

The Role of Education in Technology Use and Adoption: Evidence from the Canadian Workplace and Employee Survey*

W. Craig Riddell
University of British Columbia

Xueda Song
York University

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Abstract

Adoption of innovations by firms and workers is an important part of the process of technological change. Many prior studies find that highly educated workers tend to adopt new technologies faster than those with less education. Such positive correlations between the level of education and the rate of technology adoption, however, do not necessarily reflect the true causal effect of education on technology adoption. Relying on data from the Workplace and Employee Survey, this study assesses the causal effects of education on technology use and adoption by using instrumental variables for schooling derived from Canadian compulsory school attendance laws. We find that education increases the probability of using computers in the job and that employees with more education have longer work experiences in using computers than those with less education. However, education does not influence the use of computer-controlled and computer-assisted devices or other technological devices such as cash registers and sales terminals. Our estimates are consistent with the view that formal education increases the use of technologies that require or enable workers to carry out higher order tasks, but not those that routinize workplace tasks.

JEL Classification: I20, O33

Key words: Technology use and adoption, education, causal effects, compulsory schooling laws, heterogeneity in technology

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