIP on women in Quebec by looking at the coefficient of my interaction variable.⁶ Later on in my analysis I interact more variables to precisely illuminate which women are being affected by the policy change. Although, the empirical strategy I employ is fairly rudimentary, this paper is still able to provide the basic and useful results on the issue of maternity leaves and employment.

RESULTS

I begin my results by a simple graphical analysis of the percentage of self-employed women in Quebec and the rest of Canada for 2002 – 2008, graphed against the female unemployment rate. Figure 3 shows us that the self-employment percentage of women in Quebec increased to meet that of the rest of Canada around the time the QPIP was implemented. The vertical line marks the year the QPIP was implemented. This graph

⁶ See Appendix for the difference-in-difference breakdown of my model

provides some prima facie evidence of a relationship between QPIP and the behavioural response of women with respect to labour decisions.

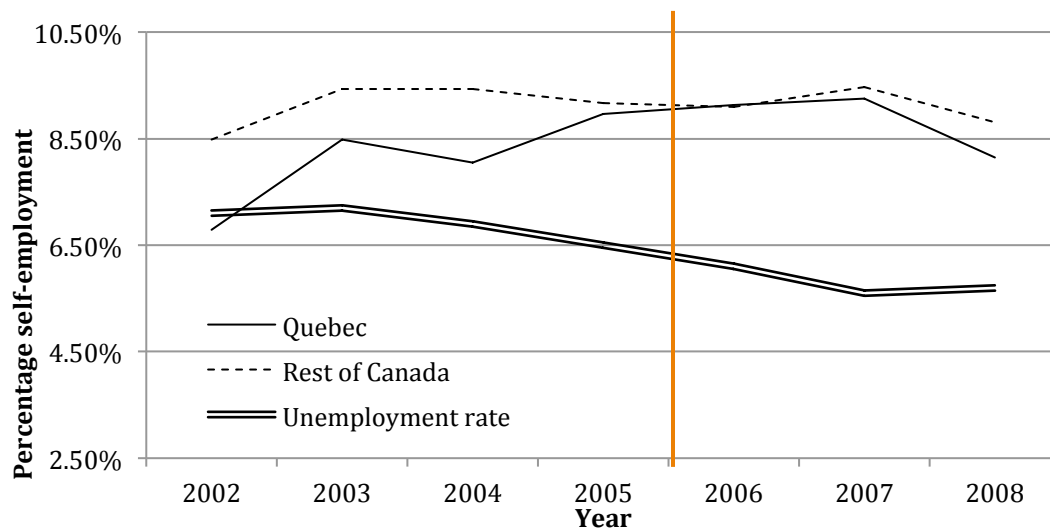


Figure 3—Female self-employment trend for Quebec and rest of Canada, aged (20-45) and the annual female unemployment rate. This graph was created by the author using data from the Survey of Labour and Income Dynamics

For, the rest of this section, I analyze the results of the probit regressions under the model specification defined above, using different interaction variables to describe whom the policy affects. Table 9a shows the first probit estimation of my basic model. The coefficient of my interaction variable here illustrates the effect that being eligible for the QPIP has on the woman's decision to be self-employed or not. Although the coefficients given by probit estimates are not representative of the marginal effects, conclusions can be drawn from the sign of the coefficients and its relative magnitude with respect to the other variable coefficients.

For example if the ratio of the coefficient of the interaction variable to the treatment dummy variable is 1, then we know that both variables have the same marginal effect. Likewise, if the ratio of two variables coefficients is $\frac{1}{2}$, then we can say that the effect of treatment dummy variable is double that of the interaction variable. For sample 1, we can see that the coefficient of the eligibility variable is positive, as we would expect, and significant. The result of sample 1 suggests that women that live in Quebec and have at least \$2000 in insurable income have a higher chance of being self-employed after the QPIP was implemented. The same applies to sample 2. My estimate also provides coefficient estimates for the control variables. As we can see older aged women have a higher probability of being self-employed, as do married women irrespective of their fertility conditions. I also find that all provinces except Alberta, British Columbia and Saskatchewan exhibit a negative effect on self-employment, which is not unnatural knowing that self-employment rates is usually lower than that of wage employment in most if not all parts of Canada.

Due to the nature of the QPIP, one of the expected effects of implementing the new parental plan is a shift to self-employment for women who were planning on having children. Unfortunately, since I do not have access to SLID longitudinal data I could not test this hypothesis in the preferred manner of observing individual women over time. As an alternative I modified the model specification to observe only women with a high probability of having children. I predict this probability to be especially high for women to be who are married and do not yet have any children.

Table 9a

	Sample 1		Sample 2	
	Coefficients	St. Errors	Coefficients	St. Errors
Eligible for the QPIP	0.0745**	-0.0292	0.0585*	-0.0320
Quebec and income >2000	-0.3072***	-0.0546	-0.4358***	-0.0620
Year	-0.0030	-0.0258	-0.0028	-0.0293
Age				
20 – 25	-0.5067***	-0.0199	-0.5366***	-0.0250
26 – 30	-0.2030***	-0.0195	-0.2612***	-0.0227
31 – 35	-0.0092	-0.0176	-0.0393**	-0.0201
36 – 45	0.0709***	-0.0129	0.0295**	-0.0144
Living situation				
Single and living alone	-0.0253	-0.0256	-0.0298	-0.0294
Single and living with others	0.0218	-0.0287	0.0199	-0.0337
Married with no kids	0.0698***	-0.0213	0.0534**	-0.0245
Married with kids	0.1701***	-0.0177	0.1704***	-0.0206
Single Mother	0.0329	-0.0242	0.0325	-0.0280
Province				
Newfoundland	-0.4930***	-0.0585	-0.4955***	-0.0677
Prince Edward Island	-0.3847***	-0.0617	-0.4420***	-0.0706
Nova Scotia	-0.2873***	-0.0554	-0.3561***	-0.0635
New Brunswick	-0.3668***	-0.0561	-0.4310***	-0.0641
Ontario	-0.2013***	-0.0523	-0.2515***	-0.0597
Manitoba	-0.1639***	-0.0548	-0.2404***	-0.0624
Saskatchewan	-0.0548	-0.0544	-0.1030*	-0.0620
Alberta	-0.0466	-0.0536	-0.0903	-0.0612
British Columbia	0.0093	-0.0537	-0.0123	-0.0615
Education				
Less than high school	-0.2745***	-0.0882	-0.1466	-0.1007
High School	-0.1459*	-0.0875	-0.1411	-0.0996
Some Post-secondary	-0.0772	-0.0868	-0.1055	-0.0988
Bachelors	-0.0810	-0.0877	-0.1703*	-0.0997
More than bachelors	0.2119**	-0.0890	0.1465	-0.1010
Living in an urban area	-0.1872***	-0.0143	-0.2484***	-0.0162
Age of youngest family mem.	0.0022***	-0.0005	0.0016**	-0.0006
Unemployment rate	-0.0089	-0.0208	-0.0059	-0.0236
Intercept	-0.8995***	-0.1751	-0.6015***	-0.1991
Pseudo R-squared	0.0336		0.0333	
Oberservations	121271		80827	

* Significant at 10% level

**Significant at 5% level

***Significant at 1% level

Table 9b

	Sample 1		Sample 2	
	Coefficients	Standard Errors	Coefficients	Standard Errors
Eligible for the QPIP, Married with no kids and aged 20 – 25	0.2642**	-0.1168	0.3091**	-0.1325
Living in Quebec and income >2000	-0.2789***	-0.0532	-0.4146***	-0.0606
Year	0.0068	-0.0255	0.0050	-0.0289
Age				
20 – 25	-0.5116***	-0.0200	-0.5437***	-0.0252
26 – 30	-0.2021***	-0.0195	-0.2599***	-0.0227
31 – 35	-0.0090	-0.0176	-0.0389*	-0.0201
36 – 45	0.0707***	-0.0129	0.0295**	-0.0144
Living situation				
Single and living alone	-0.0265	-0.0256	-0.0314	-0.0294
Single and living with others	0.0227	-0.0287	0.0209	-0.0337
Married with no kids	0.0668***	-0.0214	0.0498**	-0.0246
Married with kids	0.1710***	-0.0177	0.1714***	-0.0206
Single Mother	0.0340	-0.0242	0.0337	-0.0280
Province				
Newfoundland	-0.4936***	-0.0585	-0.4962***	-0.0677
Prince Edward Island	-0.3852***	-0.0617	-0.4427***	-0.0706
Nova Scotia	-0.2877***	-0.0554	-0.3567***	-0.0635
New Brunswick	-0.3672***	-0.0561	-0.4315***	-0.0641
Ontario	-0.2017***	-0.0523	-0.2520***	-0.0597
Manitoba	-0.1640***	-0.0548	-0.2406***	-0.0624
Saskatchewan	-0.0549	-0.0544	-0.1032*	-0.0620
Alberta	-0.0471	-0.0536	-0.0907	-0.0612
British Columbia	0.0089	-0.0537	-0.0128	-0.0615
Education				
Less than high school	-0.2736***	-0.0882	-0.1455	-0.1007
High School	-0.1450*	-0.0875	-0.1398	-0.0996
Some Post-secondary	-0.0764	-0.0869	-0.1045	-0.0989
Bachelors	-0.0803	-0.0877	-0.1694*	-0.0997
More than bachelor	0.2125**	-0.0891	0.1473	-0.1011
Living in an urban area	-0.1875***	-0.0143	-0.2486***	-0.0162
Age of youngest family mem.	0.0023***	-0.0005	0.0016***	-0.0006
Unemployment rate	-0.0091	-0.0208	-0.0062	-0.0236
Intercept	-0.9036***	-0.1751	-0.6045***	-0.1992
Pseudo R-squared	0.0336		0.0333	
Observations	121271		80827	

*Significant at 10% level

**Significant at 5% level

***Significant at 1% level

By multiplying the eligibility variable by the dummy variable for married with no children, I was able to isolate the effect of the being eligible for the QPIP for women who were married with no children⁷. I found the effect to be insignificant, but when I restricted the eligibility to only include women between the child-bearing years 20 – 25, the reverse was true. Table 9b shows us the effect of the QPIP on self-employment for women who are married with no children and between the ages 20 and 25.

CONCLUSIONS

In 2006, Quebec implemented a new parental Insurance plan, namely the Quebec Parental Insurance Plan (QPIP). The QPIP was extended to include coverage for individuals who are self-employed. Very little is known about the behavioural implications of the QPIP. This paper uses microdata from 2002-2006 Survey of Labour and Income Dynamics to study the behavioural implications of the QPIP on women in the province. I find that there is an increased probability of self-employment for women. Our analysis shows that the QPIP had a significant effect on women in the age range 20 – 25. We also find evidence that suggests that women who are married with no kids between the ages 20 and 25, also experience a higher probability of self-employment than do those who are not

Returning to the issues discussed by Phipps (2000), we must take into consideration the possibility of women taking advantage of the QPIP in order to receive benefits. What we are asking here is, “Does the QPIP allow for women to fake being self-employed in order

⁷ See table 10 in the appendix for the results of this regression

to receive benefits?” Considering the small qualifying amount of 2000 dollars and the relative ease of joining the self-employment sector, this question does not seem far-fetched. To qualify as a self-employed individual under the QPIP one must fulfill the requirements of Revenue Quebec. The criteria the Revenue Quebec uses to determine whether or not an individual is self-employed, hinges on the combination of a worker status questionnaire and input from the Quebec income tax return. The Quebec government determines self-employment using a questionnaire that is aimed at illuminating the following six interrelated criteria: subordination in the performance of work; the financial or economic criterion; ownership of tools; integration of the tasks carried out by the worker; the specific result of the work; and the parties’ attitude regarding their relationship. In addition, If you are a self-employed worker who carried on business activities in the calendar year preceding the year your benefit period begins you must provide the income amount you entered or will enter on lines 22 to 26 of Schedule L of your Québec income tax return for the calendar year preceding the year your benefit period begins. In the same way if you are a self-employed worker whose business start-up was in the calendar year your benefit period begins you must provide an estimate of your net business income for the calendar year your benefits begin, according to lines 22 to 26 of Schedule L of your Québec income tax return.

If women did in fact fake self-employment to receive benefit under the QPIP we would expect to see very short time periods of self-employment in Quebec. Due to data restrictions, I am prevented from following these women individually over a fixed period of time and therefore cannot infer with certainty if the newly self-employed women remain so or if they became self-employed merely to receive benefits and leave the sector

after the benefit period is exhausted. All things considered, it would seem relatively easy to qualify as a being self-employed under the QPIP and for that reason we must consider the idea that the women in Quebec could be taking advantage of the new policy.

Unfortunately, I do not further analyze this idea and am therefore unsure as to role it played in the results of my paper.

APPENDIX

Table 2—Table showing the maternity leave under the difference provinces

Province	Maternity	Parental Leave (in	Adoption Leave (in
Federal	17	37	37
Alberta	15	37	37
British Columbia	17	37	37
Manitoba	17	37	37
New Brunswick	17	37	37
Newfoundland and Labrador	17	35	52
Northwest Territories	17	37	37
Nova Scotia	17	52	52
Nunavut	17	37	37
Ontario	17	37	37
Prince Edward Island	17	35	52
Quebec	18	52	52
Saskatchewan	18	37	52
Yukon	17	37	37

Source: Provincial statutes and Labour Canada's Employment standards

Table 6

COST OF CHILDCARE SERVICES IN QUEBEC	
FINANCIAL YEAR	COST OF CHILDCARE PROGRAM
1999 – 2000	541
2000 – 2001	781
2001 – 2002	992
2002 – 2003	1165
2003 – 2004	1338
2004 – 2005	1393
2005 – 2006	1472
2006 – 2007	1578
2007 – 2008	1686
2008 – 2009	1800

Source: Ministère des Finances du Québec, Public Accounts

Table 10

Probit Estimates of the Probability of Being Self-employed – Women 18-54				
	Sample 1		Sample 2	
	Coefficients	St. Errors	Coefficients	St. Errors
Eligible for the QPIP and Quebec and income >2000	-0.0238	0.0489	-0.0340	0.0536
Year	-0.2739***	0.0533	-0.4087***	0.0607
Age	0.0087	0.0255	0.0075	0.0289
20 – 25	-0.5071***	0.0199	-0.5369***	0.0250
26 – 30	-0.2030***	0.0195	-0.2611***	0.0227
31 – 35	-0.0096	0.0176	-0.0399**	0.0201
36 – 45	0.0705***	0.0129	0.0291**	0.0144
Living situation				
Single and living alone	-0.0247	0.0256	-0.0293	0.0294
Single and living with others	0.0228	0.0287	0.0211	0.0337
Married with no kids	0.0720**	0.0216	0.0563**	0.0248
Married with kids	0.1702***	0.0177	0.1704***	0.0206
Single Mother	0.0332	0.0242	0.0327	0.0280
Province				
Newfoundland	-0.4938***	0.0585	-0.4965***	0.0677
Prince Edward Island	-0.3852***	0.0617	-0.4428***	0.0706
Nova Scotia	-0.2878***	0.0554	-0.3570***	0.0635
New Brunswick	-0.3675***	0.0561	-0.4321***	0.0641
Ontario	-0.2018***	0.0523	-0.2522***	0.0597
Manitoba	-0.1642***	0.0548	-0.2410***	0.0624
Saskatchewan	-0.0552	0.0544	-0.1036*	0.0620
Alberta	-0.0475	0.0536	-0.0913	0.0612
British Columbia	0.0087	0.0537	-0.0132	0.0615
Education				
Less than high school	-0.2736***	0.0882	-0.1457	0.1007
High School	-0.1452*	0.0875	-0.1401	0.0996
Some Post-secondary	-0.0764	0.0869	-0.1045	0.0988
Bachelors	-0.0801	0.0877	-0.1693*	0.0997
More than bachelors	0.2124**	0.0891	0.1472	0.1010
Living in an urban area	-0.1875	0.0143	-0.2487	0.0162
Age of youngest family mem.	0.0022***	0.0005	0.0015**	0.0006
Unemployment rate	-0.0089	0.0208	-0.0060	0.0236
Intercept	-0.9043***	0.1751	-0.6053	0.1991***
Pseudo R-squared	0.0336		0.0333	
Oberservations	121271		80827	

*Significant at 10% level

**Significant at 5% level

***Significant at 1% level

Table 11—Table showing the difference-in-difference method applied to my model specification. As can be seen the interaction term variable, α is the result from finding the difference of the difference

	Treatment	Control	Difference
Before	$a + \beta$	a	β
After	$a + \alpha + \beta + \gamma$	$a + \gamma$	$\alpha + \beta$
Difference	$\alpha + \gamma$	γ	α

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