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EDUCATION

- 2025 Expected Ph.D. in Economics, [University of Oklahoma](#), Norman, OK
Dissertation: Higher Education Dynamics: Assessing the Nexus of College Costs, Sports, and Amenities
Committee: [Tyler Ransom](#) (Chair), [Ghosh Pallab](#) (Co-chair), [Greg Burge](#) (Member)
- 2019 M.S. in Applied Mathematics, [University of Central Oklahoma](#), Edmond, OK
- 2015 M.B.A., [University of Central Oklahoma](#), Edmond, OK
- 2011 B.A. in Finance, [Knowledge Computer and Business Institute](#), Rabat, Morocco

RESEARCH FIELDS

- Primary: Labor Economics, Economics of Education
- Secondary: Health Economics, Public Economics

PUBLISHED & FORTHCOMING PAPERS

- 2024 “From High School to Higher Education: Is Recreational Marijuana a Consumption Amenity for US College Students?” (Sole Author), *Economic Inquiry*, 62(3), 1024-1045
- “Impacts of Federal Recommendation on Neonatal Vaccination and Mortality: HBV Vaccine Evidence” (with [Pallab Ghosh](#), and [Junying Zhao](#)), Accepted, *Pediatrics Open Science*
- 2019 “Persistence homology of networks: methods and applications” (with Mehmet Aktas, and Esra Akbas), *Applied Network Science*, 4(1), 1-28

WORKING PAPERS

- “Vaccine Production and Innovation: Insights from Tort Reform and Medicare Expansion” (with [Myongjin Kim](#), [Firat Demir](#), [Qi Ge](#), [Pallab Ghosh](#), and [Junying Zhao](#)), Revise and Resubmit (minor revision) at *Economics of Innovation and New Technology*
- “Vaccine Hesitancy and Neonatal Mortality: The Life-Saving Power of Hepatitis B Immunization” (with [Pallab Ghosh](#), and [Junying Zhao](#)), Under review at *Health Economics Review*

WORKS IN PROGRESS

“Dollars and Degrees: The Asymmetric Impact of State Appropriations on STEM and Non-STEM Fields” (Sole Author)

Abstract: This study examines the differential impact of state appropriations on STEM and non-STEM degree completion at U.S. public four-year institutions. Using a panel dataset from 2003 to 2019 and a Bartik-style instrumental variables approach, I find that state funding disproportionately affects STEM degree completion, with little to no impact on Non-STEM degrees. A 10% increase in state appropriations leads to a 3.4% increase in STEM degrees conferred, primarily four years after the funding change. This effect is concentrated among male students, science STEM majors, and non-selective institutions. Increased state support leads to higher institutional spending, and more STEM programs—factors that impact STEM degree completion more than non-STEM fields.

“What is the Role of College Athletics? An Analysis of the Population of NCAA Athletes” (with Tyler Ransom)

Abstract: Admissions at elite private universities in the United States are becoming increasingly competitive. As competition increases, seats become more and more scarce. This paper analyzes the population of athletes at all Division I NCAA institutions. Using publicly available data from the US Department of Education, the NCAA, and institutions’ athletic rosters, we document several novel facts. First, elite institutions enroll more athletes and field more varsity teams than even the largest public institutions, despite having drastically smaller student bodies. To provide further context on the background of athletes at elite institutions, we supplement the institution-level analysis with individual-level data taken from publicly available athletic rosters. Finally, we analyze the effect of a hypothetical policy that would restrict student athletes at each universities to be less than a certain fraction of the overall student body.

“Balancing Tuition and Fees: Do Growing College Fees Affect Student Outcomes?” (Sole Author)

Abstract: I investigate the relationship between tuition and fees at US public four-year universities, driven by tuition caps and freeze policies. I find that a one-dollar increase in tuition results in a 45 to 62 cent reduction in fees. This substitution effect arises from state-imposed tuition caps and freezes, which limit tuition increases and lead some institutions to raise or introduce new fees instead. Employing an instrumental variable approach with tuition restriction policies, I reveal that while the fee share has a negative but insignificant effect on first-time college enrollment, it significantly impacts STEM major completions. A 10 percentage point increase in fee share leads to a 1.6 percent decrease in STEM major awards, highlighting the differential effects of fees on various academic programs.

“Marijuana Use, Adverse Events, and Demand for Vaccination” (with **Myongjin Kim**)

Abstract: This study examines the relationship between marijuana legalization, adverse health events, and vaccination demand. Utilizing a dataset spanning multiple regions with recent marijuana legalization, the analysis investigates whether increased marijuana accessibility correlates with shifts in public attitudes towards vaccinations, particularly in response to perceived or actual health risks. Our results can reveal that marijuana use is associated with an increase or decrease in specific adverse events, which subsequently influence individuals’ vaccination decisions positively or negatively. The findings contribute to understanding how substance legalization affects public health behaviors, with implications for policymakers designing health interventions. The study employs Expected Utility Theory and rational inattention theory to explore potential mechanisms underlying the main findings, informing policy adjustments in the context of evolving marijuana legislation.

“Language Diversity: Does Mother Tongue Affect School Achievement?” (Sole Author)

Abstract: This study investigates the returns to mother tongue instruction, exploiting linguistic heterogeneity between Arabic and Berber languages in Morocco. Using a random 10% census sample of over 800,000 school-aged individuals, the analysis employs a probit model controlling for economic, demographic, and regional factors. Results indicate that speaking a different language from the medium of instruction reduces enrollment and completion probabilities by up to 3.5 percentage points. This effect concentrates among younger children (grades 1-6) and is minimal in regions with higher pre-school attendance. These findings contribute to the literature on human capital formation in multilingual contexts and inform educational policy in linguistically diverse societies.

“Fracking and Tracking: The Effects of Oil and Natural Gas Wells on the Housing Market (with **Brent Norwood**, **Samantha R. Johnson**, and **William Townsend**)”

Abstract: Hydraulic fracturing or “fracking” has made it possible to produce vast new quantities of oil and natural gas, causing states such as Colorado, Texas, and Oklahoma to increase the number of oil and natural gas wells dramatically. Using data from the U.S. Department of Homeland Security and Zillow’s ZTRAX, we estimate the effect of hydraulically fractured oil and natural gas well sites on both urban and rural residential home prices between 2000 to 2018. Utilizing ArcGIS, we create varying buffer zone sizes around well sites to explore how average home prices change before and after a well opens. We use a zip code-level fixed effects model, a household-level fixed effects model, a repeat sales model, and a spatial differences-in-differences (SDID) approach. Our results show that homes within half a mile of a well have a 4.5% increase in selling price and homes between half a mile and one mile from a well site see a 2.5% increase in value, compared to properties located more than 2 miles away from the wells.

CONFERENCE PRESENTATIONS

2024	Global Labor Organization Conference (December) The Missouri Valley Economic Association, Kansas City, Missouri (October)
2023	Southern Economic Association, New Orleans, Louisiana (November) The Missouri Valley Economic Association, Kansas City, Missouri (October) Society of Labor Economists, Philadelphia, Pennsylvania (May) Midwest Economics Association, Cleveland, Ohio (March)

FELLOWSHIPS & AWARDS

2024	Chong Liew Summer Research Award, University of Oklahoma Dodge Family College of Arts and Science Dissertation Completion Fellowship, University of Oklahoma
2023	Graduate Student Award, Southern Economic Association
2023	Dodge Family College of Arts and Science Dissertation Research Fellowship, University of Oklahoma
2022	Chong Liew Summer Research Award, University of Oklahoma
2021	Chong Liew Outstanding 1st Year Graduate Student Award, University of Oklahoma
2019	Third Place in Three Minute Thesis Competition, University of Central Oklahoma

TEACHING EXPERIENCE

2023 (Fall)	Principles of Economics-Macro. (ECON-1113), University of Oklahoma
2022 (Fall)	Principles of Economics-Micro. (ECON-1123), University of Oklahoma
2022 (Summer)	Elements of Statistics (ECON 2843), University of Oklahoma
2021 (Fall)	Elements of Statistics (ECON 2843), University of Oklahoma
2018 (Fall)	Fundamental Algebra (DMAT-0115), University of Central Oklahoma

EMPLOYMENT & AFFILIATIONS

2021-Current	Research Assistant, University of Oklahoma
2020-2021	Teaching Assistant, University of Oklahoma
2018-2019	Teaching Assistant, University of Central Oklahoma

REFeree SERVICE

2025	European Economic Review
2024	Social Sciences & Humanities Open

SERVICE

2023-2024	Graduate Student Liaison, Department of Economics, University of Oklahoma
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2023 Graduate Student Member, Faculty Search Committee, Department of
Economics, University of Oklahoma
Presenter, Economics Club Research Seminar, University of Oklahoma

MEDIA APPEARANCES

2024 **Study evaluates effects of legalized marijuana on higher education**,
by Marie O. Uberti Benz, MedicalResearch.com, June 27, 2024
Legal recreational cannabis encourages college enrollment, by Joanna
Mulvaney, medicalnewsbulletin.com, June 17, 2024
**Research examines how recreational marijuana legalization affects a state's
college enrollment**, Phys.org, May 29, 2024

SKILLS

Coding Expertise	R, Stata, Python, MATLAB, Julia, C++, and \LaTeX
Coding Experience	SPSS, ArcGIS Pro, Mathematica, and Git
Languages	English (Fluent), French (Advanced), Arabic/Tamazight (Native)

REFERENCES

Tyler Ransom

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