

RESEARCH STATEMENT
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My research is aimed at understanding certain market failures and thus informing policies designed to alleviate them. These aims have drawn me to theoretical and empirical issues in social insurance and non-traded goods. My overarching interests are in improving public policy and providing research as an antidote to dogmatic views, both positive and negative, of government intervention.

Social Insurance. Decentralized (market) exchange may fail, i.e. leave mutually beneficial trades unrealized, for many reasons. In insurance markets, the main concern is asymmetries of information. Consumer choices, such as how hard to work or how careful to be about health, are often hidden from insurers (moral hazard). Similarly, consumer traits, such as their earning ability or health risk, are also often hidden from insurers (adverse selection). Standard theories indicate that in unregulated markets these information asymmetries may leave many underinsured and that government may improve well-being either by regulating some forms of insurance or by providing them.

My research on social insurance builds on the standard theories by applying them to specific markets and evaluating them empirically. In this I consider several questions: How do the predictions of standard models change with assumptions about the economic environment? Does evidence support standard theories and, if not, how can they be adjusted to improve predictions? Given the evidence, and if necessary new models, what are the predicted or measured consequences of policies aimed at alleviating insurance market failures? My research in this area began with applications to income insurance, with a focus on public programs for the poor and on new “behavioral” models informed by psychology. I have since expanded my interests to include studies of (health) insurance markets for older people and basic investigations, both empirical and theoretical, of behavioral models.

Non-Traded Goods. When property rights for a good do not exist, or when a good’s basic nature inhibits trade, an extreme form of market failure may occur where the market is missing entirely and the good is not traded. Economists have long studied the consequences of missing markets for environmental goods such as fresh air or clean water. My research has focused on a topic neglected by economists: the effects of missing markets for social status. The esteem of peers is often both intrinsically valuable and useful in the pursuit of standard goods. Social status is, however, by its nature hard to purchase directly. My research investigates how this simple fact affects economic outcomes. Like my work on social insurance, this research includes both theoretical empirical studies. It applies models of social status to labor markets and crime and evaluates their predictions.

In what follows, I offer detailed descriptions of my completed and on-going research on these topics.

COMPLETED RESEARCH

Social Insurance: The causes of failures in income insurance markets, and the consequences of the public policies aimed at addressing them, have long been the focus of both policy debate and academic research. Some of my earliest work studies the moral hazard of public income insurance from a new angle. In a series of papers, Hanming Fang and I investigate the possibility that cognitive biases toward immediate gratification lead those who are eligible for welfare to work too little, and that eligibility restrictions such as time limits may improve the well-being of recipients. I was initially drawn to this topic by the popular argument made in the mid 1990s that restrictive reforms that moved recipients from welfare to work would not just be good for taxpayers, they would be good for recipients themselves. Our first paper (*Journal of Public Economics* 2004) shows how, in theory, restrictions like time limits can indeed make individuals with time-inconsistent, “present-

biased” preferences better off by committing them to work. That is, present-biased recipients might choose to have these restrictions imposed. We find that the value of restrictions may come either from allowing potential recipients to start working earlier than they otherwise would or, more surprising and contrary to the intent of the reforms, from allowing them to postpone working.

Our results hinge on the assumption that potential welfare recipients are not merely impatient, but present-biased. It is therefore important to know whether observational study could distinguish between these two models of behavior. Our second paper (*Behavioral Public Finance* 2006) takes up this question and, using techniques established by Hotz and Miller (1993), provides conditions under which, indeed, common data would distinguish present-bias and simple impatience.

Our third paper, (*International Economic Review*, forthcoming) takes the next step and estimates an empirical version of the model, thus providing one of the first estimates of a present-biased discount function. In our model, present-bias and simple impatience are distinguished by delay. Given the returns to work experience, the choice of welfare over work often implies impatience, but the eventual *switch* from welfare to work implies present-bias. Several alternative causes of delayed work are either captured by our model or find little support in the data. Our estimates indicate that the consequences of present-bias are important for behavior, but not for well-being; many mothers would work more if they could commit to it, but they would not be much better off by doing so. We also find that policies, such as time limits, that our earlier paper showed might help potential welfare recipients are, in reality, unlikely to do so. As a form of commitment to future work, these policies appear too crude and too often leave recipients without useful protection against very low earnings.

Public programs are just one response to failures of income insurance markets. Workers and firms may also design their employment contracts to mitigate the effects of incomplete insurance. My paper with Andrew Postlewaite and Larry Samuelson (*Review of Economic Studies* 2008) investigates the form of such contracts. The novelty of the paper derives from our treatment of “consumption commitments,” i.e., goods that can be consumed more cheaply by making commitments that reduce flexibility. A leading example is housing. Owning a house is cheaper (per unit of service) than renting, which is cheaper than living in a hotel. Consumption commitments can, however, exacerbate the effects of income risk. A bad income shock may force a homeowner to scrimp in order to keep up with mortgage payments, to incur the costs of selling her house, or to default. A renter faces fewer transactions costs and no capital loss, while the hotel guest need only downgrade to a budget motel. The paper shows that consumption commitments can induce consumers with risk-neutral utility functions to be risk averse over small variations in income, but sometimes to seek risk over large variations. Applying these results to employment contracts, we show that optimal contracts will smooth wages conditional on being employed, but may involve unemployment. The theory thus offers new explanation for the puzzling fact that, when faced with negative shocks to demand for their products, firms often turn to layoffs rather than wage reductions.

My earliest work thus focused on the consequences of incomplete income insurance for younger workers. My interests in social insurance have since expanded in two directions. First, I have taken up questions at the intersection of public economics and the economics of health and aging. Second, as I learned more about “behavioral” models, I was inspired to work on a new model of self-control.

Social Security. One paper in the first direction follows my interest in the labor supply incentives of public income insurance to investigate Social Security. Recent policy debate has focused on the solvency of the Social Security system and paid less attention to its effects on labor supply. In work with John Laitner (*mimeo* 2008) I investigate the incentives Social Security creates to shorten careers and evaluate the consequences of a potential reform aimed at reducing those incentives. We develop

and estimate a lifecycle model that treats the timing of retirement as a choice and assumes consumption and leisure are non-separable in preferences. This model predicts a change in consumption at retirement. We use the empirical magnitude of the change, together with the model's predicted retirement age, to provide a novel way of indentifying key parameters. We then estimate the long-run effect of dropping the Social Security payroll tax for individuals who have completed a long (34 year) vesting period. Simulations of this reform indicate that retirement ages could rise by as more than a year, and welfare gains could exceed \$11,000 (2005 dollars) per household.

Medicare. A second paper in this vein (*Journal of Political Economy* 2008) with Hanming Fang and Mike Keane, studies the interactions of another public insurance program for older people, Medicare, with the private health insurance market. Standard models of adverse selection in health insurance make a strong prediction: insurance coverage will be positively correlated with risk. Interestingly, a number of recent papers fail to find evidence of this “positive correlation property.” These findings lend support to new models of “advantageous selection” based on private information other than risk. The literature has so far focused on risk aversion as a leading suspect – those who are more risk averse will demand more insurance and may also be less risky. Thus, *advantageous* selection on risk aversion may counteract *adverse* selection on risk, and cause the positive correlation property to fail.

While risk aversion has been suspected as a source of advantageous selection, the literature has not provided direct evidence of this, and it has not much considered other potential sources. Our paper addresses this gap. We use data on the private Medicare supplemental, or “Medigap,” insurance market and show that it is characterized by advantageous selection: conditional on the determinants of price, those who purchase Medigap are healthier. We then investigate alternative sources of this selection. Using responses to hypothetical questions to measure risk aversion, we find that while the risk averse buy more insurance, they are not particularly healthy. Thus risk aversion does not appear as a source of advantageous selection. Several other factors such as income and education, that would enter a rich but standard model of insurance, do appear as sources of advantageous selection. In addition, however, we find that measures of cognitive capacities and financial numeracy, factors omitted from standard models, are also important sources. When we condition on all these measures, the positive correlation property holds: those with more health risk more often purchase Medigap.

Smoking. My other research on topics in health and aging applies my interests in “behavioral” economics to issues in anti-smoking policy. With Ahmed Khwaja and Frank Sloan, I examine the potential for non-standard factors to explain smoking behaviors among older people. This work combines existing data with data we collected. One paper, (revise and resubmit, *Journal of Health Economics*), investigates whether choices are driven by misperceptions about the consequences of smoking for health. We build on earlier work (Viscusi 1990) that showed smokers were not unusually optimistic about the risk of death from smoking and investigate whether the same holds for other health risks and alternative methods of eliciting beliefs. We find no evidence that smokers are unusually optimistic about a broad range of health risks. This finding, like Viscusi's, casts doubt on the idea that misperceptions about risks are pivotal in the decision to smoke. Another paper (*Journal of Health Economics* 2007) examines whether older smokers are unusually present-biased. We use responses to hypothetical questions, like those that motivate a large literature on hyperbolic time discounting, and find no evidence that smokers have different long- or short-term discount rates. Instead, we find that more general measures of time preference, such as length of planning horizons and impulsivity measures are more closely related to smoking status.

Willpower. These findings, and others like them, suggest that alternative sources of time preference

may be more empirically relevant than the time discount rate revealed in committed choices. In work with Emre Ozdenoren and Stephen Salant (*mimeo* 2008) I model a new source of time preference – depletable willpower. Psychology experiments suggest that self-control (willpower) is a depletable resource. We model an agent with limited willpower who consumes an endowment of a tempting good or “cake” over time. We assume that restraining consumption of cake below the most tempting rate requires willpower. Any willpower left over may be used to control other urges. Willpower thus links otherwise unrelated behaviors requiring self-control. Our model predicts domain-specific time preference and a link between expenditure on nontempting goods and the value of self control in regulating other activities. It also shows that myopic behavior by the poor may be attributable to their lack of wealth rather than their tastes or skills. At the same time, it provides a new explanation for self-commitment, intertemporal preference reversals, and procrastination. In future work we plan to test our model with both experimental and field data.

Non-Traded Goods The second main area of my completed research studies the effects of missing markets for social status. One paper, written with Nicola Persico and Andrew Postlewaite, (*Journal of Political Economy* 2004) investigates the substantial status associated with physical stature in the labor market. Leading explanations for the correlation between height and wages had pointed to labor market discrimination and the social stigma attached to being short. An important feature of height is that it changes over time; those who were relatively short when young can grow to be tall adults, and vice versa. We exploit this intertemporal variation in heights to identify when being relatively tall matters for adult wages. By understanding *when* being tall matters we can better understand *why* being tall matters. We find that being relatively short through the teen years (as opposed to adulthood or early childhood) essentially determines the returns to height. This finding indicates that a large fraction of the substantial disparity in wages across heights is not due to a taste for tall adult workers; rather, the disparity must reflect a characteristic correlated with height when young. In our data, measurable resources and endowments do not seem to explain the “teen height premium.” Instead we find some indication that greater participation in social activities such as athletics and extracurricular clubs may explain the adult advantages of having been a tall teen.

In another example, my paper on street crime and culture (*International Economic Review* 2004) investigates the effects of the pursuit of social status on crime rates. The paper is motivated, in part, by the puzzling fact that thousands of violent street crimes are committed each year for seemingly no direct pecuniary gain. I develop a model, founded in ethnographic studies of high violence communities, which shows how reputation concerns can support widespread violent street crime, a “street culture,” even when all but a few stand to derive no direct gain from pursuing such violence. The model is consistent with several facts about violent crime that a standard, non-strategic model cannot easily explain including a disproportionate rate of violent crime among the young and poor, and high variance in violent crime rates across small geographic distances. The model also generates novel implications for crime policy and identifies an important, negative effect of social capital.

ONGOING AND FUTURE RESEARCH

My current projects and plans for future research continue to focus on empirical and theoretical issues in social insurance and non-traded goods.

Social Insurance, One ongoing project continues my research with John Laitner on Social Security. This is work with our colleagues Christopher House and Dmitiriy Stolyarov and is funded by the National Institutes of Health. We are enriching our existing model to consider two new issues: the effects of uncertain health and the joint labor supply of couples. In our previous analysis, we treated

the consequences of uncertain health as perfectly insured and the labor supply decisions of spouses as following that of the household's head. These treatments, while useful for addressing some topics, prevent us from considering several potential consequences of Social Security reforms. For example, reforms aimed at lengthening careers must contend with the possibility that bad health will prevent many from extending their working lives. Also, our predictions about the consequences of reforms may be biased if we do not better account for the increasing importance of female labor supply for household saving and work decisions. Including these features in our model will not only improve our predictions but also allow us to consider entirely different questions about, for example, the effects of poor health on the consumption and labor supply decisions of older people.

My previous research on social policy has taken the features of public programs as given and studied their effects. In an ongoing project with Nicola Persico and J.C. Rodriguez, I turn to study the political forces that determine public policies. A vast formal literature on "political competition" has studied the relationship between politics and policy. Virtually all it treats competing political agents as single actors, be they candidates or parties, vested with the power to deliver/promise resources. This view is often oversimplified. In reality, the power to shape policy and provide resources is often dispersed among party and government officials. This project develops a new model of political competition where candidates belong to intra-party factions. Factions compete to direct local public goods to their constituencies and thereby win votes and advance their careers within the party. The model delivers a rich set of implications linking the allocation of public resources to the internal organization of the party. We have illustrated the model with analysis of data on the provision of water services in Mexico in a paper that won a 2nd place Banamex Prize. Future work, now just in the beginning stages, will evaluate the model using data from public projects in India and South Africa.

Non-traded goods. My ongoing work on non-traded goods both continues my research on the consequences of missing markets for status and turns to the problem of valuing non-traded goods. In a project with Nicola Persico, I am using data on traffic behavior to evaluate existing models of pro-social behavior, including those driven by a taste for social status. Existing models have successfully explained otherwise puzzling pro-social behaviors in lab experiments. The data on traffic behavior, which we are collecting from highway safety cameras, provide an uncommon opportunity to investigate pro-social behavior "in the wild." Our focus is on the puzzling fact that most, but not all, drivers choose to wait in long lines to exit a highway rather than skip the line and enjoy substantial time savings. The details of this seemingly pro-social behavior, combined with the egoistic behavior of similarly situated drivers, has motivated us to refine the existing theories and develop new ones.

My ongoing work on the value of non-traded goods also uses non-standard data: individuals' subjective assessments of their well-being. Economists have recently turned to these "happiness" data as a measure of an individual's utility. As such, the data offer a way of measuring how people value a non-traded good: by estimating the changes in their happiness associated with changes in their consumption of the good. This is a controversial move in part because, despite huge increases in consumption in the U.S., average subjective well-being has not changed much in the past 40 years. Moreover, individual happiness seems to increase sharply with circumstances that individuals would pay little to obtain. Thus, utility and happiness look like different things. With Miles Kimball, I am working on a new method that can map well-being data to utility and thus permit estimates of the value of non-traded goods. Our method views well-being data as driven by a combination of immutable or slow-moving factors and *news* about utility. Thus we do not identify happiness with utility, and can accommodate the puzzling patterns described above. Our near-term goal for this research is to provide a measure of the utility of negative health events by comparing the time pattern of the happiness response to these events with the pattern of response to changes in income.