Research Spotlight: Tihitina Andarge
Job Market Candidate, University of Maryland, College Park

Title: The Effect of Incomplete Enforcement Information on Ambient Pollution Levels: Evidence from the Clean Water Act

Abstract: Economic theory suggests that firms will comply with a regulation when the expected net benefits of compliance exceed the expected net benefits of noncompliance. If the regulator has incomplete enforcement information and firms are aware of this, it will enter into their calculation of expected benefits and costs. The literature on regulatory enforcement typically assumes the regulator is able to identify the universe of firms subject to regulation. This paper relaxes this assumption by allowing for the existence of regulatory information gaps and develops a theoretical model of the firm’s optimal level of emissions under such conditions. The theoretical results indicate that the optimal level of emissions is decreasing in the likelihood of being known to the regulator. I analyze this effect empirically within the context of Clean Water Act (CWA) permit regulations in the Mississippi River Basin. I combine geospatial data on stream networks with water quality, enforcement, census, and weather data to construct a catchment-level panel dataset. I measure the size of the information gap by comparing facility counts from the regulator to facility counts from the census. Using those counts, I calculate the share of firms known to the regulator in each catchment. Then, I estimate a spatial lag model of nitrogen, sulfate, chromium, and phosphorus concentration as a function of the share of firms known to the regulator, upstream delivery of the pollutant, point-source pollutant contribution, population, inspections as well as catchment, month, and year fixed effects. The results indicate that a one percentage point increase in the share of firms known to the regulator results in a 0.20% - 2.15% percent decrease in ambient pollutant concentration for three out of the four pollutants. Back-of-the-envelope calculations suggest that increasing the share of known firms by 5 percentage points could lead to benefits, in terms of improved water quality, of $67.9 million per year.
**Patrese Anderson**  
Doctoral Student, University of Illinois–Urbana Champaign  

**Title:** Characteristics of Rural Food Markets in Zambia  

**Abstract:** The most recent State of Food Security and Nutrition in the World report, produced by the Food and Agriculture Organization, reported that despite previous progress on reducing food insecurity, undernourishment and severe food insecurity is increasing in most regions of sub-Saharan Africa. Greater local food market access is widely viewed to provide food security for millions of rural smallholder farmers in remote areas. However, markets, particularly in rural areas, are extremely heterogenous. We use primary survey data on 48 food markets and 624 households in rural Zambia to develop a typology of markets based on four characteristics: market formality, size and competition, and local sourcing. To do this we use a k-medoids clustering algorithm known as Partitioning Around Medoids. We then use this typology in a fixed effects model and find that households near markets with moderate degrees of formality and competition have a higher reliance on the market for diversity in their food consumption. We confirm that market access is important for food security. Importantly, we show that the characteristics of markets influence household dietary diversity.

**Darrielle Fair**  
Undergraduate Student, Spelman College  

**Title:** Terrorism, Voter Turnout, and Demographic Shifts in Electoral Outcomes  

**Abstract:** Voter Suppression has limited the representation of certain demographics in the United States, and other countries' democracies around the world. My research explores the relationship between terrorist attacks and voter demographics in Israeli elections. Previous research documents that the occurrence of terror attacks prior to elections tend to increase support of right-wing parties (Berrebi and Klor, 2009). While 76 percent of the Israeli population is Jewish, 86 percent of the Palestinian population is Arab. Berrebi and Klor reveals that the relative support for the right-wing party is expected to increase after periods with high levels of terrorism and to decrease after periods of relative calm. In addition, terrorism is expected to increase when the left-wing party is in office than during the term of the right-wing party. Previous research has shown that terrorism affects electoral results. However, few studies focus on voter turnout and whether certain demographics are actively voting in the polls. I extend this prior research and examine whether terrorist attacks shift the demographics of voters in elections. Specifically, I chose to focus on Arab voter turnout. This population heavily influences election outcomes and has been subject to efforts to suppress their participation in national elections. The data gathered from analyzing the results of Arab voter participation in correlation with terrorist attacks that occurred prior to and following Israeli elections validates that terrorism impacts the decisions of Arab citizens to participate in national elections. The demographic shifts in voter participation helps us understand how oppressed territories are affected electorally by terrorism.
Dr. Melody Harvey  
Postdoctoral Fellow, University of Wisconsin-Madison

**Title:** Does State Mandated High School Financial Education Affect Savings by Low-Income Households?

**Abstract:** Nearly two out of five American adults in 2017 saved no money in the prior year for unexpected expenses. Young adults and low-income households are even less likely to save for emergencies. I use the 2008 and 2014 panels of the Survey of Income and Program Participation to examine state mandated financial education. I focus on how these policies affect the likelihood that young adults save sufficiently for emergency expenses. I introduce a new measure sufficiency Savings that can cover the typical month-to-month change in the individual’s income. I find that, on average, financial education classes do not affect having a bank account or having sufficient savings among young adults. However, these classes increased bank account ownership among those without postsecondary education credentials. These findings suggest that classes should teach about saving for emergency expenses and managing monthly cash flow, in addition to longer-term savings.

Alicia Hoey  
Undergraduate Student, Dillard University

**Title:** Preparing Historically Black College and University Students for Energy Jobs in the Future of Work with Automation

**Abstract:** Energy industry companies were among the earliest adopters of automation and artificial intelligence. Continued development of automation and new technologies will eliminate jobs in the energy industry, but also provide opportunities for workers with the proper education, skills and training. One of the main challenges will be combating the substantial skills gap that already exists in the energy industry. Automation will have a significant effect on African American workers in the energy industry because of their overrepresentation in particular jobs with a high risk of being eliminated or fundamentally changed by automation. Therefore, it must be the mission of Historically Black Colleges and Universities (HBCU) to prepare students for currently available energy industry jobs and energy industry jobs of the not so distant future. Utilizing data from the U.S. Department of Energy and the Bureau of Labor Statistics we will create a macro analysis of energy industry jobs in the U.S. that have a high risk of being automated based on the scale created by Frey and Osborne (2013); then determine the number of energy industry jobs by sector that are likely to be automated within the next 5 to 10 years; and analyze data on HBCUs to provide educational pathways for upskilling and reskilling the current workforce and graduates who will enter the energy industry of the future.
Title: Redistributing Opportunity through Affirmative Action: The Effects of College Admissions Probabilities on Major Choice

Abstract: Field of study is a key determinant of lifetime earnings. In fact, major choice explains a significant portion of the persistent wage gaps across college graduates. In this paper, I study how the likelihood of college admission affects socioeconomic differences in choice of major. In standard worldwide contexts in which applications consist of a joint college and major decision, students choose a major partly in response to their chance of being admitted. I explore changes in admissions probability induced by an affirmative action program adopted by a flagship university in Brazil. Traditionally, the university requires applicants to choose one major before they take the entrance exams, an option they cannot change. Admission to a given major follows a predetermined rule which ranks applicants based on an entrance exam and selects the top-ranked students, with capacity fixed in advance. The affirmative action policy changes the admissions rule by reserving 40 percent of college seats to low-income applicants from public elementary and high schools. Using the quasi-experimental nature of the intervention, I estimate the effects of changes in admissions probabilities on the socio-inequality gap in major choice. I compare major choices between eligible and non-eligible populations before and after the affirmative action policy. I find that the policy reduced the gap in application rates between individuals in low and high socioeconomic status groups. The effects are increasing in exam achievement quartiles, with the gap within the top quartile of achievement decreasing by 9.5 percentage points for top competitive majors and 11.6 percentage points for selective majors. In fact, such effects reversed the pre-policy difference by making high-achieving low socioeconomic status applicants more likely to apply to top competitive and selective majors than their high-achieving, high socioeconomic status counterparts. My findings contribute to our understanding of socioeconomic differences in major choices. Encouraging individuals to apply to higher return majors may be an important channel through which affirmative action policies increase economic mobility.
Anna Gifty Opoku-Agyeman  
Research Scholar in Economics, Harvard University

**Title:** To Compete or (Non) to Compete: Evaluating the Impact of Banning Non-Compete Statues on Prime Age Men in the U.S. from 1990 to 2018

**Abstract:** Labor force participation rate of men between ages 25-54—referred to as prime-age—has declined for several decades in the United States. Concurrently, non-compete clauses by employers have become more common, particularly among low-wage workers. We explore the connection between the spread of these clauses from 1990 to 2018 and labor market activity among prime-age men who identify as Hispanics, non-Hispanic Whites, or non-Hispanic Blacks in Oklahoma and Arkansas. Using Current Population Survey and variation in state-level legislation, we find that banning non-compete clauses is associated with higher labor force participation with varying magnitudes across education, race, age, and marital status. Our findings suggest that legislation to ban non-compete clauses would benefit prime-age men, especially those with low educational attainment.

Awa Ambra Seck  
Doctoral Candidate, Harvard University

**Title:** Social Structure and Redistribution: Evidence from Age-Set Societies

**Abstract:** Does the pre-colonial social structure of an ethnic group affect its risk-sharing unit? And if so, do different insurance units imply different patterns of within-group inequality? We focus on age-set societies, organized around groups of men, and sometimes women, who are similar in age. Age-set societies comprise over 125 million people around the world. According to ethnographic accounts, individuals in these societies have closer economic and social ties to members of their age cohort than their family. We re-evaluate a randomized conditional cash transfer in Northern Kenya to understand how this social structure affects the sharing of financial resources. We complement the experimental data with ethnographic information on the social structure of Kenyan ethnic groups. We find preliminary evidence that within-cohort redistribution occurs in age-set societies, but not in kinship-based societies. Data from nationally representative panel survey in South Africa shows similar results. Our findings highlight the importance of pre-colonial institutions in shaping present day redistribution and the role that anthropological research could play in understanding contemporary social and economic networks.
Muloongo Simuzingili
Doctoral Student, Virginia Commonwealth University

Title: The Effect of Medicaid Expansion on Pregnancy-Related Weight: Does the relationship differ by Race/Ethnicity?

Abstract: The implementation of the Affordable Care Act (ACA) in 2014 allowed states to expand Medicaid and improve access to health care in the United States. Access to health care is critical for women of reproductive age as it improves their health and reduces racial/ethnic disparities in birth outcomes. Our paper adds to understanding the effects of Medicaid expansion on maternal health by race/ethnicity. Specifically, we examine preconception weight and gestational weight gain (GWG) among Non-Hispanic Whites, Blacks, Hispanics, and Asians. We use restricted access National Vital Statistics data from 2011-2016. We combine these data with state information on Medicaid expansion from the Kaiser Family Foundation. We study low socioeconomic status first-time mothers who had singleton births. The difference-in-difference approach allows us to estimate the effect of Medicaid expansion on the probability of a woman having preconception obesity, and inadequate or excessive GWG. We use linear probability models with state and year fixed effects to account for differences in nativity, age, education, marital status, smoking and pre-existing health conditions. We stratified our analysis by race and ethnicity. We find that Medicaid expansion improved preconception obesity amongst NH-White (0.3 percentage points) and Asian women (2.5 percentage points), and excessive GWG amongst Asians women. In addition, it increases the likelihood of inadequate GWG amongst Blacks (1.9 percentage points) and Hispanics (1.5 percentage points). Altogether, Medicaid expansion has not improved the racial disparities of pregnancy-related weight. We are currently investigating the effects on maternal smoking.