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EDUCATION

Ph.D.	Economics, University of Maryland at College Park, expected May 2026
M.A.	Economics, New York University, 2017
B.S.	Mathematics, <i>Magna Cum Laude</i> , Distinction in Major, Georgia State University, 2015

FIELDS OF SPECIALIZATION

Primary:	Macroeconomics
Secondary:	Measurement, Spatial Economics, and International Trade

DISSERTATION

Essays in Macroeconomics

Committee: Prof. John C. Haltiwanger (Chair), Prof. John Shea, Dr. Jose Asturias

JOB MARKET PAPER

“Infrastructure Investment, Self-Employment, and Structural Change in the US Labor Market”

This paper studies the effects of infrastructure investment on the labor market. Between 1920 and 1950, the US government began constructing its first interstate highways, the Numbered Highway System. Regions gaining access to the Numbered Highway System experienced significant population growth alongside a shift from self-employment to salaried jobs. To identify the causal effect of this highway network on local labor markets, I use a novel instrumental variable approach exploiting a hypothetical set of highways proposed by the US Army for national defense. I interpret my causal estimates through a spatial equilibrium model in which highway construction induces households to select out of self-employment as local agglomeration forces increase the cost of doing business near highways. I find that investment in the Numbered Highway System can account for one fifth of the decline in the aggregate self-employment rate over this period, underscoring how infrastructure investment fosters regional integration and structural change.

OTHER RESEARCH PAPERS

“Change in Average Prices: Inflation, Quality Change or Market Frictions?,” 2025, with John C. Haltiwanger, Ron Jarmin, and Matthew Shapiro, work in progress

Growing access to item-level transaction data has led to widespread use of average sales-price metrics for both narrow and broad product classes. Such Unit Value Indices (UVI) conflate pure price changes

with shifts in product mix so mismeasure inflation for heterogeneous goods. This paper derives an exact decomposition of the UVI into (i) a within component reflecting the arithmetic matched-model Laspeyres index and (ii) a product-mix component that captures changing mix among continuing, entering and exiting products. The mix term reflects price dispersion driven in part by quality variation. A quality-adjusted UVI (QUVI) can correct or at least reduce this bias, but estimating quality adjustment is challenging. Using hedonic procedures for adjustment factors, we derive the conditions when QUVI measures coincide with hedonic indices that take into account product turnover and quality. The framework also considers the identification challenges of disentangling quality effects from market frictions.

“Measuring Real Sales and Inflation: Official Statistics vs Economics Transactions Data,” 2025, with Gabriel Ehrlich, John Haltiwanger, David Johnson, Seula Kim, Jake Kramer, Michael Navarette, Edward Olivares, and Matthew Shapiro, work in progress

Businesses, individuals, and government policymakers rely on accurate and timely measurement of nominal sales, inflation, and real output, but current official statistics face challenges on a number of dimensions. First, these key indicators are derived from surveys conducted by multiple agencies with different time frames, yielding a complex integration process. Second, some of the source data needed for the statistics (e.g., expenditure weights) are only available with a considerable lag. Third, response rates are declining, especially for high-frequency surveys. Focusing on retail trade statistics, we document important discrepancies between official statistics and measures computed directly from item-level transactions data. The long lags in key components of the source data delay recognition of economic turning points and lead to out-of-date information on the composition of output. We provide external data sources to validate the transactions data when their nominal sales trends differ importantly from official statistics. We then conduct counterfactual exercises that replicate the methodology that official statistical agencies use with the transactions data in the construction of nominal sales indices. These counterfactual exercises produce similar results to the official statistics even when the official nominal sales and item-level transactions data exhibit different trends.

“Where the Road Leads: Can Infrastructure Investment Drive Technology Adoption?” with Arseniy Braslavskiy, work in progress

TEACHING EXPERIENCE

Instructor, MATLAB Bootcamp (graduate), University of Maryland, Fall 2024 and Fall 2025
Teaching Assistant, Intermediate Macroeconomics (undergraduate), University of Maryland, Fall 2021
Grader, Public Economics (undergraduate), New York University, Fall 2015 and Spring 2016

RESEARCH AND RELEVANT WORK EXPERIENCE

Economist (Intern), Center of Economic Studies, US Census Bureau, Spring 2022–Present
Research Assistant, Prof. Nuno Limao, Georgetown University, Spring 2023 and Fall 2023
Economic Assistant, Center for Financial Research, Federal Deposit Insurance Corporation, Spring 2017–Summer 2020
Research Assistant, Dr. Laura Trucco, Development Research Institute, New York University, Spring 2016–Spring 2017

GRANTS AND AWARDS

Melville Ulmer Fellowship, University of Maryland, Summer 2023

Dean's Fellowship, University of Maryland, Fall 2020 and Spring 2021
1913 Founders Scholarship, Georgia State University, Fall 2011-Spring 2015

CONFERENCE AND SEMINAR PRESENTATIONS

2025-2026: ASSA 2026 Annual Meeting (Expected), Econometric Society European Winter Meeting (Expected), University of Maryland - Macroeconomics Brown Bag (Expected), US Census Bureau (Expected)

2024-2025: University of Maryland - Macroeconomics Brown Bag, Southern Economic Association - Annual Meeting, Society of Government Economists - Annual Conference, NBER Summer Institute - Conference on Research in Income and Wealth, IPUMS Data-Intensive Research Conference

2023-2024: University of Maryland - Macroeconomics Brown Bag, Georgetown University - International Trade Brown Bag

COMPUTATIONAL SKILLS

R, Stata, Matlab, ArcGIS, SAS

REFERENCES

Prof. John C. Haltiwanger	University of Maryland	halt@umd.edu	(301) 405-3504
Prof. John Shea	University of Maryland	sheal@umd.edu	(301) 405-3491
Dr. Jose Asturias	US Census Bureau	jose.asturias@census.gov	(301) 763-7487