International Conference on Applied Research in Management, Economics and Accounting

5 – 7 June 2026 Cambridge , United Kingdom

Minimum Wage Policy and Youth Labour Dynamics in Canada: A Machine Learning Approach to Casual Identification

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Abstract

It was the common consensus among economists that price floors would inevitably result in a surplus of supply and lead to a lower rate of demand for whatever goods are supplied. As a result, minimum wage policy, a form of price floors in the labor market, has often been viewed as a detriment to the employment rate. The revolutionary, Nobel prize-winning paper published in 1994 by David Card and Alan B. Krueger offered unique perspectives that contradicted the proposed model of traditional economics. The study concluded that there is no indication that a rise in minimum wage reduced employment. This particular paper will explore the causal effect of minimum wage policies on the youth employment rate by using the public data available from the Government of Canada. This paper aims to demonstrate a more quantified trend regarding the relationship between minimum wage and youth employment rate. By using machine learning techniques, including neural networks and random forests, this study investigates the in-depth mechanisms of how minimum wage affects different variables that further contribute to the variations in employment rates. Furthermore, this study will use the control group of Alberta, which has not experienced a change in minimum wage since 2018, to contrast the effects of various minimum wage levels nationwide. This machine-learning-based approach allows for a more quantified and generalized data trend between minimum wage and youth employment, and allows for an optimal minimum wage policy for future government decisions.

Keywords: Economics; Machine-Learning; Employment; Neural-Networks; Random-Forests