James Philip Martin

Curriculum Vitae

Contact Information
Email: james.martin@u.nus.edu
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Education

PhD Economics 2017–2022 (Expected)
National University of Singapore (NUS)

MRES Economics (With distinction) 2015–2017
University of Bristol

BSc Mathematics (1st Class hons) 2012–2015
University of Bristol

Research interests

Econometric theory: nonparametic statistics, hypothesis testing and measurement error.

Working papers

Copula-Based Nonparametric Tests for Positive Quadrant Dependence Allowing for Arbitrary Marginal Distributions (Job Market Paper):

Abstract: Positive quadrant dependence (PQD) is a common relationship between economic variables.Existing tests of PQD require the marginal distributions to be continuously distributed. This is often very restrictive in practice because many economic relationships involve both continuous and discrete variables. In this paper, we extend copula-based tests for PQD based on the multilinear empirical copula to a general setting that allows for arbitrary marginal distributions. We provide conditions for validity and consistency of a Kolmogorov-Smirnov (KS) type test and a Cramer–von Mises (CvM) type test with critical values determined by a multiplier bootstrap. In an empirical application, we use our tests to investigate the dependence between intergenerational wages.

Testing Inequality Restrictions Involving Density Functions (Under review):

Abstract: Many economically relevant concepts such as density ratio ordering and survival function ordering, can be written in terms of an inequality restriction involving density

functions. Existing general tests for these concepts require two steps: density estimation and test statistic calculation. In this paper, we introduce a one-step methodology that can test many inequality restrictions written in this form. We do this by transforming the inequalities to an equivalent condition using the distribution functions. This transformed condition is much more natural to test using existing empirical process theory. We recommend a Kolmogorov-Smirnov (KS) test with critical value calculated by an appropriately recentered bootstrap. The key advantage over existing methods is that we avoid density estimation and the choice of the bandwidth parameter. The test can be combined with contact set estimation to improve power against some alternatives. Simulations show that our methodology has more power than existing two-step tests for density ratio ordering, even without contact set estimation.

Other works in progress

- A Copula based goodness of fit test without the continuous marginal assumption.
- Deconvolution under weak assumptions.
- Quantile regression analysis with errors on both sides of the equation with application to Engle curve estimation.

Teaching experience

Instructor (Yale–NUS collage)
(YSS2203) Intermediate Microeconomics, Sem 1 2021/2022
Duties: Creating teaching materials, exams and assignments. Giving weekly lectures and tutorials.

Statistics Tutor (Yale–NUS collage) 2018-Current
Duties: Helping students with statistics problems and giving seminars on Stata and Latex.

Teaching Assistant (NUS)
EC3304, Econometrics 2 3 Semesters
EC5101, Econometric Modelling and Applications I 1 Semester
Duties: Grading coursework.

Languages: English (Native), Chinese (HSK 4 and HSKK 中级, 合格）.
Computer programs: Matlab, R, Stata, Python, Latex.