

## Research Statement

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Who is impacted by policy matters. The distributional consequences of policy are not an afterthought, but a core part of what makes a particular policy optimal for a particular policymaker's normative and ethical preferences. This idea drives the first half of my research agenda. The second half considers what drives the decision-making process for public policy and how socio-political forces influence the decisions that get made. More broadly, my fields are public finance and applied microeconomics, but my work touches on welfare economics, education economics, and political economy.

What exactly is utility and is it comparable across people? If so, what shape does the function take? In my job market paper, "**Is Utility Concave?**" I address these questions. Despite playing a ubiquitous role in economic theory and practice, the definition of utility and its use often varies. Normative economics research and tools frequently require that utility not only order individual actions, but also corresponds to an individual's welfare or well-being. The implications of this assumption on the marginal utility of income are not well understood but play a vital role in interpreting and understanding the results of normative analysis. Using survey responses indicating willingness to pay to avoid unpleasant experiences, I estimate the degree to which the marginal utility of income changes across income groups.

So, how can marginal utility of income be measured? Suppose there is some good called a widget and we know that the welfare benefit of receiving a widget is unaffected by income. In this case, any differences in average willingness to pay for a widget are entirely driven by differences in marginal utilities of income. The idea is quite simple, but the difficulty lies in finding real goods with equal average welfare benefit across income groups. The marginal utility of any given good almost always depends on the other goods an individual consumes (complements and substitutes), and the bundle of goods people consume changes with income.

My solution is a survey that elicits the willingness to pay for relief from common minor pains using validated survey questions. These pains resolve quickly, leaving no time for compliment or substitute goods to alter the impact on a person's wellbeing, regardless of income. To my surprise, the results indicate that the willingness to pay for relief from these situations, and by extension the marginal utility of income, is constant across income groups, implying that (cardinal) utility is roughly linear in dollars. One implication of this finding is that policymakers with a preference for redistribution must be driven by egalitarian preferences over how utility is distributed rather than the simple goal of maximizing the sum total of utility. These results may also be in line with the ad hoc observations of behavioral economics or with more fundamental criticisms of preference utilitarianism suggesting that people's decisions do not coincide with their own wellbeing.

There is extremely limited empirical evidence on this topic, and I am excited by the prospect of building on this paper. For example, I would like to run an experiment to see if this behavior replicates with real money on the line. I would also like to take a systematic look at how willingness to pay changes for a wide range of goods in observational data.

Who is impacted by public policy may matter as much or more than the average effect. This idea sparked my interest in investigating marginal utility and the theme carries through from my first paper to my second co-authored paper, **“From Value Added to Welfare Added”**. Raising mean test scores for students by 10 points sounds great, but whether that gain is coming from struggling students or students with top scores might make all the difference to a policymaker. We formally articulate when estimating heterogeneity in a policy's effect is necessary to determine welfare impacts and consider the specific application of value-added modeling, a tool for estimating teacher's mean impact on students. We adjust this method to examine heterogeneity over the achievement distribution.

Using data from the San Diego Unified School District we find assigning teachers to classrooms based on their comparative significantly improves average outcomes. Beyond just improving the average, we also map out the possibility frontier of test score gains from high and low achieving students. These results point to the importance of optimizing public programs by using information about effect heterogeneity to both increase average outcomes via comparative advantage *and* better match distributional impacts from policy recommendations to the social preferences of decision makers. I hope to expand this approach to a wider range of policy settings.

In addition to improving tools for policy analysis, I also investigate what influences the policy making process in **“I'll Have What They're Having: State Fiscal Policy Interdependence”**. Previous literature has found that when one state increases public spending, spending in similar states increases as well. What drove me to investigate further is why exactly this happens. My theory is that voters are shaping their expectations for adequate spending from news about surrounding states. I create a new network of state “closeness” with newspaper data scraped from Google and Bing. Surprisingly, I find null results for this new network as well as networks that in the past have given large significant results. This suggests that since the original studies, the process for state interdependence has shifted or perhaps disappeared entirely. I look forward to investigating this finding further.

Finally, I have a work in progress, **“Taxing Under the Influence: Optimal Tax Under Political Influences”**. Which explores the relationship between politics and public policy by modeling how the influence of money in politics may shape optimal tax. This paper is still in the early stages, but I am excited about where it could go and the prospect of more work that explicitly considers the role sociopolitical factors play in decision making.

The work I have done as a graduate student improves our fundamental understanding of economic policy analysis, helps to better match policy analysis to the goals of policymakers, and contributes to our understanding of why policymakers come to the decisions they do. As I continue along my path as a researcher, I look forward to building on the work I have done and continuing to address these important areas of economics.