

Ryo Okui

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2020 JEA Nakahara Prize

For his contribution to theoretical econometrics related to the choice of optimal instruments under many moment conditions

Ryo Okui works in the research field of econometric theory, which is centered on micro econometrics and panel data analysis, as well as in the field of experimental economics. He has written several papers that made major contributions in these fields.

The three papers (Okui 2009, Okui 2011 and Kuersteiner and Okui 2010) deal with the choice of the optimal instrumental variables in the context of bias-variance trade-offs by approximating mean squared errors (MSE) of instrumental variables estimators in an environment where many possible instrumental variables are available. Okui (*Journal of Econometrics*, 2009) considers a model of dynamic panel data and it is the very first paper that derived MSE in such models. The contribution is theoretical but his finding can be used in the applied research in which panel data is used. Okui (*Journal of Econometrics*, 2011) and Kuersteiner and Okui (*Econometrica*, 2010) both use cross-sectional models. In particular, the latter uses a more general way of combining instrumental variables than the former, presenting a widely-applicable method of constructing the optimal instrumental variables. There is no doubt that this is one of the papers at the frontier in the study of models with many instruments.

Hossain and Okui's (*Review of Economic Studies*, 2013) paper is cited extensively in the field of experimental economics and it differs from the other three papers in many ways. The paper presents a potential solution to how one should elicit people's belief about the distribution of probabilistic variables in an experimental setting. It is a theoretical contribution with an important implication for applications, such as how one should design a question about expectations.

Ryo Okui has produced research papers that have been internationally recognized and his contribution qualifies the Nakahara Prize.

Selected Publication

1. "The optimal choice of moments in dynamic panel data models" *Journal of*

- Econometrics* 151 (1), 1-16, 2009.
2. “Constructing optimal instruments by first-stage prediction averaging” (with G. Kuersteiner) *Econometrica* 78 (2), 697-718, 2010.
 3. “Instrumental variable estimation in the presence of many moment conditions” *Journal of Econometrics* 165 (1), 70-86, 2011.
 4. “The binarized scoring rule” (with T. Hossain) *Review of Economic Studies* 80 (3), 984-1001, 2013.