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Estimating and Testing a Quantile Regression Model with Interactive Effects

by Matthew Harding, Carlos Lamarche
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Abstract:

This paper proposes a quantile regression estimator for a panel data model with interactive effects potentially correlated with the independent variables. We provide conditions under which the slope parameter estimator is asymptotically Gaussian. Monte Carlo studies are carried out to investigate the finite sample performance of the proposed method in comparison with other candidate methods. We discuss an approach to testing the model specification against a competing fixed effects specification. The paper presents an empirical application of the method to study the effect of class size and class composition on educational attainment. The findings show that (i) a change in the gender composition of a class impacts differently low- and high-performing students; (ii) while smaller classes are beneficial for low performers, larger classes are beneficial for high performers; (iii) reductions in class size do not seem to impact mean and median student performance; (iv) the fixed effects specification is rejected in favor of the interactive effects specification.

Text: See [Discussion Paper No. 6802](#)



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