ORIGINAL ARTICLE

Treatment effect analysis of early reemployment bonus program: panel MLE and mode-based semiparametric estimator for interval truncation

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Abstract We use Korean data to find the *effects of Early Reemployment Bonus (ERB) on unemployment duration*; ERB is a bonus that the eligible unemployed receive if they find a job before their unemployment insurance benefit expires. A naive approach would be comparing the ERB receiving group with the non-receiving group, but the ERB receipt is partly determined by the unemployment duration itself (thus, an endogeneity problem). Interestingly, there were many individuals who did not receive the ERB despite being fully eligible, and this is attributed to being unaware of the ERB scheme. Taking this as a 'pseudo randomization', we construct treatment and control groups using only the eligible. Our data set is an unbalanced panel with the response variable interval-truncated due to eligibility requirement of the ERB. We propose a panel random-effect MLE and a semiparametric 'mode-based' estimator for the interval-truncated response. Our empirical finding is that the effect varies much, depending on individual characteristics. As for the mean effects, whereas the MLE indicates large duration-shortening effects, the semiparametric estimator shows much weaker and mostly insignificant effects.

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