

ROBEL ALEMU

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RESEARCH INTERESTS

Health Economics, Applied Econometrics, Public Health, Health Equity, Big Data

EDUCATION

- | | |
|---|-------------|
| Ph.D. in Economics and Public Policy (May 2022) | 2017 – 2022 |
| Economics Department and the Fletcher School, Tufts University, USA
Fields: Health Economics, Applied Econometrics, Epidemiological Methods
Dissertation: “Essays on Modifiable Risk Factors, Human Development and Health” | |
| M.Sc. in Human Nutrition | 2015-17 |
| Friedman School of Nutrition Science and Policy, Tufts University, USA
Fields: Maternal and Child Health | |
| M.Sc. in Biotechnology | 2008-10 |
| Addis Ababa University, Ethiopia
Fields: Statistical Genetics, Bioinformatics
Thesis: “Molecular Characterization of Milk Protein Genes Using Sequencing and <i>RFLP</i> markers.” | |
| B.Sc. in Biology | 2002-05 |
| Haramaya University, Ethiopia | |

PEER-REVIEWED PUBLICATION

1. Yan Bai, **Robel Alemu**, Steven A. Block, Derek Headey, and William A. Masters (2020). Cost and affordability of nutritious diets at retail prices: Evidence from 177 countries. *Food Policy*: 101983.
2. William A. Masters, Nathaniel Z. Rosenblum, and **Robel Alemu** (2018). Agricultural transformation, nutrition transition, and food policy in Africa: Preston curves reveal new stylized facts. *Journal of Development Studies* 54(4):788-802.

JOB MARKET PAPER

“Micronutrients, Child Health, and Academic Achievement: Evidence from Wartime Disruption of Iodized Salt in Ethiopia” [\[Link\]](#)

Ethiopia’s historically high rates of iodine deficiency were largely eliminated through universal salt iodization implemented since the 1990s. However, iodine status deteriorated drastically when Ethiopia’s access to iodized salt was cut off by the outbreak of the Ethiopia-Eritrea war in 1998. This study examines the impacts of the early-life loss of iodized salt on children’s health and later-life academic achievement. I use new spatial data on soil and crop iodine as a direct measure of exposure to environmental iodine linked to nationally representative health surveys and performance on the standardized university entrance examination. I use the difference-in-differences (DiD) strategy to compare changes in outcomes of cohorts who experienced the disruption earlier or later in life, in districts with low versus high soil iodine. I find that early-life loss of iodized salt is linked to lower educational achievement, but only among children who grew up in iodine-deficient rural districts. Post-war, children who resided in districts with the lowest soil iodine

scored 0.09 SD lower than those who grew in districts with marginally higher soil iodine. Moreover, I find that children born post-war and resided in low iodine districts had lower weight for their age and suffered from higher cumulative mortality incidence. The adverse effects are more pronounced in females and increase in severity the longer children were exposed to the disruption. Placebo tests and alternative specifications support causal links from iodine rather than other factors. The sudden loss and slow return to iodized salt in Ethiopia, combined with spatial variation in soil iodine, provides one of the largest scale tests of how iodine deficiency affects human development, with clear implications for micronutrient fortification policies.

WORKING PAPERS/ RESEARCH IN PROGRESS

“Genetic Predisposition to Smoking, Demand Responses to Cigarette Taxes and Long-Run Health” with [Lauren L. Schmitz](#)

Smoking is a leading cause of preventable death, responsible for nearly half a million deaths per year in the United States. Taxes and other tobacco control policies have led to a substantial decline in smoking over time, but the rate of decline has slowed and is not uniformly distributed across different demographic and socio-economic groups. Twin studies and recent genome-wide association studies (GWAS) have established strong links between genetics and smoking behavior, including distinct polygenetic risk scores associated with whether individuals ever started smoking, their smoking intensity, and whether they quit smoking. In this study, we use data from the Health and Retirement Study (HRS) and state-year variations in cigarette excise to test for heterogeneity in demand response to cigarette taxes by individuals’ genetic predisposition to each aspect of smoking behavior. We find that demand response to taxes is greater for those genetically predisposed to initiate smoking, particularly when taxes were introduced during adolescence. We find no significant association with the genetic predisposition for smoking intensity or quitting, suggesting that those decisions are less price-responsive than smoking initiation during adolescence. Finally, we show that our instrumental variable models provide an unbiased estimate of the detrimental effects of smoking on lung disease, diabetes, and heart problems.

“Sibling Rivalry Between Twins: Sex-Specific Differences in Birthweight, Child Growth, and Survival” with [Amelia B. Finaret](#) and [William A. Masters](#) [[Under Review](#)]

GRANTS, AWARDS, AND FELLOWSHIPS

Friedman School Research Grant, Tufts University (2021-22)	\$28,000
World Bank Development Support Grant (2020-21)	\$30,000
Graduate Student Research Competition (2020)	\$1,000
Summer Research Fund, Tufts University (2020)	\$2,000
Neubauer Fellow in Economics and Public Policy, Tufts University	2017 – Present
Graduate Student Scholarship, Friedman School of Nutrition, Tufts University.	2015 – 17

RESEARCH EXPERIENCE AND OTHER EMPLOYMENT

The World Bank, Short-Term Consultant	2020 – Present
University of Wisconsin – Madison, Research Assistant	2019 – Present
International Food Policy Research Institute (IFPRI), Research Assistant	2018 – 20
Bill & Melinda Gates Foundation, Summer Intern – Nutrition	2016
Tufts University USAID Project on Nutrition Transition, Research Assistant	2015 – 17
Ethiopian Agricultural Transformation Agency, Associate - Project Lead	2011 – 14
Haramaya University, Teaching Assistant	2006 - 07

TEACHING EXPERIENCE

Teaching Assistant: Advanced Statistics, Tufts University (graduate-level)	2020
Teaching Assistant: Statistical Methods, Tufts University (graduate-level)	2019

WORKSHOPS, SEMINARS, AND CONFERENCES

Frontiers in Economic Analysis with Genetic Data [Link]	2021
Western Economic Association International (WEAI) Student Workshop	2021
Integrating Genetics and Social Science (IGSS) Conference	2020
Tufts University Graduate Student Summer Speaker Series (GS4) [Video]	2020
International Food Policy Research Institute (IFPRI), Policy Seminar [Video]	2019
American Economic Association (AEA), Invited Session on Food Markets	2019

REFEREE SERVICE

Nature Food, Food Policy, Journal of African Economies

LANGUAGES AND STATISTICAL SOFTWARE

Languages	English (Fluent), Amharic (Native)
Software	STATA (Advanced), R (Advanced), MATLAB (Advanced), SAS(Basic), ArcGIS (Basic)

REFERENCES

Professor William A. Masters Friedman School of Nutrition, Tufts University william.masters@tufts.edu , 617-636-3751	Professor Steven A. Block The Fletcher School, Tufts University steven.block@tufts.edu , 617-627-2717
Professor Cynthia Kinnan Department of Economics, Tufts University cynthia.kinnan@tufts.edu , 617-627-3138	Professor Lauren L. Schmitz University of Wisconsin – Madison llschmitz@wisc.edu , 608-265-3233

DOCTORAL PROGRAM CONTACTS

Placement Director: Jenny Aker	jenny.aker@tufts.edu , 617-627-5767
Placement Assistant: Marcus Weir	marcus.weir@tufts.edu , 617-627-2810