

## Research Statement

Before graduate school, I worked first as a market research professional at Nielsen and then, as an economist at the Philippine Central Bank. This multifaceted experience shaped my two-pronged research and teaching agenda, covering both empirical macroeconomics and applied microeconomics. Drawing heavily from my extensive experience as a central bank economist, my macroeconomic research uses relatively novel approaches in analyzing monetary policy issues and their impact on macroeconomic outcomes. Meanwhile, my previous market research experience allowed me to explore the intricacies of the behavior and attitude of consumers as economic agents. This piqued my interest in estimating causal effects of public policy using microeconomic data. Much of my research in this area examines how policies and other shocks affect the labor supply, financial behavior, and health of the elderly. I believe that there is plenty of room to contribute in this literature as issues associated with the retirement of Baby Boomers, arguably the generation that shaped recent history, are becoming more salient. Moving forward, I intend to pursue this two-pronged research that uses relatively novel approaches and large datasets in both empirical macroeconomics and public policy-related issues. Below I provide a summary of my job market papers and my current preliminary research.

### Job Market Papers

My first paper asks whether inflation targeting (IT) “just got lucky,” in the sense that its adoption in a number of countries in the 1990s just happened to coincide with a more tranquil macroeconomic environment or whether it can be credited with contributing to a more stable macroeconomic structure. There is wide disagreement about the macroeconomic effects of inflation targeting, both theoretically and empirically. I contribute to the debate by using an innovative approach that allows the generation of counterfactual variances of inflation and output that would have prevailed if IT were not introduced. In particular, I use the counterfactual Vector Autoregressive (VAR) method, developed by Stock and Watson (2002), to determine whether the observed decline in the variability of inflation and output growth can be attributed to a more stable structure (the propagation mechanism) or less violent shocks (the impulses). My paper makes three contributions to the literature: (1) it provides new evidence on the causal effects of IT on macroeconomic volatility; (2) it presents indirect evidence on the inflation-output variability trade-off; and (3) it introduces to the IT evaluation literature a novel method in the creation of counterfactual outcomes which addresses self-selection in the shift to IT. The primary finding of this paper is that the observed moderation in inflation volatility may be attributed largely to a more stable structure associated with the introduction of IT and less to the consequence of milder shocks. I estimate the propagation mechanism to account for more than 50 percent of the decline in inflation volatility for the majority of countries in the sample. Meanwhile, the observed tranquility in the business cycle is driven solely by much less violent shocks which have offset what appears to be a less stable structure seemingly arising from the IT framework. Results provide indirect evidence that the achievement of low and stable inflation may have come at the expense of output stabilization, as predicted by theory.

My second paper revisits the 1983 Social Security reforms to examine how a large, potentially unanticipated wealth shock affects elderly workers. I exploit the nonlinearity in the design of the reforms to estimate causal effects on the labor supply and on the savings of older workers at different stages of the lifecycle. The identification highlights the relevance of cohort effects which tend to be assumed away

in previous research. I employ a difference-in-difference (DID) model which first compares the outcomes for the first few cohorts affected by the reforms, i.e., 1938-1942 birth cohorts, to those born in 1937 or earlier. This yields a combination of policy effects and differentials in cohort effects. I take advantage of the fact that later cohorts, i.e., 1943-1954 birth cohorts, were subject to the same level of retirement age and thus outcome differences within this group should yield only differential cohort effects. Under the assumption that the cohort effects are changing linearly, the DID estimator yields the causal effects of the retirement wealth shock. Evidence suggests that among men, affected cohorts responded by altering their labor supply, but only when they were very close to retirement. Women also contributed through increased labor supply, both at the extensive and intensive margins. In addition, there is evidence that affected workers also responded through higher savings prior to retirement. Nonetheless, the Social Security amendments appear to have disproportionate effects, with some lower-educated workers remaining in the labor force in later years. My results suggest that enhancing public understanding of the implications of future reforms could mitigate potential adverse effects particularly on vulnerable subpopulations.

### **Works in Progress**

I am currently working on several projects with varying degrees of completion.

First, I provide the first evaluation of the impact of the increasing use of a pre-exposure prophylaxis (PrEP) drug called Truvada on HIV diagnosis rates. Since its approval as PrEP intended for uninfected people, Truvada has been touted as a “miracle drug” that could potentially slow down the spread of HIV on a global scale. Given the efficacy of Truvada in preventing users from acquiring the virus, one might expect HIV diagnosis rates to decline as PrEP intake rises over time. However, Truvada does not provide 100 percent protection. Ex-post moral hazard in the form of risky sexual behavior, poor adherence to medication, and the threat of drug-resistant strains are all potential reasons why the increased use of Truvada may not necessarily result in lower HIV rates. I employ instrumental variables-fixed effects model on state-level data to identify the effect of Truvada use on HIV rates. Results show that the increased intake of Truvada appears to have raised HIV diagnosis rates, after controlling for state-invariant factors and aggregate time effects. This provides suggestive evidence of the existence of moral hazard and poor adherence for some PrEP users as well as drug-resistant HIV strains. The quest for miracle drug for HIV may not be over after all.

Second, I am working with Nhu Nguyen on a project in which we use regression discontinuity design (RDD) to examine if students with Latin honors sort to firms with higher pay premium. We use administrative data on firms and workers matched to administrative college enrollment data. First, we decompose individual wages into individual-specific component (fixed and time-varying) and to firm-specific wage premium. Then, we take advantage of the GPA cutoffs in determining Latin honors to address unobservable characteristics associated with obtaining the honors. The RDD compares graduates who just made it past the cutoff to get Latin honors and those who almost did. This research provides evidence on the extent to which workers with Latin honors are matched with higher-paying firms. It also provides insights on whether firms respond to signals associated with Latin honors.

Third, I study how retirement affects health investments and age-related cognitive decline among older Americans. Empirically, it has been shown that retirement could lead to either better or worse health outcomes. This paper contributes to the existing literature by estimating the causal effect of retirement on health investments (or “disinvestments”) in terms of physical activity and preventative health tests on the one hand, and smoking and drinking on the other. I also contribute to the literature on the effect of

retirement on cognitive functioning where there is a huge variation in both the sign and magnitude of the empirical estimates. Using a panel dataset which tracks Americans age 50 onwards, I employ several empirical strategies to disentangle the effect of retirement on health. The first approach estimates difference-in-difference IV models. As retirement is endogenous to health and likely to health investments as well, I exploit the 1983 Social Security reforms (which raised the retirement age and reduced prospective lifetime wealth of workers born in 1938 or later) as a source of exogenous variation that affects workers' retirement decisions. First, I estimate the effect of the Social Security reforms on the probability of retirement on the affected cohorts. I use the estimated retirement probability as an instrument for actual retirement status in the second stage where the outcomes are the various health investments and cognition measures. The second approach exploits the panel nature of the HRS dataset and estimates the difference in health investments of individuals pre- and post-retirement. This approach likewise addresses the endogeneity in retirement using the 1983 reforms as instrument.

Fourth, I examine whether revisions on macroeconomic data has meaningful effects on policy decisions by monetary authorities. Economic data series are revised typically when more information becomes available, estimation methodologies are improved, or as compilation standards are upgraded over time. In the monetary policy-making process, monetary authorities examine the latest available information on a wide array of variables to assess domestic and external developments and form a forward-looking assessment of inflation pressures. It could happen that policy actions implemented on the basis of real-time information could differ considerably from what would have been the recommendation if the final data had been used. Hence, revisions in economic data can potentially complicate the policy-making process. Focusing on OECD countries, I examine whether the interest rate prescribed by a monetary policy rule would differ if the final data are used instead of the preliminary data.