

Accepted Manuscript

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PII: S0304-4076(18)30109-X

DOI: <https://doi.org/10.1016/j.jeconom.2018.06.013>

Reference: ECONOM 4524

To appear in: *Journal of Econometrics*



Please cite this article as: Cai Z., Chen L., Fang Y., A semiparametric quantile panel data model with an application to estimating the growth effect of FDI. *Journal of Econometrics* (2018), <https://doi.org/10.1016/j.jeconom.2018.06.013>

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A Semiparametric Quantile Panel Data Model with An Application to Estimating the Growth Effect of FDI^{*†‡}

Zongwu Cai^{a,b}, Linna Chen^b, and Ying Fang^{b,†}

^aDepartment of Economics, University of Kansas, Lawrence, KS 66045, USA

^bWang Yanan Institute for Studies in Economics and Fujian Key Laboratory of Statistical Science, Xiamen University, Xiamen, Fujian 361005, China

July 4, 2018

Abstract

This paper estimates the impact of foreign direct investment on economic growth by proposing a new semiparametric quantile panel data model with correlated random effects, in which some of the coefficients are allowed to depend on some smooth economic variables while other coefficients remain constant. A three-stage estimation procedure is proposed to estimate both constant and functional coefficients and their asymptotic properties are investigated. A simple and easily implemented procedure for making inferences is proposed. Monte Carlo simulation is conducted to examine the finite sample performance of the proposed estimators. Finally, using the cross-country panel data, we find a strong empirical evidence of the existence of the absorptive capacity hypothesis, together with another new finding that FDI has much stronger growth effects for countries with fast economic growth than for those with slow economic growth.

Keywords: Correlated Random Effect; Foreign Direct Investment; Panel Data; Quantile Regression Model; Local Quasi-likelihood; Semiparametric Model; Varying Coefficient Model.

JEL: C14; C31

^{*}The authors thank the editor and two anonymous referees for their helpful and constructive comments. Cai's research is partially supported by the National Natural Science Foundation of China grant #71131008 and #71631004 (Key Projects). Fang's research is partially supported by the National Science Fund for Distinguished Young Scholars #71625001.

[†]Corresponding author.

[‡]*E-mail addresses:* caiz@ku.edu (Z. Cai), linnnachen918@gmail.com (L. Chen), and yifst1@xmu.edu.cn (Y. Fang).

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