Robert Summers Fellowships on Economic Measurement

Application Materials

R. Benjamin Rodriguez

PhD Candidate
University of Maryland, College Park
rbenrod@umd.edu

Incoming Postdoctoral Research Scholar (beginning June 2026)
National Bureau of Economic Research

Research work and additional materials are available at:
https://sites.google.com/umd.edu/rbenjaminrodriguez

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I am a PhD candidate in Economics at the University of Maryland and incoming Postdoctoral Research Scholar at the NBER Economic Measurement Research Institute (EMRI). My work focuses on economic measurement, with a particular emphasis on inflation measurement, quality adjustment, and the use of transaction-level data. Through my work with the RESET (Re-Engineering Economic Statistics using Economic Transactions) initiative and the U.S. Census Bureau, I have become particularly interested in how modern administrative and scanner-data environments are reshaping the production and interpretation of official statistics. This transition toward integrated transaction-level statistical systems motivates my broader research agenda on how inflation and real economic activity should be measured in increasingly granular data environments.

In particular, my work focuses on how inflation measurement depends on implicit assumptions about how observed differences in prices across products and across time should be attributed to changes in the cost-of-living versus changes in quality and real consumption. These distinctions have become increasingly important as administrative transaction datasets now observe prices and quantities at a highly granular level, revealing forms of product turnover and price dispersion that were less visible in traditional sampled data environments. Relative to traditional survey-based systems, these data environments create opportunities to construct more timely and internally consistent measures of inflation and real activity while also exposing conceptual tensions in conventional inflation measurement that were less apparent.

One theme of my research concerns how alternative quality standards shape measured inflation in environments characterized by substantial product turnover and evolving product characteristics. In these environments, quality adjustment requires defining comparison standards across heterogeneous goods: bottled water, for example, can often be compared on a per-ounce basis, while products such as laptops and desktop computers require hedonic methods to account for evolving product characteristics. In "Quality-Adjusted Unit Value Index: Are Changes in Average Prices Inflation or Quality Change?" (AEA Papers and Proceedings, 2026; joint with John Haltiwanger, Ron Jarmin, and Matthew Shapiro), I examine how average sales prices relate to traditional bilateral inflation measures and how alternative adjustment procedures shape the interpretation of nominal expenditure growth as inflation versus improvements in quality and real consumption. More broadly, this work emphasizes that quality adjustment is not merely a technical correction to inflation measurement, but instead one of the central determinants of how average price changes are interpreted.

A second theme of my research concerns the relationship between transitivity and quality adjustment in price index formulas. Transaction-level data reveal that chained

price indices become increasingly path dependent when expenditure shares, product composition, and relative prices evolve rapidly over time. My work studies how different bilateral and multilateral index procedures update quality standards across a sequence of comparisons and how these evolving standards shape measured inflation. In ongoing work, "Evolving Product Quality and Local Transitivity in Price Measurement," I develop a framework for constructing locally transitive multilateral price indices that explicitly clarifies the tradeoff between transitivity and timely quality adjustment. More broadly, this research contributes to ongoing efforts within the RESET initiative to understand how official inflation statistics should adapt to transaction-level statistical systems characterized by high-frequency expenditure data, dynamic product turnover, and increasingly rich product characteristics.

Through my work on the RESET initiative and my Pathways Internship at the U.S. Census Bureau, I have worked closely with researchers engaged in the production and interpretation of official statistics, including collaborations with individuals at the Department of Commerce, the Federal Reserve System, and private-sector data providers such as Circana. These experiences have given me greater appreciation for both the sophistication of existing statistical systems and the institutional constraints under which they operate. While modern transaction-level datasets create opportunities to construct more timely and granular measures of prices and real consumption, integrating these systems into official statistics raises important conceptual and operational challenges.

Looking forward, I am interested in how official statistics should adapt as economic measurement increasingly moves from sparse survey-based systems toward integrated transaction-level statistical systems. One direction of my future work studies how price dispersion and heterogeneous consumption patterns should influence the weighting structures used in inflation measurement, particularly in environments where observed expenditure shares may no longer provide a sufficient basis for constructing aggregate inflation measures when prices differ on a quality-adjusted basis. More broadly, I believe future statistical systems will increasingly need to reconcile aggregate economic statistics with the heterogeneous economic experiences revealed in highly granular transaction-level data. These avenues for future work reinforce my long-run commitment to economic measurement as a field that sits at the intersection of economic theory, empirical analysis, and public policy. I am particularly excited by the role that the CRIW/EMRI community plays in connecting academic research with the practical and conceptual challenges faced by statistical agencies, and I look forward to contributing to these ongoing discussions on the future of modern economic statistics.