ONIL BOUSSIM

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State College, Pennsylvania, United States.

EDUCATION

- **Penn State University**, University Park, PA, 2020 – 2026
  PhD, Economics (Econometrics theory and applications).
- **ENSEA**, Abidjan, Côte d'Ivoire, 2016 – 2019
  M.Sc.,Statistics and Applied Economics, *Ranked first in graduating cohort.*
- **INP-HB**, Yamoussoukro, Côte d'Ivoire, 2014 – 2016
  Classes préparatoires, Mathematics and Economics, *Ranked first in graduating cohort.*

TEACHING EXPERIENCE

- **Teaching Assistant**, Penn State University, University Park, USA. 2020 – 2025
  - Econometrics (first year Ph.D., Spring 2025).
  - Econometrics (first year master, Fall 2022).
  - Development Economics (undergraduate, Fall 2021).
- **Instructor**, Centre INP-HB/Cnam, Abidjan, Côte d'Ivoire. 2019 – 2020
  - Time series modelling (theory and application using R)

RESEARCH AND CONSULTING EXPERIENCE

- **Research Assistant**, Penn State University, University Park, USA. 2021 – 2023
- **Consultant**, World Bank, Abidjan, Côte d'Ivoire. 2019 – 2020

AWARDS, AND HONORS

- Rosenberg Liberal Arts Centennial Scholarship, Penn State, 2023.
- Ranked 2nd nationally in Scientific Track, High School National Examination, Côte d'Ivoire, 2015.
- Merit Scholarship, ENSEA, 2016 - 2019.
- Merit Scholarship, INP-HB, 2014 - 2016.

PRESENTATIONS

- 2025: Penn State Econometrics Seminar, University Park, USA.
- 2025: First Conference of RESA Alumni, Abidjan, Côte d'Ivoire.
- 2024: Optimal Transport and Distributional Robustness, Banff, Canada.
- 2024: Africa Meeting of the Econometric Society (AFES), Abidjan, Côte d'Ivoire.

PROFESSIONAL SERVICE

Refereeing for Journal of Econometrics.

LANGUAGES

French: Native/Fully Proficient.
English: Fully Proficient.

RESEARCH

- **Compositional Difference-in-Differences for categorical outcomes.** *Job market paper*
  Summary: I introduce compositional difference-in-differences (CoDiD), a method for DiD settings with categorical outcomes that jointly models treatment effects on total quantities and category shares. Unlike linear DiD, which suffers from scale dependence, implausible negative counterfactuals, and inconsistency with discrete choice theory, CoDiD relies on a parallel growths assumption: absent treatment, each category's size changes at the same proportional rate in treated and control groups. This assumption aligns with random utility models (implying parallel evolution of relative preferences), ensures consistent reallocation of shares, and corresponds geometrically to parallel trajectories of distributions in the probability simplex under Aitchison geometry. I extend CoDiD to handle relaxed assumptions (via bounds), staggered treatment timing, and multiple controls (via a synthetic DiD analog). Applications include the impact of early voting reforms on U.S. presidential vote choice and the effect of the Regional Greenhouse Gas Initiative (RGGI) on electricity generation composition.

- **Correcting sample selection bias with categorical outcomes.** *Working paper*
  Summary: In this paper, I propose a method for correcting sample selection bias when the outcome of interest is categorical, such as occupational choice, health status, or field of study. I develop a local representation that decomposes each joint probability into marginal probabilities and a category-specific association parameter that captures how selection differentially affects each outcome. Under some exclusion restrictions, I establish nonparametric point identification of the latent categorical distribution. Building on this identification result, I introduce a semiparametric multinomial logit model with sample selection, propose a computationally tractable two-step estimator, and derive its asymptotic properties.

- **Identifying treatment effects on categorical outcomes in IV models.** *Working paper*
  Summary: This paper provides a nonparametric framework for causal inference with categorical outcomes under binary treatment and binary instrument settings. Under a novel identifying assumption *association similarity*, which requires the dependence between unobserved factors and potential outcomes to be invariant across treatment states, I achieve point identification of the full distribution of potential outcomes. I also propose two weaker alternatives: monotonic association, which restricts the direction of selection heterogeneity, and bounded association, which constrains its magnitude. These relaxed assumptions deliver sharp partial identification bounds that nest point identification as a special case and facilitate transparent sensitivity analysis. I illustrate the framework in an empirical application, estimating the causal effect of private health insurance on health outcomes.

- **Correcting Sample Selection Bias in PISA Rankings.** *Working paper*
  Summary: International education rankings like PISA are potentially misleading due to survival bias, as they only test 15-year-olds still in school. This is a particular problem for countries with high dropout rates. To correct for this, I develop a simple adjustment of the classical Heckman selection model tailored to settings with fully truncated outcomes. Applying this method to PISA data significantly changes country rankings, demonstrating that accounting for student dropout is essential for accurate and fair international comparisons.

REFERENCES

- **Marc Henry** - Professor, Economics, Penn State University
  Email: marc.henry@psu.edu | Phone: +1 (814) 865-0010 (Thesis Advisor).

- **Andres Aradillas-Lopez** - Professor, Economics, Penn State University
  Email: aza12@psu.edu | Phone: +1 814 863-2157 (Thesis committee).

- **Sung Jae Jun** - Professor, Economics, Penn State University
  Email: suj14@psu.edu | Phone: +1 814-865-6149 (Thesis committee).

- **Waly Wane** - Senior Economist, World Bank
  Email: wwane@worldbank.org.