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Does Adult Training Benefit Canadian Workers?

Wen Ci
Carleton University

José Galdo
Carleton University

Marcel Voia
Carleton University

Christopher Worswick
Carleton University

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Wen Ci^a

José Galdo^b

Marcel Voia^a

and

Christopher Worswick^{*a}

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^a Department of Economics, Carleton University

^b School of Public Policy and Administration and Department of Economics, Carleton University

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ABSTRACT

Using longitudinal data for Canada, the probability of participating in employer supported course enrollment for mid career workers and the wage impacts of those adult educational investments are analyzed. Probability of participation in employer supported course enrolment is increasing with age, job tenure and education, and is lower for visible minority workers. Using a parametric difference-in-differences model to minimize the effects of selection into training, we find strong positive effects of employer supported course enrollment on wage changes over time. The estimated effect ranges from 6.8 to 7.7 percent wage growth for men and 7.5 to 9.3 percent wage growth for women. When the linear specification of the outcome equation is relaxed and an empirical common support is implemented through semiparametric difference-in-differences matching methods, the average treatment effect on the treated estimates from the log wage change models were smaller in magnitude than the corresponding parametric estimates but were typically still statistically significant and in the range of 4.2 to 7.6 percent for men and 7.6 to 7.1 percent for women. An analysis of respondents' health outcomes shows no clear relationship with participation in employer supported course enrollment.

JEL: C14, J24, J31, M53

Key Words: return to adult training, employer sponsored training, difference-in differences models, propensity score matching.

Executive Summary

We analyze the incidence and returns to adult (age 25 and older) training and education for women and men in Canada using the confidential files of the two most recent Survey of Labour and Income Dynamics (SLID) panels of Statistics Canada – panel 4 (2002-2007) and panel 5 (2005-2009). The probability of participation in employers supported course enrolment is lower for visible minorities relative to non-visible minority workers, and increasing with education.

We employed a parametric difference-in-differences methodology to estimate the causal impacts of employer supported course enrollment and mid career investments in formal education on wages. Results show statistically significant positive effects of employer supported course enrollment on wage growth. The estimated effect ranges from 6.8 to 7.7 percent for men and 7.5 to 9.3 percent for women. The same results emerge when restricting the sample to workers with less formal education. When we control for hours spent in education over the panel window for those enrolled in employer supported courses, on the other hand, we find a small but positive effect on wage growth for men but not for women.

The same exercise was carried out over sub-samples of less educated workers to see whether these course enrollment investments are especially beneficial for workers with less formal education. Using the: 1) high school diploma or lower education, and 2) the below university degree criteria to define sets of less skilled workers, we re-estimated our wage growth model. In each case, the estimated effects on wage growth of enrollment in employer supported course enrollment were similar to what was found in the estimation carried out over the sample of all workers.

Because parametric difference-in-differences estimates may suffer from additional sources of bias i.e., false linearity assumptions and lack of common support, propensity score matching methods were implemented. The average treatment effect on the treated estimates from the wage models were smaller in magnitude than the corresponding parametric estimates but were statistically significant and in the range of 4.2 to 7.6 percent for men and 7.1 to 7.6 percent for women. This finding suggests the importance of imposing an empirical support region in this data.

Furthermore, this study analyzes differential returns to employer supported course enrollment by immigration status. Results from matching methods show large point estimates for recent immigrant men (28.3 percent in panel 5 and 40.2 percent in panel 4). For women, on the other hand, the point estimates are not significant. This is an important area for future research, possibly involving new sources of data where a larger sample of recent immigrants is present.

The final part of our analysis involved a preliminary investigation into possible effects of employer supported course enrollment on non-labour outcomes. Due to data limitations, we focused on adult health outcomes. By using propensity score matching methods, we found some evidence of a positive relationship between employer supported course enrollment and self-reported health outcomes. However, this finding is not robust to the choice of panel. Clearly, this is an area warranting further research.