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The Incidence of Corporate Income Tax on Wages in Canada, 1998-2013 *

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Introduction

A long held misperception in public policy debates is about who ultimately bears the burden of business taxes.¹ The tax incidence is the group that ultimately bears the burden of the tax, which can be different from the entity responsible for collecting and remitting the revenue to government. When it comes to corporate taxes, some simply – and wrongly – assume that corporations pay them in an economic sense, leading to uninformed and inaccurate claims about the desirability of raising such taxes. This paper examines the incidence of the corporate income tax (CIT) on the wages of Canadian workers.

With respect to the CIT, it can be “paid” for by individuals in the following ways: corporate owners/shareholders through lower profits and/or deterioration of capital; consumers through higher prices; and/or workers through lower wages. While the objective of some groups pushing for higher CIT is to increase the tax burden on owners of capital, taxes shifted to consumers or workers through the use of market power are clearly not paid by “corporations,” even in the loosest meaning of the term.

Economists generally accept that the burden of corporate taxes falls to some extent on workers through reduced wages, especially in open economies where capital is mobile and highly sensitive to tax rates. How this comes about is not spelled out in the recent empirical literature but the process can be the result of: 1) short term adjustments to the level or more likely the rate of wage increases at the time when wages are set; and 2) longer term adjustments that reduce labour productivity and thus wages when capital (investment) flees higher taxed regions or sectors. The empirical analysis in this paper focuses on the first explanation and thus most likely captures only part of the impact of the CIT on wages. However, the degree to which higher taxes affect workers remains an empirical question and varies across countries and states.

In this study, we use individual-level data from Statistics Canada’s Labour Force Survey (LFS) to measure the incidence of CIT on the wages of workers over the period 1998-2013, while controlling for individual determinants of wages. Our findings show that CIT do in fact have a negative and statistically significant impact on wages. In the next section, we briefly review past findings in the literature on the incidence of CIT. Section 2 describes our data and methodology. Section 3 presents the results of our empirical analysis; the final section concludes.

1. Literature Review

Here we briefly review the empirical literature measuring the incidence of CIT .

¹ For instance, see the title of this press release from the Canadian Labour Congress (2015) entitled “January 29 is Corporate Tax Freedom Day - CLC report: Many businesses hoarding cash from tax giveaways rather than invest in creating jobs” <http://www.canadianlabour.ca/national/news/january-29-corporate-tax-freedom-day-clc-report-many-businesses-hoarding-cash-tax-give>.

Corporate income tax

The empirical literature on the incidence of CIT can be classified into two streams. The first stream of studies originated in United States and relies on a macro-econometrics approach, (Kryzaniak and Musgrave, 1963; Cragg, Harberger, and Mieszkowski, 1967; Spencer, 1969; Oakland, 1972). Early research focused on the impact of the corporate tax burden on the return of capital. Spencer (1969) examines the incidence of CIT on the rate of return of capital using data from the Canadian manufacturing sector between 1935 and 1964 and finds that, since profits are unaffected, firms transfer the entire burden of CIT to other economic agents (the author does not specifically identify the agents). However, Dusansky and Tanner (1974) question Spencer's (1969) methodology and estimate that the transferred burden of CIT is lower than 100 percent. This early literature is plagued by specification problems of a reduced form equation using profits as the dependent variable. Contrary to demand or cost functions, there is no profit equation in economic theory. Sebold (1979) elegantly solves this issue by using a structural multi-equation model for the United States that examines the underlying mechanisms of CIT incidence on the price of the factors of production and output. His findings show that 80 percent of the corporate tax burden falls on workers in the form of lower wages. Sebold (1979) marks the end of the first stream of empirical investigation on the incidence of CIT.

The second stream of studies began in 2009 and revisited the CIT incidence primarily using survey data from workers. For U.S. states, Felix and Hines (2009) estimate that for each dollar increase in CIT revenue, the median wage of American workers in the private sector drops by \$0.49. Arulampalam et al. (2012) find similar results for a panel of European countries. Felix (2009) finds that a one percentage point increase in the marginal CIT rate is associated with a 0.14 to 0.36 percent decrease in wages. Liu and Althshuler (2013) use the effective corporate marginal tax rate and estimate that wages decrease by \$0.60 for every dollar increase in corporate income tax revenues. More recently, Serrato and Zidar (2014) carried out a cross-country examination of the incidence of the corporate income tax over a ten-year period and estimate that a one percent decrease in tax rates increases real wages by 1.1 percent. Their findings also suggest that workers bear 28 percent of the burden of CIT.

Table 1a summarizes recent studies on the incidence of CIT including the study's author/year, country/period, wage variable, data/methodology, and findings.

Insert Table 1

2. Data and Methodology

In order to measure the effect of corporate income on wages, we need to control for other determinants of a worker's wage such as age, gender, marital status, and education. We use Statistics Canada's Labour Force Survey (LFS) data on wages and other individual characteristics of Canadian workers in the private sector. The analysis excludes public sector workers as they are not subject to the CIT. The LFS was carried out on a monthly basis during

the period covered in this study (1998 to 2013). Since the data in the survey was not collected from the same respondent in each household every month, we use a quasi-panel approach. To allow for computational ease, we draw a random sample of 10 percent of the total observations for each year. This sample draws from the observations in each province according to the initial weight of observations by province. Our regressions contain the following variables:

Wage rate

We use the natural logarithm of hourly compensation for full-time employees as our dependent variable. We refer to this variable as the wage rate, which is adjusted before its transformation into a logarithm for inflation using the Consumer Price Index (CPI) for each province from Statistics Canada (CANSIM 326-0021). Real wages are expressed in 1998 dollars.

Corporate income tax

Our corporate income tax variable consists of the sum of the highest federal and provincial corporate statutory tax rates transformed into logarithmic form. This variable is lagged by one year to allow for the short term adjustment to wages in response to changing CIT rates. We use a one year lag to account for the fact that most wages are set annually either by a collective agreement or employer policy. A change in CIT in a given year announced in a budget speech is unlikely to immediately result in changes to wages. There is no empirical evidence on the exact lag that should be used but we expect that a one year lag underestimates the wage effect of the two taxes. We use the highest (or general) CIT rate since corporate profits are mostly subject to this rate as evidenced by the relative importance of the small business CIT tax expenditure and the CIT revenue at the federal level.² For example, in 2009 the federal government's small business CIT tax expenditure totalled \$4,450 million, while its CIT revenue reached \$31,273 million.³ Put differently, the small business CIT tax expenditure relative to total federal CIT revenue equalled just 14 percent. We use the statutory rates rather than the effective rates as the latter are not available by year/industry for Canada. An analysis using effective rates is an interesting area for future research.

Age

This variable measures the employee's age and is a proxy for the number of years of work experience. The LFS does not provide the survey participant's exact age, but rather the age interval they belong to. Therefore, we have divided the age variable into six age categories: 15 to

² The small business CIT expenditure results from the lower CIT rates offered to Canadian small businesses. See Finances of the Nation Canadian tax Foundation for more on this http://www.ctf.ca/ctfweb/EN/CTF_Publications/Books/Finances_of_the_Nation/EN/Publications/Finances_of_the_Nation.aspx?hkey=0638cad2-e583-4e10-8ab2-0805350b3500

³ Department of Finance Canada (<http://www.fin.gc.ca/taxexp-depfisc/2013/taxexp1303-eng.asp>) and CANSIM Table 385-0001, Statistics Canada (2009a).

24 years old, 25 to 34 years old, 35 to 44 years old, 45 to 54 years old, 55 to 64 years old, and 65 years old and over. In the regressions, the reference category is the 15 to 24 age group.

Sex

For male employees, this dichotomous variable takes the value of 1 and 0 otherwise.

Marital status

This dichotomous variable takes the value of 1 for married individuals and common-law partners and zero if single, divorced, separated, or widowed.

Education

We define five categories of educational attainment based on the LFS classification: individuals without a high school diploma, those who hold a high school diploma, those with a post-secondary certificate or diploma, those with a bachelor's degree, and those with a graduate degree. We have included a dichotomous variable for each of these categories, with the exception of individuals without a high school degree since we use them as the reference group.

Industry

The LFS uses the North American Industry Classification System (NAICS) to identify the industry in which respondents work. Eighteen industries are identified; we use the "Manufacturing of durables" as our reference group.

Occupation

The LFS uses the National Occupation Classification (NOC) to identify the occupation held by respondents. Twenty-five occupations are used; "Clerical occupations" is our reference category.

Firm size

Firm size is measured by the number of employees (including employees abroad) working in a firm. Small firms, our reference category, employ less than 100 employees. We create two dichotomous variables; one for medium sized firms that have 100-500 employees and one for large firms with more than 500 employees.

Union status

When an employee is a union member or covered by a collective agreement, this variable takes the value of 1; otherwise it is zero.

Time fixed-effects

We define a dichotomous variable for each year during the period of our study in order to capture the impact of annual and cyclical factors on wages. The year 2013 is our reference year.

Geographic fixed-effects

Each province is associated with a dichotomous variable to capture the effect of province specific factors on wages. Quebec is the province of reference.

Unemployment rate

We use the one-period lag of the provincial unemployment rate to control for the macroeconomic environment and thus the relative strength of employers and employees during wage negotiations. A higher unemployment rate is expected to result in lower wages (in real terms).

Inflation rate

In addition to the unemployment rate, the inflation rate also reflects the economic environment in which wage negotiations are held. We use a one-period lag of the provincial inflation rate in our regressions. Since our dependent variable, the wage rate, is already expressed in real terms, we expect a limited positive effect of inflation on wages in our estimations.

The corporate income tax rate varies a great deal between Canadian provinces for the period under examination. This variation contributes to the robustness of our empirical investigation. The federal CIT rate has sharply decreased from its peak in 1997 (28 percent) to 2012 (15 percent). While we also observe a decreasing tendency in CIT rates during this period for most provincial CIT rates, in Quebec the rate has slightly increased since 2005 and in Eastern provinces (except New Brunswick) the rate has remained constant. In 2012, British Columbia and Alberta had the lowest CIT rates in Canada (10 percent), while Nova Scotia and Prince Edward Island had the highest CIT rate (16 percent).

Turning to the unemployment rate, we find that the unemployment rate has been the highest in Eastern provinces and the lowest in Western provinces. In 2012, Alberta was the province with the lowest unemployment rate (4.6 percent) and Newfoundland and Labrador experienced the highest unemployment rate (12.5 percent) in Canada, much higher than the average 7.3 percent. Quebec and the Eastern provinces experienced generally a higher unemployment rate than the average in Canada, whereas Ontario and the Western provinces were usually below the average.

Finally in terms of wages, there was a modest increase (13 percent) in real hourly wages on average from \$20.6 per hour in 1998 to \$23.3 per hour in 2013. The sharpest increase in real wages is observed in Alberta during this period. Among the Eastern provinces, Newfoundland and Labrador had the highest wage rate (\$23.2 per hour) in 2013, which was quite close to the Canadian average. In contrast, the wage rate for New Brunswick, Nova Scotia, and Prince Edward Island was below the average.

3. Empirical Findings

Tables 2, 3, and 4 present the results of our regression measuring the incidence of the CIT on wages. In all cases, we find an inverted U-shaped relationship between age and wages and a wage premium associated for male and married employees. The coefficients for education indicate that higher educational attainment contributes to higher wage rate. The wage rate also varies across industries and occupations. The firm size and the union status variables have positive effects on a worker's wage.

In the first column, which shows the estimation of the CIT coefficient for our benchmark model, a one percent increase in corporate income tax rates reduces the wage rate by 0.24 percent. The second column adds time and geographic fixed effects to the first model. Although the CIT coefficient is smaller in absolute value than the first column, it remains negative and statistically significant. The third column includes two additional control variables, the inflation rate and the unemployment rate, while the fourth column contains time and geographic fixed effects, in addition to the macroeconomic control variables. Again, the impact of the CIT on wages is negative.

Insert Table 2

To further investigate the link between firm size and the incidence of CIT on wages, we divided our sample in three according to the worker's firm size. Table 3 shows the regression results of the models used in columns I and IV from the previous table for small firms (column I and II), medium size firms (column III and IV) and large firms (column IV and V). In table 3, we see that the effect of the CIT rate on wages exhibits an inverse function with firm size. That is, a higher burden of the tax falls on employee wages in smaller firms than those working in larger firms.⁴

Insert Table 3

The first two columns in table 4 reproduce our regressions for workers who are part of a union or collective agreements and columns III and IV show the results for workers who are not part of such arrangements. We again use the models of column I and IV of table 2. The first group, those who are in a union or covered by a collective agreement are less affected by the rise in CIT than the second group. This is most likely explained by the greater power and ability of unions to resist wage reductions following CIT rates hikes compared to non-unionized workers. However, this likely short term effect may turn harmful in the long term if adjustments in response to a higher CIT result in less employment and/or lower wages.

Insert Table 4

⁴ One should note that the small business CIT rate applies only to the first \$500,000 of income for Canadian controlled corporations. Thus most employees work in firms subject to the general rate.

Conclusion

The purpose of this study was to identify and measure the incidence of corporate income taxes on the wages of Canadian workers. The Labour Force Survey (LFS) provided us with data on the characteristics of individual workers that are likely to affect wages. After controlling for those characteristics in our regressions, we find a negative and significant effect of the CIT rate on wages, which we define as the inflation-adjusted hourly earnings of a worker.

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Tables

Table 1: Summary of five studies on the incidence of the corporate income tax on wages, 2009-2014

| Author(s) & Year | Country & Period | Wage Variable | Data & Methodology | Main Findings |
|----------------------|---|---|--|---|
| Felix & Hines (2009) | US States (with the exception of Nevada, Wyoming and Washington); 2000 | Wage rate (ratio of weekly wage and weekly number of hours worked) | Microdata (57 426) observations on full-time unionized workers in the private sector Ordinary least squares (OLS) Controls for occupation and industry Taxation variable: Highest marginal CIT rate in each State | A dollar increase in CIT tax revenues decreases the median wage by \$0.49 Unionized workers bear 54% of the tax burden (lower wages). A one percentage point increase in CIT reduces the wage premium for unionized workers by 0.36%. |
| Felix (2009) | US States (with the exception of Nevada, Wyoming and Washington); 1977-2005 | Wage rate per worker (ratio of annual wage and number of hours worked per year) | Microdata (1 150 966 observations) on US workers classified in three groups according to their level of education Controls for occupation and industry Taxation variable: Highest marginal CIT rate in each State | A one percent increase in CIT marginal rate result in 0.14-0.36% decrease in wages. Negative effect of CIT increases with workers' level of education. Progressive incidence of CIT: The fiscal burden of the tax increases with wages. |

| | | | | |
|---------------------------|--|--|--|---|
| Arulampalam et al. (2012) | Nine European countries; 1996-2003 | Annual average wage per firm and per worker | Microdata (55 000 firms) Examination of the direct incidence of CIT on wages Taxation variable: Corporate taxes per employee Controls for the productivity per employee in the manufacturing sector | Negative and significant effect of CIT on wages: A dollar increase in CIT results in a \$0.49 wage reduction on average (in the long-term) |
| Liu & Altshuler (2013) | United States; 1982, 1992, and 1997 | Weekly wages per worker by industry | Microdata (287 111 observations) on individual characteristics of US workers Panel fixed effects Taxation variable: Effective marginal corporate tax rate | A dollar increase in CIT revenues reduces workers' wages by \$0.60. This effect rises with the concentration ratio in each industry. |
| Serrato & Zidar (2014) | Country and individual-level multi-decade data for 490 county groups; 1980-1990, 1990-2000, 2000-2010 | Wage rate | Examine the incidence of corporate taxes on firm owners, landowners and workers | 1% corporate tax cut result in 1.1% increase in real wages over a period of 10 years. 28% of the tax burden falls on workers , 42% on firm owners and 30% on landowners |

Source author

Table 2: Regression results of the impact of the corporate income tax on Canadian workers' wage, 1998-2013
 Dependent variable = log of hourly wage

| | I | II | III | IV |
|--|----------------------|----------------------|----------------------|---------------------|
| <i>lnCIT</i> | -0,239 (0.003)*** | -0,148 (0.012)*** | -0,195 (0.003)*** | -0,18 (0.012)*** |
| Age 15-24 as reference | | | | |
| Age 25-34 | 0,205 (0.002)*** | 0,204 (0.001)*** | 0,206 (0.001)*** | 0,204 (0.001)*** |
| Age 35-44 | 0,287 (0.002)*** | 0,288 (0.001)*** | 0,289 (0.002)*** | 0,288 (0.001)*** |
| Age 45-54 | 0,32 (0.002)*** | 0,322 (0.002)*** | 0,323 (0.002)*** | 0,322 (0.002)*** |
| Age 55-64 | 0,298 (0.002)*** | 0,298 (0.002)*** | 0,3 (0.002)*** | 0,297 (0.002)*** |
| Age 65 and more | 0,147 (0.006)*** | 0,138 (0.006)*** | 0,143 (0.006)*** | 0,138 (0.006)*** |
| Women as reference | | | | |
| Men | 0,172 (0.001)*** | 0,173 (0.001)*** | 0,172 (0.001)*** | 0,173 (0.001)*** |
| Unmarried as reference | | | | |
| Married | 0,04 (0.001)*** | 0,047 (0.001)*** | 0,047 (0.001)*** | 0,047 (0.001)*** |
| No high school diploma as reference | | | | |
| Secondary diploma | 0,087 (0.001)*** | 0,072 (0.001)*** | 0,08 (0.001)*** | 0,072 (0.001)*** |
| Post secondary diploma | 0,117 (0.001)*** | 0,113 (0.001)*** | 0,119 (0.001)*** | 0,113 (0.001)*** |
| Bachelors degree | 0,199 (0.002)*** | 0,186 (0.002)*** | 0,195 (0.002)*** | 0,186 (0.002)*** |

| | | | | |
|---|----------------------|----------------------|----------------------|----------------------|
| Graduate degree | 0,25 (0.003)*** | 0,231 (0.003)*** | 0,244 (0.003)*** | 0,231 (0.003)*** |
| Manufacturing durables as reference | | | | |
| Agriculture | -0,236 (0.005)*** | -0,227 (0.005)*** | -0,237 (0.005)*** | -0,227 (0.005)*** |
| Forestry, Fishing, Mining, Oil and Gas | 0,142 (0.003)*** | 0,123 (0.003)*** | 0,134 (0.003)*** | 0,123 (0.003)*** |
| Utilities | 0,104 (0.004)*** | 0,11 (0.003)*** | 0,105 (0.004)*** | 0,111 (0.003)*** |
| Construction | 0,024 (0.002)*** | 0,022 (0.002)*** | 0,024 (0.002)*** | 0,022 (0.002)*** |
| Manufacturing - non-durables | -0,069 (0.002)*** | -0,048 (0.002)*** | -0,056 (0.002)*** | -0,047 (0.002)*** |
| Wholesale trade | -0,074 (0.003)*** | -0,071 (0.003)*** | -0,074 (0.003)*** | -0,071 (0.003)*** |
| Retail trade | -0,224 (0.002)*** | -0,21 (0.002)*** | -0,217 (0.002)*** | -0,209 (0.002)*** |
| Transportation & Warehousing | -0,057 (0.002)*** | -0,054 (0.002)*** | -0,057 (0.002)*** | -0,053 (0.002)*** |
| Finance, Insurance, Real Estate and Leasing | -0,038 (0.002)*** | -0,033 (0.002)*** | -0,036 (0.002)*** | -0,032 (0.002)*** |
| Professional, Scientific and Technical Services | 0,009 (0.003)*** | 0,009 (0.003)*** | 0,011 (0.003)*** | 0,01 (0.003)*** |
| Management, Administrative and Other Support | -0,193 (0.003)*** | -0,18 (0.003)*** | -0,184 (0.003)*** | -0,18 (0.003)*** |
| Information, Culture and Recreation | -0,071 (0.003)*** | -0,064 (0.003)*** | -0,067 (0.003)*** | -0,064 (0.003)*** |
| Accommodation and Food Services | -0,297 (0.003)*** | -0,29 (0.003)*** | -0,292 (0.003)*** | -0,289 (0.003)*** |
| Other Services | -0,139 (0.003)*** | -0,132 (0.003)*** | -0,136 (0.003)*** | -0,132 (0.003)*** |

Clerical occupations as reference

| | | | | |
|---|----------------------|----------------------|----------------------|----------------------|
| Senior Management occupations | 0,614 (0.010)*** | 0,609 (0.009)*** | 0,613 (0.010)*** | 0,608 (0.009)*** |
| Other Management occupations | 0,406 (0.002)*** | 0,402 (0.002)*** | 0,404 (0.002)*** | 0,401 (0.002)*** |
| Professional occupations in Business and Finance | 0,341 (0.004)*** | 0,339 (0.003)*** | 0,341 (0.004)*** | 0,339 (0.003)*** |
| Financial, Secretarial, and Administrative occupations | 0,118 (0.003)*** | 0,116 (0.002)*** | 0,117 (0.002)*** | 0,116 (0.002)*** |
| Natural and Applied Sciences and related occupations | 0,278 (0.002)*** | 0,277 (0.002)*** | 0,279 (0.002)*** | 0,277 (0.002)*** |
| Professionals in Health/Nurse supervisors/Registered Nurses | 0,66 (0.012)*** | 0,667 (0.012)*** | 0,663 (0.012)*** | 0,667 (0.012)*** |
| Technical, Assisting and related occupations in Health | 0,117 (0.006)*** | 0,116 (0.006)*** | 0,115 (0.006)*** | 0,116 (0.006)*** |
| Occupations in Social Science, Government and Religion | 0,221 (0.005)*** | 0,22 (0.005)*** | 0,221 (0.005)*** | 0,22 (0.005)*** |
| Teachers & Professors | 0,284 (0.013)*** | 0,287 (0.013)*** | 0,288 (0.013)*** | 0,288 (0.013)*** |
| Occupations in Art, Culture, Recreation and Sport | 0,141 (0.004)*** | 0,141 (0.004)*** | 0,143 (0.004)*** | 0,141 (0.004)*** |
| Wholesale/Technical/Insurance/Real Estate/Buyers | 0,141 (0.003)*** | 0,137 (0.003)*** | 0,139 (0.003)*** | 0,137 (0.003)*** |
| Retail sales person/Sales clerk/Cashier/retail supervisor | -0,063 (0.003)*** | -0,063 (0.002)*** | -0,06 (0.002)*** | -0,063 (0.002)*** |
| Chefs/Cooks/Food and Beverage Service/Supervisors | -0,027 (0.003)*** | -0,028 (0.003)*** | -0,028 (0.003)*** | -0,028 (0.003)*** |
| Occupations in Protective Services | -0,158 | -0,161 | -0,159 | -0,161 |

| | | | | |
|--|------------|------------|------------|------------|
| | (0.006)*** | (0.006)*** | (0.006)*** | (0.006)*** |
| Childcare and Home Support workers | -0,285 | -0,292 | -0,269 | -0,293 |
| | (0.010)*** | (0.010)*** | (0.010)*** | (0.010)*** |
| Sales and Service not elsewhere classified | -0,128 | -0,131 | -0,127 | -0,131 |
| | (0.002)*** | (0.002)*** | (0.002)*** | (0.002)*** |
| Contractors/Supervisors in trade and transportation | 0,223 | 0,213 | 0,216 | 0,213 |
| | (0.004)*** | (0.004)*** | (0.004)*** | (0.004)*** |
| Construction Trades | 0,068 | 0,069 | 0,07 | 0,068 |
| | (0.003)*** | (0.003)*** | (0.003)*** | (0.003)*** |
| Other Trades occupations | 0,124 | 0,116 | 0,12 | 0,116 |
| | (0.002)*** | (0.002)*** | (0.002)*** | (0.002)*** |
| Transport and Equipment operators | -0,007 | -0,009 | -0,006 | -0,009 |
| | (0.002)*** | (0.002)*** | (0.002)** | (0.002)*** |
| Trades Helper/Construction/transportation labourer/related | -0,072 | -0,074 | -0,069 | -0,074 |
| | (0.003)*** | (0.003)*** | (0.003)*** | (0.003)*** |
| Occupations unique to Primary Industry | -0,013 | -0,002 | -0,005 | -0,001 |
| | (0.004)*** | -0,004 | -0,004 | -0,004 |
| Machine Operator/Assembler in manufacturing/Supervisors | -0,044 | -0,048 | -0,045 | -0,049 |
| | (0.002)*** | (0.002)*** | (0.002)*** | (0.002)*** |
| Labourer in Processing, Manufacturing and Utilities | -0,153 | -0,151 | -0,149 | -0,151 |
| | (0.003)*** | (0.003)*** | (0.003)*** | (0.003)*** |
| Small-size firm as reference | | | | |
| Medium-size firm | 0,079 | 0,073 | 0,076 | 0,073 |
| | (0.001)*** | (0.001)*** | (0.001)*** | (0.001)*** |
| Large-size firm | 0,14 | 0,13 | 0,134 | 0,13 |
| | (0.001)*** | (0.001)*** | (0.001)*** | (0.001)*** |
| Non union as reference | | | | |
| Union | 0,115 | 0,128 | 0,119 | 0,127 |
| | (0.001)*** | (0.001)*** | (0.001)*** | (0.001)*** |

Québec as reference

| | | |
|----------------------|----------------------|----------------------|
| Ontario | 0,11 (0.002)*** | 0,09 (0.002)*** |
| British Columbia | 0,102 (0.002)*** | 0,076 (0.002)*** |
| Alberta | 0,185 (0.002)*** | 0,131 (0.003)*** |
| Saskatchewan | 0,075 (0.003)*** | 0,025 (0.003)*** |
| Manitoba | 0,008 (0.002)*** | -0,045 (0.003)*** |
| Newfoundland | -0,074 (0.003)*** | 0,042 (0.006)*** |
| Prince Edward Island | -0,079 (0.003)*** | -0,017 (0.004)*** |
| Nova Scotia | -0,042 (0.003)*** | -0,025 (0.003)*** |
| New Brunswick | -0,076 (0.002)*** | -0,049 (0.003)*** |

Year 2013 as reference

| | | |
|------|----------------------|------------------|
| 1998 | -0,046 (0.006)*** | 0,001 -0,006 |
| 1999 | -0,036 (0.006)*** | -0,008 -0,006 |
| 2000 | -0,025 (0.006)*** | -0,001 -0,006 |
| 2001 | -0,017 (0.006)*** | 0,002 -0,006 |
| 2002 | -0,024 (0.006)*** | -0,001 -0,006 |
| 2003 | -0,04 | -0,016 |

| | | | | |
|-------------------|------------|------------|------------|------------|
| | | (0.005)*** | | (0.005)*** |
| 2004 | | -0,046 | | -0,021 |
| | | (0.004)*** | | (0.005)*** |
| 2005 | | -0,049 | | -0,039 |
| | | (0.004)*** | | (0.004)*** |
| 2006 | | -0,044 | | -0,037 |
| | | (0.004)*** | | (0.004)*** |
| 2007 | | -0,031 | | -0,034 |
| | | (0.004)*** | | (0.004)*** |
| 2008 | | -0,013 | | -0,02 |
| | | (0.004)*** | | (0.004)*** |
| 2009 | | 0,004 | | -0,001 |
| | | -0,003 | | -0,003 |
| 2010 | | 0,01 | | 0,021 |
| | | (0.003)*** | | (0.004)*** |
| 2011 | | -0,004 | | 0,012 |
| | | -0,003 | | (0.003)*** |
| 2012 | | -0,002 | | 0,014 |
| | | -0,003 | | (0.003)*** |
| Inflation rate | | | -1,06 | -0,77 |
| | | | (0.054)*** | (0.094)*** |
| Unemployment rate | | | -2,358 | -1,647 |
| | | | (0.020)*** | (0.066)*** |
| Constant | 2,149 | 2,208 | 2,387 | 2,313 |
| | (0.004)*** | (0.017)*** | (0.005)*** | (0.017)*** |
| R-squared | 0,49 | 0,52 | 0,5 | 0,52 |
| Observations | 545 420 | 545 420 | 545 420 | 545 420 |

Source: Statistics Canada (1999-2013); calculation by authors.

Note: Robust standard errors in parentheses * significant at 10%; ** significant at 5%; *** significant at 1%

Table 3: Regression results of the impact of the corporate income tax on Canadian workers' wage by firm size, 1998-2013

Dependent variable = log of hourly wage

| | I | II | III | IV | V | VI |
|--|----------------------|----------------------|----------------------|---------------------|---------------------|----------------------|
| | Small | | Medium | | Large | |
| <i>lnCIT</i> | -0,314 (0.005)*** | -0,219 (0.018)*** | -0,214 (0.008)*** | -0,17 (0.030)*** | -0,18 (0.004)*** | -0,137 (0.018)*** |
| Age 15-24 as reference | | | | | | |
| Age 25-34 | 0,19 (0.002)*** | 0,191 (0.002)*** | 0,221 (0.004)*** | 0,22 (0.004)*** | 0,231 (0.002)*** | 0,23 (0.002)*** |
| Age 35-44 | 0,256 (0.002)*** | 0,261 (0.002)*** | 0,31 (0.004)*** | 0,308 (0.004)*** | 0,329 (0.002)*** | 0,329 (0.002)*** |
| Age 45-54 | 0,282 (0.002)*** | 0,287 (0.002)*** | 0,342 (0.004)*** | 0,342 (0.004)*** | 0,376 (0.002)*** | 0,377 (0.002)*** |
| Age 55-64 | 0,262 (0.003)*** | 0,266 (0.003)*** | 0,325 (0.005)*** | 0,324 (0.005)*** | 0,353 (0.003)*** | 0,352 (0.003)*** |
| Age 65 and more | 0,131 (0.008)*** | 0,121 (0.008)*** | 0,147 (0.015)*** | 0,14 (0.015)*** | 0,172 (0.010)*** | 0,167 (0.010)*** |
| Women as reference | | | | | | |
| Men | 0,178 (0.002)*** | 0,178 (0.002)*** | 0,185 (0.003)*** | 0,187 (0.003)*** | 0,167 (0.002)*** | 0,169 (0.002)*** |
| Unmarried as reference | | | | | | |
| Married | 0,038 (0.002)*** | 0,047 (0.002)*** | 0,035 (0.003)*** | 0,042 (0.003)*** | 0,042 (0.002)*** | 0,046 (0.002)*** |
| No high school diploma as reference | | | | | | |
| Secondary diploma | 0,076 (0.002)*** | 0,06 (0.002)*** | 0,092 (0.004)*** | 0,075 (0.003)*** | 0,091 (0.002)*** | 0,081 (0.002)*** |
| Post secondary diploma | 0,111 (0.002)*** | 0,108 (0.002)*** | 0,121 (0.004)*** | 0,115 (0.004)*** | 0,115 (0.002)*** | 0,114 (0.002)*** |
| Bachelors degree | 0,178 (0.004)*** | 0,164 (0.003)*** | 0,198 (0.005)*** | 0,182 (0.005)*** | 0,197 (0.003)*** | 0,188 (0.003)*** |

| | | | | | | |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Graduate degree | 0,229 (0.006)*** | 0,211 (0.006)*** | 0,259 (0.009)*** | 0,239 (0.009)*** | 0,24 (0.005)*** | 0,222 (0.005)*** |
| Manufacturing durables as reference | | | | | | |
| Agriculture | -0,186 (0.006)*** | -0,188 (0.006)*** | -0,211 (0.014)*** | -0,209 (0.013)*** | -0,315 (0.012)*** | -0,282 (0.012)*** |
| Forestry, Fishing, Mining, Oil and Gas | 0,13 (0.006)*** | 0,123 (0.006)*** | 0,171 (0.008)*** | 0,142 (0.008)*** | 0,125 (0.004)*** | 0,112 (0.004)*** |
| Utilities | 0,177 (0.011)*** | 0,173 (0.011)*** | 0,182 (0.011)*** | 0,181 (0.010)*** | 0,11 (0.004)*** | 0,127 (0.004)*** |
| Construction | 0,06 (0.003)*** | 0,06 (0.003)*** | 0,091 (0.006)*** | 0,084 (0.005)*** | -0,012 (0.004)*** | -0,009 (0.004)** |
| Manufacturing - non-durables | -0,075 (0.003)*** | -0,064 (0.003)*** | -0,049 (0.004)*** | -0,027 (0.004)*** | -0,071 (0.003)*** | -0,046 (0.003)*** |
| Wholesale trade | -0,056 (0.004)*** | -0,055 (0.004)*** | -0,046 (0.006)*** | -0,049 (0.006)*** | -0,116 (0.004)*** | -0,109 (0.004)*** |
| Retail trade | -0,159 (0.004)*** | -0,143 (0.003)*** | -0,18 (0.006)*** | -0,167 (0.006)*** | -0,31 (0.003)*** | -0,296 (0.003)*** |
| Transportation & Warehousing | -0,044 (0.004)*** | -0,043 (0.004)*** | -0,029 (0.006)*** | -0,028 (0.006)*** | -0,053 (0.003)*** | -0,041 (0.003)*** |
| Finance, Insurance, Real Estate and Leasing | 0 -0,005 | 0,003 -0,005 | -0,012 (0.006)* | -0,009 -0,006 | -0,09 (0.003)*** | -0,084 (0.003)*** |
| Professional, Scientific and Technical Services | 0,041 (0.004)*** | 0,04 (0.004)*** | 0,056 (0.007)*** | 0,051 (0.007)*** | -0,042 (0.004)*** | -0,039 (0.004)*** |
| Management, Administrative and Other Support | -0,09 (0.005)*** | -0,092 (0.004)*** | -0,158 (0.007)*** | -0,148 (0.007)*** | -0,314 (0.004)*** | -0,286 (0.004)*** |
| Information, Culture and Recreation | -0,099 (0.005)*** | -0,093 (0.005)*** | -0,01 -0,007 | -0,008 -0,007 | -0,052 (0.004)*** | -0,04 (0.004)*** |
| Accommodation and Food Services | -0,231 (0.005)*** | -0,222 (0.005)*** | -0,232 (0.008)*** | -0,231 (0.008)*** | -0,399 (0.005)*** | -0,39 (0.005)*** |
| Other Services | -0,094 (0.004)*** | -0,088 (0.004)*** | -0,083 (0.008)*** | -0,085 (0.008)*** | -0,268 (0.007)*** | -0,259 (0.006)*** |

Clerical occupation as reference

| | | | | | | |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Senior Management occupations | 0,631 (0.015)*** | 0,625 (0.014)*** | 0,593 (0.021)*** | 0,591 (0.021)*** | 0,56 (0.016)*** | 0,549 (0.016)*** |
| Other Management occupations | 0,344 (0.004)*** | 0,34 (0.004)*** | 0,411 (0.006)*** | 0,408 (0.006)*** | 0,416 (0.003)*** | 0,408 (0.003)*** |
| Professional occupations in Business and Finance | 0,319 (0.007)*** | 0,32 (0.007)*** | 0,344 (0.009)*** | 0,342 (0.009)*** | 0,337 (0.005)*** | 0,332 (0.005)*** |
| Financial, Secretarial, and Administrative occupations | 0,082 (0.004)*** | 0,084 (0.004)*** | 0,129 (0.007)*** | 0,129 (0.007)*** | 0,13 (0.004)*** | 0,125 (0.004)*** |
| Natural and Applied Sciences and related occupations | 0,23 (0.005)*** | 0,229 (0.004)*** | 0,25 (0.006)*** | 0,251 (0.006)*** | 0,295 (0.003)*** | 0,292 (0.003)*** |
| Professionals in Health/Nurse supervisors/Registered Nurses | 0,605 (0.020)*** | 0,623 (0.020)*** | 0,574 (0.036)*** | 0,582 (0.037)*** | 0,727 (0.015)*** | 0,727 (0.015)*** |
| Technical, Assisting and related occupations in Health | 0,088 (0.009)*** | 0,085 (0.008)*** | 0,128 (0.019)*** | 0,141 (0.019)*** | 0,142 (0.011)*** | 0,145 (0.011)*** |
| Occupations in Social Science, Government and Religion | 0,169 (0.007)*** | 0,169 (0.007)*** | 0,229 (0.014)*** | 0,233 (0.014)*** | 0,271 (0.009)*** | 0,27 (0.009)*** |
| Teachers & Professors | 0,228 (0.036)*** | 0,241 (0.035)*** | 0,223 (0.035)*** | 0,208 (0.036)*** | 0,301 (0.015)*** | 0,303 (0.014)*** |
| Occupations in Art, Culture, Recreation and Sport | 0,11 (0.006)*** | 0,118 (0.006)*** | 0,158 (0.010)*** | 0,161 (0.010)*** | 0,184 (0.007)*** | 0,179 (0.007)*** |
| Wholesale/Technical/Insurance/Real Estate/Buyers | 0,138 (0.005)*** | 0,133 (0.005)*** | 0,145 (0.008)*** | 0,144 (0.008)*** | 0,106 (0.005)*** | 0,102 (0.005)*** |
| Retail sales person/Sales clerk/Cashier/retail supervisor | -0,075 (0.004)*** | -0,073 (0.004)*** | -0,06 (0.007)*** | -0,058 (0.007)*** | -0,055 (0.004)*** | -0,056 (0.004)*** |
| Chefs/Cooks/Food and Beverage Service/Supervisors | -0,057 (0.005)*** | -0,054 (0.005)*** | -0,06 (0.010)*** | -0,059 (0.010)*** | -0,018 (0.005)*** | -0,022 (0.005)*** |
| Occupations in Protective Services | -0,173 (0.012)*** | -0,166 (0.012)*** | -0,187 (0.013)*** | -0,182 (0.013)*** | -0,076 (0.007)*** | -0,088 (0.007)*** |
| Childcare and Home Support workers | -0,338 | -0,341 | -0,088 | -0,061 | -0,102 | -0,107 |

| | | | | | | |
|--|------------|------------|------------|------------|------------|------------|
| | (0.010)*** | (0.010)*** | -0,067 | -0,069 | (0.041)** | (0.039)*** |
| Sales and Service not elsewhere classified | -0,149 | -0,146 | -0,14 | -0,14 | -0,095 | -0,099 |
| | (0.004)*** | (0.004)*** | (0.006)*** | (0.006)*** | (0.003)*** | (0.003)*** |
| Contractors/Supervisors in trade and transportation | 0,223 | 0,214 | 0,199 | 0,188 | 0,218 | 0,212 |
| | (0.006)*** | (0.006)*** | (0.010)*** | (0.009)*** | (0.006)*** | (0.006)*** |
| Construction Trades | 0,051 | 0,057 | 0,074 | 0,076 | 0,128 | 0,123 |
| | (0.004)*** | (0.004)*** | (0.009)*** | (0.009)*** | (0.006)*** | (0.006)*** |
| Other Trades occupations | 0,11 | 0,106 | 0,124 | 0,122 | 0,155 | 0,148 |
| | (0.004)*** | (0.003)*** | (0.005)*** | (0.005)*** | (0.003)*** | (0.003)*** |
| Transport and Equipment operators | -0,006 | -0,001 | -0,031 | -0,026 | 0,01 | 0,005 |
| | -0,004 | -0,004 | (0.006)*** | (0.006)*** | (0.004)*** | -0,004 |
| Trades Helper/Construction/transportation labourer/related | -0,093 | -0,089 | -0,082 | -0,078 | -0,037 | -0,039 |
| | (0.004)*** | (0.004)*** | (0.007)*** | (0.007)*** | (0.004)*** | (0.004)*** |
| Occupations unique to Primary Industry | -0,075 | -0,053 | -0,014 | 0,001 | 0,064 | 0,065 |
| | (0.006)*** | (0.005)*** | -0,011 | -0,01 | (0.006)*** | (0.006)*** |
| Machine Operator/Assembler in manufacturing/Supervisors | -0,076 | -0,072 | -0,066 | -0,063 | 0,012 | 0,006 |
| | (0.004)*** | (0.004)*** | (0.005)*** | (0.005)*** | (0.003)*** | (0.003)* |
| Labourer in Processing, Manufacturing and Utilities | -0,161 | -0,152 | -0,157 | -0,149 | -0,1 | -0,098 |
| | (0.006)*** | (0.006)*** | (0.007)*** | (0.007)*** | (0.005)*** | (0.005)*** |
| Quebec as reference | | | | | | |
| Ontario | | 0,079 | | 0,096 | | 0,065 |
| | | (0.003)*** | | (0.005)*** | | (0.003)*** |
| British Columbia | | 0,08 | | 0,101 | | 0,05 |
| | | (0.003)*** | | (0.006)*** | | (0.004)*** |
| Alberta | | 0,123 | | 0,144 | | 0,094 |
| | | (0.005)*** | | (0.008)*** | | (0.005)*** |
| Saskatchewan | | 0,014 | | 0,052 | | 0,007 |
| | | (0.005)*** | | (0.008)*** | | -0,005 |
| Manitoba | | -0,036 | | -0,043 | | -0,074 |

| | | | |
|-------------------------------|-------------------------------|-----------------------------------|-----------------------------------|
| Newfoundland | (0.005)*** 0,014 -0,009 | (0.008)*** 0,074 (0.015)*** | (0.005)*** 0,027 (0.009)*** |
| Prince Edward Island | 0,005 -0,006 | -0,052 (0.012)*** | -0,084 (0.007)*** |
| Nova Scotia | -0,043 (0.005)*** | -0,015 (0.008)* | -0,046 (0.005)*** |
| New Brunswick | -0,056 (0.004)*** | -0,044 (0.007)*** | -0,088 (0.004)*** |
| Year 2013 as reference | | | |
| 1998 | -0,011 -0,01 | 0,004 -0,017 | 0,011 -0,01 |
| 1999 | -0,019 (0.010)** | -0,009 -0,016 | 0,002 -0,01 |
| 2000 | -0,009 -0,009 | 0,007 -0,016 | 0,006 -0,01 |
| 2001 | -0,004 -0,009 | 0,007 -0,016 | 0,005 -0,01 |
| 2002 | -0,01 -0,009 | 0,001 -0,015 | 0,006 -0,009 |
| 2003 | -0,021 (0.008)*** | -0,011 -0,013 | -0,012 -0,008 |
| 2004 | -0,032 (0.007)*** | -0,021 (0.012)* | -0,013 (0.007)* |
| 2005 | -0,046 (0.006)*** | -0,029 (0.010)*** | -0,036 (0.006)*** |
| 2006 | -0,042 (0.006)*** | -0,026 (0.010)*** | -0,035 (0.006)*** |
| 2007 | -0,04 (0.006)*** | -0,022 (0.010)** | -0,03 (0.006)*** |
| 2008 | -0,021 | -0,016 | -0,017 |

| | | | | | | |
|-------------------|------------|------------|------------|------------|------------|------------|
| | | (0.006)*** | | -0,01 | | (0.006)*** |
| 2009 | | -0,004 | | 0,003 | | 0,001 |
| | | -0,005 | | -0,009 | | -0,005 |
| 2010 | | 0,027 | | 0,015 | | 0,014 |
| | | (0.005)*** | | -0,009 | | (0.005)*** |
| 2011 | | 0,014 | | 0,017 | | 0,008 |
| | | (0.005)*** | | (0.008)** | | (0.005)* |
| 2012 | | 0,01 | | 0,017 | | 0,013 |
| | | (0.005)** | | (0.008)** | | (0.005)*** |
| Inflation rate | | -0,651 | | -0,605 | | -0,887 |
| | | (0.146)*** | | (0.246)** | | (0.141)*** |
| Unemployment rate | | -1,755 | | -1,484 | | -1,361 |
| | | (0.103)*** | | (0.176)*** | | (0.102)*** |
| Constant | 2,102 | 2,314 | 2,229 | 2,349 | 2,371 | 2,511 |
| | (0.006)*** | (0.026)*** | (0.010)*** | (0.044)*** | (0.006)*** | (0.027)*** |
| Observations | 0,41 | 0,44 | 0,45 | 0,48 | 0,51 | 0,53 |
| R-squared | 224 393 | 224 393 | 81 618 | 81 618 | 239 409 | 239 409 |

Source: Statistics Canada (1999-2013); calculation by authors.

Note: Robust standard errors in parentheses * significant at 10%; ** significant at 5%; *** significant at 1%

Table 4: Regression results of the impact of the corporate income tax on Canadian workers' wage by union status, 1998-2013
 Dependent variable = log of hourly wage

| | I | II | III | IV |
|---------------------------------|----------------------|---------------------|----------------------|----------------------|
| | Unionized | | Not unionized | |
| <i>lnCIT</i> | -0,068 (0.006)*** | -0,037 (0.022)* | -0,294 (0.003)*** | -0,233 (0.014)*** |
| Age 15-24 as reference | | | | |
| Age 25-34 | 0,264 (0.004)*** | 0,26 (0.004)*** | 0,192 (0.002)*** | 0,192 (0.002)*** |
| Age 35-44 | 0,336 (0.004)*** | 0,331 (0.004)*** | 0,276 (0.002)*** | 0,278 (0.002)*** |
| Age 45-54 | 0,378 (0.004)*** | 0,373 (0.004)*** | 0,309 (0.002)*** | 0,311 (0.002)*** |
| Age 55-64 | 0,367 (0.004)*** | 0,356 (0.004)*** | 0,279 (0.002)*** | 0,279 (0.002)*** |
| Age 65 and more | 0,192 (0.014)*** | 0,178 (0.014)*** | 0,127 (0.007)*** | 0,119 (0.006)*** |
| Women as reference | | | | |
| Men | 0,16 (0.003)*** | 0,164 (0.002)*** | 0,175 (0.001)*** | 0,175 (0.001)*** |
| Non married as reference | | | | |
| Married | 0,021 (0.002)*** | 0,027 (0.002)*** | 0,045 (0.001)*** | 0,053 (0.001)*** |
| No high school diploma | | | | |
| Secondary diploma | 0,093 (0.003)*** | 0,071 (0.002)*** | 0,097 (0.002)*** | 0,081 (0.002)*** |
| Post secondary diploma | 0,11 (0.003)*** | 0,102 (0.003)*** | 0,131 (0.002)*** | 0,127 (0.002)*** |
| Bachelors degree | 0,136 | 0,115 | 0,227 | 0,214 |

| | | | | |
|---|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|
| Graduate degree | (0.005)*** 0,187 (0.008)*** | (0.004)*** 0,158 (0.008)*** | (0.002)*** 0,279 (0.004)*** | (0.002)*** 0,26 (0.004)*** |
| Manufacturing durables as reference | | | | |
| Agriculture | -0,223 (0.016)*** | -0,199 (0.016)*** | -0,259 (0.006)*** | -0,252 (0.005)*** |
| Forestry, Fishing, Mining, Oil and Gas | 0,111 (0.005)*** | 0,111 (0.005)*** | 0,184 (0.004)*** | 0,153 (0.004)*** |
| Utilities | 0,132 (0.004)*** | 0,14 (0.004)*** | 0,175 (0.008)*** | 0,175 (0.008)*** |
| Construction | 0,053 (0.004)*** | 0,055 (0.004)*** | -0,029 (0.003)*** | -0,029 (0.003)*** |
| Manufacturing - non-durables | -0,086 (0.003)*** | -0,059 (0.003)*** | -0,056 (0.003)*** | -0,036 (0.002)*** |
| Wholesale trade | -0,11 (0.006)*** | -0,107 (0.006)*** | -0,084 (0.003)*** | -0,081 (0.003)*** |
| Retail trade | -0,194 (0.005)*** | -0,184 (0.005)*** | -0,232 (0.003)*** | -0,216 (0.003)*** |
| Transportation & Warehousing | -0,013 (0.004)*** | -0,007 (0.004)*** | -0,074 (0.003)*** | -0,07 (0.003)*** |
| Finance, Insurance, Real Estate and Leasing | -0,05 (0.006)*** | -0,034 (0.006)*** | -0,021 (0.003)*** | -0,019 (0.003)*** |
| Professional, Scientific and Technical Services | -0,007 -0,008 | -0,011 -0,008 | -0,026 (0.003)*** | -0,023 (0.003)*** |
| Management, Administrative and Other Support | -0,196 (0.007)*** | -0,191 (0.007)*** | -0,197 (0.003)*** | -0,184 (0.003)*** |
| Information, Culture and Recreation | 0 -0,004 | 0,013 (0.004)*** | -0,096 (0.004)*** | -0,09 (0.003)*** |
| Accommodation and Food Services | -0,251 (0.008)*** | -0,245 (0.008)*** | -0,305 (0.003)*** | -0,298 (0.003)*** |
| Other Services | -0,078 | -0,072 | -0,191 | -0,181 |

| | | | | |
|---|----------------------|----------------------|----------------------|----------------------|
| | (0.007)*** | (0.007)*** | (0.003)*** | (0.003)*** |
| Clerical occupation as reference | | | | |
| Senior Management occupations | 0,415 (0.037)*** | 0,414 (0.037)*** | 0,61 (0.010)*** | 0,604 (0.010)*** |
| Other Management occupations | 0,296 (0.007)*** | 0,293 (0.007)*** | 0,413 (0.003)*** | 0,409 (0.003)*** |
| Professional occupations in Business and Finance | 0,313 (0.009)*** | 0,32 (0.009)*** | 0,345 (0.004)*** | 0,343 (0.004)*** |
| Financial, Secretarial, and Administrative occupations | 0,101 (0.007)*** | 0,106 (0.007)*** | 0,099 (0.003)*** | 0,1 (0.003)*** |
| Natural and Applied Sciences and related occupations | 0,227 (0.005)*** | 0,231 (0.005)*** | 0,302 (0.003)*** | 0,299 (0.003)*** |
| Professionals in Health/Nurse supervisors/Registered Nurses | 0,507 (0.028)*** | 0,489 (0.028)*** | 0,676 (0.013)*** | 0,686 (0.013)*** |
| Technical, Assisting and related occupations in Health | 0,09 (0.017)*** | 0,088 (0.016)*** | 0,096 (0.007)*** | 0,098 (0.007)*** |
| Occupations in Social Science, Government and Religion | 0,251 (0.013)*** | 0,266 (0.013)*** | 0,21 (0.006)*** | 0,208 (0.006)*** |
| Teachers & Professors | 0,256 (0.023)*** | 0,267 (0.022)*** | 0,315 (0.016)*** | 0,316 (0.015)*** |
| Occupations in Art, Culture, Recreation and Sport | 0,139 (0.008)*** | 0,137 (0.008)*** | 0,11 (0.005)*** | 0,114 (0.005)*** |
| Wholesale/Technical/Insurance/Real Estate/Buyers | 0,038 (0.010)*** | 0,044 (0.010)*** | 0,136 (0.004)*** | 0,133 (0.003)*** |
| Retail sales person/Sales clerk/Cashier/retail supervisor | -0,064 (0.007)*** | -0,066 (0.006)*** | -0,068 (0.003)*** | -0,067 (0.003)*** |
| Chefs/Cooks/Food and Beverage Service/Supervisors | -0,1 (0.010)*** | -0,099 (0.010)*** | -0,048 (0.004)*** | -0,046 (0.004)*** |

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| Occupations in Protective Services | -0,155 (0.009)*** | -0,148 (0.009)*** | -0,14 (0.007)*** | -0,146 (0.007)*** |
| Childcare and Home Support workers | -0,236 (0.050)*** | -0,246 (0.050)*** | -0,314 (0.010)*** | -0,318 (0.010)*** |
| Sales and Service not elsewhere classified | -0,134 (0.005)*** | -0,138 (0.005)*** | -0,137 (0.003)*** | -0,138 (0.003)*** |
| Contractors/Supervisors in trade and transportation | 0,161 (0.007)*** | 0,154 (0.006)*** | 0,237 (0.005)*** | 0,226 (0.005)*** |
| Construction Trades | 0,094 (0.005)*** | 0,098 (0.005)*** | 0,004 -0,004 | 0,006 -0,004 |
| Other Trades occupations | 0,123 (0.004)*** | 0,117 (0.004)*** | 0,1 (0.003)*** | 0,092 (0.003)*** |
| Transport and Equipment operators | -0,002 -0,004 | -0,009 (0.004)** | -0,042 (0.003)*** | -0,038 (0.003)*** |
| Trades Helper/Construction/transportation labourer/related | -0,029 (0.005)*** | -0,034 (0.005)*** | -0,108 (0.003)*** | -0,107 (0.003)*** |
| Occupations unique to Primary Industry | -0,007 -0,007 | 0,002 -0,007 | -0,058 (0.005)*** | -0,042 (0.004)*** |
| Machine Operator/Assembler in manufacturing/Supervisors | -0,019 (0.004)*** | -0,025 (0.004)*** | -0,066 (0.003)*** | -0,068 (0.003)*** |
| Labourer in Processing, Manufacturing and Utilities | -0,092 (0.005)*** | -0,092 (0.005)*** | -0,211 (0.004)*** | -0,206 (0.004)*** |
| Quebec as reference | | | | |
| Ontario | | 0,115 (0.004)*** | | 0,096 (0.002)*** |
| British Columbia | | 0,113 (0.004)*** | | 0,065 (0.003)*** |
| Alberta | | 0,144 (0.006)*** | | 0,135 (0.003)*** |

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| Saskatchewan | 0,041 (0.006)*** | 0,026 (0.004)*** |
| Manitoba | -0,039 (0.006)*** | -0,036 (0.004)*** |
| Newfoundland | 0,02 (0.011)* | 0,065 (0.007)*** |
| Prince Edward Island | -0,086 (0.009)*** | 0,004 -0,005 |
| Nova Scotia | -0,008 -0,006 | -0,013 (0.004)*** |
| New Brunswick | -0,022 (0.006)*** | -0,035 (0.003)*** |
| Year 2013 as reference | | |
| 1998 | -0,026 (0.012)** | 0,008 -0,008 |
| 1999 | -0,039 (0.011)*** | 0 -0,008 |
| 2000 | -0,034 (0.011)*** | 0,009 -0,007 |
| 2001 | -0,029 (0.011)*** | 0,012 -0,007 |
| 2002 | -0,04 (0.010)*** | 0,011 -0,007 |
| 2003 | -0,051 (0.009)*** | -0,004 -0,006 |
| 2004 | -0,04 (0.008)*** | -0,014 (0.005)*** |
| 2005 | -0,056 (0.007)*** | -0,033 (0.005)*** |
| 2006 | -0,063 (0.007)*** | -0,03 (0.005)*** |

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|-------------------|---------------------|----------------------|---------------------|----------------------|
| 2007 | | -0,051 (0.007)*** | | -0,028 (0.005)*** |
| 2008 | | -0,048 (0.007)*** | | -0,011 (0.005)** |
| 2009 | | -0,024 (0.007)*** | | 0,004 -0,004 |
| 2010 | | -0,008 -0,007 | | 0,031 (0.004)*** |
| 2011 | | -0,012 (0.006)** | | 0,021 (0.004)*** |
| 2012 | | -0,005 -0,006 | | 0,02 (0.003)*** |
| Inflation rate | | -0,887 (0.197)*** | | -0,758 (0.107)*** |
| Unemployment rate | | -0,987 (0.127)*** | | -1,996 (0.078)*** |
| Constant | 2,511 (0.008)*** | 2,619 (0.032)*** | 2,171 (0.005)*** | 2,343 (0.021)*** |
| Observations | 0,39 | 0,43 | 0,48 | 0,5 |
| R-squared | 123 745 | 123 745 | 421 675 | 421 675 |

Source: Statistics Canada (1999-2013); calculation by authors.

Note: Robust standard errors in parentheses * significant at 10%; ** significant at 5%; *** significant at 1%

