

# RESEARCH STATEMENT

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I am a macroeconomist interested in demographic transitions due to low fertility and rising longevity and their implications for growth and social insurance. I try to use theory disciplined by micro-data for understanding the long-term consequences of policy designs.

**Retirement** My job market paper (“Precautionary Retirement”) asks if a higher payroll tax will restore Social Security’s solvency. With the trust fund facing depletion by the 2033, I study how older Americans adjust their decision to work (extensive margin) and their working hours (intensive margin) in response to payroll tax changes. I develop a model of seniors’ labor supply featuring two key elements: (1) a part-time option with fixed time costs, and (2) extreme-value shocks that proxy for late-life risks such as health shocks. This structure provides simple, empirically-tractable cutoff rules for labor force participation and hours, which I analyze by income group. Quantitatively, I find that seniors have a higher labor supply elasticity than prime-age workers. Consequently, a uniform payroll tax increase incentivizes low- and middle-income seniors exit the labor force and claim benefits early. This outcome with less contributions and more drawing out may potentially worsen the system’s finances.

**Fertility** Why have fertility rates fallen sharply in advanced economies despite rising incomes? In “Ambiguity Aversion and Fertility Decisions”, I argue the answer lies in ambiguity - the inability to assign a single probability distribution to long-run outcomes for children. I model prospective parents as holding a set of plausible beliefs about child’s future, such as ability, career-path and health, rather than a single known distribution. Ambiguity is the size of this belief set. With ambiguity-averse preferences, a wider set of beliefs lowers the expected payoff of an additional child and raises the option value of waiting. This framework provides two testable predictions: (1) the optimal number of children declines as ambiguity increases, and (2) birth timing shifts later. The mechanism is that having a child amplifies exposure to hard-to-quantify risks. The model has policy implications such as reliable childcare quality signals could raise intended fertility.

**Voting** I plan to ask how elected officials reallocate policy attention as their electorates age. I leverage South Korea’s recent lowering of the voting age as a natural experiment and use high-frequency text data on politicians’ legislative proposals to constituent demands. To identify causal impact of these demand shifts on political responsiveness, I plan to use text-based shift-share instrumental-variable strategy. The goal is to provide credible evidence of how shifts in constituent demand translate into political responsiveness, clarifying whether expanding the youth franchise rebalances policy toward younger citizens.

**Future Research** My research agenda will further investigate the economic role of seniors. Not only do they account for the largest welfare states in the US (Social Security and Medicare), but their economic behavior differs significantly from that of younger cohorts. We cannot simply extrapolate what we have learned from the young to the old. I hope to contribute to this important line of research.