

Accepted Manuscript

Structural inference from reduced forms with many instruments

Peter C.B. Phillips, Wayne Yuan Gao

PII: S0304-4076(17)30065-9

DOI: <http://dx.doi.org/10.1016/j.jeconom.2017.05.003>

Reference: ECONOM 4363

To appear in: *Journal of Econometrics*



Please cite this article as: Phillips, P.B., Gao, W., Structural inference from reduced forms with many instruments. *Journal of Econometrics* (2017), <http://dx.doi.org/10.1016/j.jeconom.2017.05.003>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Structural Inference from Reduced Forms with Many Instruments

Peter C. B. Phillips*

*Yale University, University of Auckland,
Singapore Management University & University of Southampton*

Wayne Yuan Gao[†]

Yale University

February 23, 2017

Abstract

This paper develops exact finite sample and asymptotic distributions for structural equation tests based on partially restricted reduced form estimates. Particular attention is given to models with large numbers of instruments, wherein the use of partially restricted reduced form estimates is shown to be especially advantageous in statistical testing even in cases of uniformly weak instruments. Comparisons are made with methods based on unrestricted reduced forms, and numerical computations showing finite sample performance of the tests are reported. Some new results are obtained on inequalities between noncentral chi-squared distributions with different degrees of freedom that assist in analytic power comparisons.

Keywords: Endogeneity, Exact distributions, Partial identification, Partially restricted reduced form, Structural inference, Unidentified structure, Weak reduced form.

JEL classifications: C23, C32

*Address: Cowles Foundation, Yale University, 30 Hillhouse Avenue, New Haven, CT 06511, USA; Email: peter.phillips@yale.edu.

[†]Address: Department of Economics, Yale University, 28 Hillhouse Avenue, New Haven, CT 06511, USA; Email: wayne.gao@yale.edu.

Download English Version:

<https://daneshyari.com/en/article/5095470>

Download Persian Version:

<https://daneshyari.com/article/5095470>

[Daneshyari.com](https://daneshyari.com)