Research Statement

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My research lies at the intersection of macroeconomics, health economics, and the study of household saving and wealth inequality. I explore how uncertainty in health, heterogeneity in household behavior, and incomplete markets jointly shape saving patterns and wealth accumulation, particularly at older ages. My work integrates empirical data and structural modeling to understand why households continue to save even late in life—a phenomenon that standard life-cycle models struggle to explain.

Early Research

My interest in this field began during my Msc. years in Iran, when I studied the challenges of Social Security insolvency. The country's pay-as-you-go (PAYG) pension system was facing unsustainable pressure as an aging population and falling fertility rates reduced the contributor base. Motivated by this problem, I investigated alternative pension structures and the broader theoretical issues behind them. The core question that emerged was: Why do individuals under-save for retirement despite strong incentives to plan for old age?

This early work led me to explore market failures in annuity and retirement saving markets. I found that incomplete information and adverse selection can severely thin the annuity market, making private insurance insufficient to cover longevity risk. At the same time, behavioral biases—particularly myopic preferences—cause individuals to discount the future excessively, reinforcing the under-saving problem. Together, these findings revealed that government intervention is not just redistributive but also efficiency-enhancing, ensuring socially optimal levels of retirement saving and risk pooling.

In my Masters Thesis work, I shifted focus from aggregate pension systems to the household-level mechanisms that drive differences in saving behavior. My thesis examines how changes in household heads—typically from husband to spouse during old age—affect consumption and saving decisions. Using data from the Iranian households, I analyze how such transitions alter spending patterns, providing a new explanation for the persistence of saving among elderly households.

This initial exploration shaped my research agenda: studying how information frictions, households heterogeneity, and longevity risks interact to create gaps between private and socially optimal saving behavior.

Current Research

Macroeconomics - Health - Policy (JMP)

My current research extends this line of inquiry by studying the interaction between health, medical spending, and wealth inequality. My PhD Thesis *"Marginal utility shocks and Late-Life Saving Behavior"*—introduces health as a luxury good to explain the high levels of saving in the top among households that are about to retire: wealthier individuals derive greater utility from investing in health because it extends their ability to enjoy future consumption. This creates a self-reinforcing mechanism—higher wealth leads to greater medical spending, which increases survival, enabling further accumulation of wealth. The model replicates empirical saving pattern observed in the Health and retirement survey data.

This finding bridges two literatures that are often studied separately: the wealth concentration literature and the health capital literature. By incorporating endogenous health investment into a heterogeneous-agent model, my research shows that the mechanism explaining why health is a luxury good, can induce households in the top of wealth distribution to save more late in life, even when traditional bequest motives are weak.

Methodologically, my work combines structural estimation and calibration with empirical validation. I employ non-linear GMM and simulated method of moments (SMM) to match wealth and medical spending moments across deciles in HRS data. I also utilize different programming languages Stata, Python and C++, ... to simulate heterogeneous-agent models efficiently.

Econometrics-Imputation Methods

In this paper I impute total medical spending for the Health and Retirement Survey (HRS), Using Medical expenditure survey (MEPS). I outline the imputation procedure, which establishes a relationship between out-of-pocket and total expenditure on healthcare. I then imputed health expenditure based on this method. The main theorem proves that, under classical assumptions, OLS estimates remain consistent when using the imputed dependent variable.

Indigenous Research

I have extensive experience in data acquisition and empirical analysis using diverse data sources. In an ongoing research project with Professor Nicholas Li, I am examining the Nutrition North Canada (NNC) program, which provides subsidies to offset the high cost of

food in remote Northern communities. My role involves collecting and organizing supplier-level data to evaluate how these subsidies are transmitted through the supply chain — that is, the pass-through of subsidies from suppliers and retailers to consumers. The project aims to assess the distributional and welfare impacts of the NNC program. My research specifically focuses on heterogeneity in shipping costs across regions and suppliers, and how these cost differences influence price transmission, consumption behavior, and overall welfare outcomes in isolated Northern communities.

Future Research

Going forward, I intend to extend this line of research in three main directions. First, Policy Evaluation and Welfare Analysis: I plan to investigate how various policy instruments—such as subsidies for preventive health care or reforms to public insurance systems—affect individual saving behavior, inequality, and overall welfare. By quantifying the welfare implications of these interventions, my goal is to develop a framework that integrates health policy into the broader context of macroeconomic welfare analysis.

Second, Heterogeneous Impacts of the Nutrition North Canada Program: Building on my ongoing work, I will examine how the effects of the Nutrition North Canada program differ across households with varying levels of geographic isolation. Employing a heterogeneous-agent modeling framework will allow me to capture how isolation and shipping costs interact with consumption patterns and welfare outcomes among northern communities.

Third, Data Imputation and Small-Sample Inference: Drawing on the imputation methods I developed during my PhD, I aim to propose a robust approach for interpolating and extrapolating economic and health datasets when available samples are limited. This method will enhance the usability of smaller or incomplete datasets, improving the precision and applicability of empirical analysis in data-scarce environments.