

Updated November 13, 2019

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Education

Ph.D. Candidate, Economics, Temple University, 2018- (*Expected:* May 2020)

Dissertation: “Estimating R&D Interaction Structures and Spillover Effects”

Committee: [Brantly Callaway](#) (Chair), [Oleg Rytchkov](#), [Charles Swanson](#), [Austin Bean](#)

Ph.D. Student, Economics, Temple University, 2014-

B.A., Economics and French (First Class), University of Ghana, Legon, 2008-2013

Exchange Programme, Université d’Abomey-Calavi, Cotonou, Benin, 2011/2012

Research Interests

Microeconometrics and Empirical Industrial Organisation

Research Skills

Bayesian Econometrics, Machine Learning, Statistical programming

Working Papers

1. [R&D spillover effects on firm innovation - Estimating the spatial matrix from panel data](#), (Job Market Paper)

Abstract: Firms research and development (R&D) efforts are known to have spillover effects on other firms outcomes, e.g., innovation. Quantifying R&D spillover effects requires a spatial matrix that characterises the interaction structure between firms. Estimates can be biased if the spatial matrix is misspecified. This paper proposes a parsimonious approach to estimating the spatial matrix and parameters from panel

data, when the spatial matrix is partly or fully unknown. The approach is robust to misspecification of the spatial matrix, and it is applicable to single index models. It allows asymmetry and time-variation in the spatial matrix. The paper establishes consistency and asymptotic normality of the MLE under conditional independence and conditional strong-mixing assumptions on the outcome variable. On firm innovation, I find positive spillover and private effects of R&D. I provide evidence of time-variation and asymmetry in the interaction structure between firms and find that geographic proximity and product market proximity are relevant. Moreover, connectivity between firms is not limited to often-assumed notions of closeness; it is also linked to past R&D and patenting behaviour of firms.

2. [Clustered Covariate Regression](#), (with Abdul-Nasah Soale, under review) - *Presented at the Mid-West Econometrics Group Conference, October 2019*
3. [Bayesian Distribution Regression](#), (with Weige Huang)
4. [Recovering distributions for the estimation of treatment effects under partly unobserved treatment with repeated cross-sections](#)

Work in Progress

1. A parsimonious approach to estimating the SAR spatial matrix from panel data
2. Estimating the SAR spatial matrix by Clustered Covariate Regression
3. Policy spillover effects on student performance - Evidence from PISA (with Clara-Christina Gerstner)

Conferences

October 2019: Presenter, Mid-West Econometrics Group Conference, Columbus, Ohio

Teaching

1. Temple University
 - Instructor, Principles of Macroeconomics, Fall 2018, Spring 2019, Fall 2019
 - Instructor, Principles of Microeconomics, Summer I (2015 & 2016), Fall 2017
 - Instructor, Intermediate Microeconomics, Summer I, 2018
 - Teaching Assistant for Prof. Michael Bonnano, Fall 2014 - Spring 2016
 - Teaching Assistant for Prof. Michael Leeds, Fall 2016 - Spring 2017
2. University of Ghana, Legon
 - Teaching Assistant for [Dr. Abel Fumey](#), 2013-2014

Software

R packages: bayesdistreg [[CRAN](#)] [[Website](#)] [[Github](#)] (with Weige Huang), cluscov [[CRAN](#)] [[Website](#)] [[Github](#)] (with Abdul-Nasah Soale), RpacSPD [[Website](#)] [[Github](#)]

C projects: metricsC [[Github](#)], RdotC [[Website](#)] [[Github](#)],

Fortran projects: metricsFortran [[Github](#)]

Matlab, Stata, Octave, Python, L^AT_EX, Microsoft Office

Languages

Ewe (mother tongue), English (fluent, official language of Ghana), French (fluent, DALF C2), Spanish (fluent, DELE B2), German (intermediate), Portuguese (intermediate), Twi

Honors and Fellowships

1. Research Fellowship, Department of Economics, Summer 2019
2. Research Fellowship, Department of Economics, Summer 2017

References

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