Research Statement

(Long Version)

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My primary interest lies in empirical research in political economy and public economics. My research investigates how characteristics of political environments and the design of government institutions interact with the behavior of public officials, the conduct of regulated industries, the operation of government programs, and social welfare. I have conducted such investigations in three contexts: the behavior of judges in U.S. state courts, regulation of the U.S. energy industry, and government programs in the U.S. health care system. This research statement is composed of five sections. In Section I, I introduce the motivation and the big picture of my research. In Section II, I summarize my research on U.S. state courts. In Section III, I summarize my research on the regulation of the U.S. energy industry. In Section IV, I describe my current research project on Medicaid. In Section V, I conclude.

I. Motivation and Big Picture

The fundamental motivation for my research originates from my observation of the economic development in my home country, South Korea. I grew up in South Korea from the early 1980s to the early 2000s. This period was marked with transitions: from a developing country with a dictatorship and rapid growth to a developed country with democracy, and then in the late 1990s a severe economic crisis erupted. Observing those twenty years of the Korean economy, the most notable and interesting feature to me was the large role of the government. In the early period of Korean economic development, Korea's dictatorial government was actively involved in mobilizing and allocating resources, actions often believed to have played a critical role in Korean economic development. However, the economic crisis of the 1990s revealed various significant distortions in the economy caused by government-directed resource allocation. This observation led me to have a strong belief that, for an economic system to prosper, we need to understand how to design the right incentives to ensure government officials legislate and implement good policies. In college, I studied economics with the aim of understanding what "good policy" means, and studied political science with the aim of understanding government institutions that shape public officials' preferences, incentives, and behavior. Since then, understanding the forces behind government officials' behavior and their influence on policy outcomes has been the main purpose of my research career.

I spent the early years of my research career conducting micro empirical analyses of institutions that structure the selection and incentives of government officials. I conducted a series of research focusing on U.S. state trial court judges. I chose U.S. states as my primary context because of the rich variation in institutions across geographic areas. I chose state trial court judges as my primary subject for three reasons. First, the institutional variation that exists for the selection and retention of state court judges (e.g., appointed vs. elected) also applies to many other public offices such as public utility regulators or school board superintendents. Second, state trial court judges make individual decisions, e.g., criminal sentencing, that can be directly measured. This helps us to avoid difficulties in inference that arise in analyzing aggregate outcomes from collective decisions, and helps us to focus on factors that influence individual decision-makers' incentives. Third, unlike many other contexts of government officials' decisions, the procedure for decision making undertaken by state trial court judges, as well as the nature and scope of their discretion, are quite homogenous across different places, and this makes possible comparability of measurement. Therefore, U.S. state trial courts serve as an ideal context for microanalyses of the influence of institutions on individual public officials' decisions. I conducted five studies, pursuing diversity both in determinants of individual judges' decisions and econometric approaches. They are summarized in Section II.

While conducting the above research, I also paved my second line of research, focusing on the interaction between political environments and regulated industries. It is motivated by the relative paucity of research at the intersection of political economy and industrial organization. The field of industrial organization has advanced significantly in understanding the welfare effects of various market structures and regulatory policies, but there has not been a large volume of empirical research on why non-optimal regulatory policies are made in the first place. The field of political economy has advanced significantly in terms of understanding how political forces cause distortions in monetary policy, taxation, and public good provision. However, the interaction between political forces and regulatory policies has been seriously understudied. I believe that this was to a large extent due to methodological barriers. The field of political economy has advanced primarily in theoretical modeling and reduced-form empirical analyses while the field of industrial organization has advanced primarily in structural econometrics. My goal is to establish systematic knowledge of government-industry interaction in large, regulated industries, building on the most recent advances in the two fields.

As a first step, I investigated the influence of regulator ideology on electric utility regulation, with Ali Yurukoglu, an IO economist at Stanford University. This first project focused on electricity *distribution*, which is uniformly regulated by state public utility commissions regardless of the individual states' choice of restructuring. While this paper has been well received, I also received many questions on the possible interaction between the political environments and deregulation of

the industry, a question not explored in the first paper. Thus, I conducted a companion project that explores deregulation and regulator ideology together. These studies are summarized in Section III.

Health care is another large industry that faces significant governmental regulations. The way that the government interacts with the health care industry is very different from the way it interacts with the energy industry, however, and this has created an opportunity to explore diverse modes of government-industry interaction. The government's most dominant role in the U.S. health care industry is through Medicare and Medicaid, which are direct provisions of insurance for elderly and indigent patients, respectively. I chose Medicaid as the context for my research. Unlike Medicare, designed and operated by the federal government, Medicaid is a federal-state joint program, for which the federal government sets up a general framework and the state governments have a broad range of discretion over the design of eligibility, reimbursement, and many other rules of program operation. Rich variation across states in the design and operation of the Medicaid program embedded in a large consistent framework set by the federal government renders an attractive context in which to explore how government programs interact with the industry. I explore determinants of Medicaid reimbursements. In my first study on Medicaid, I analyzed the Medicaid Disproportionate Share Hospital ("DSH") program. In my second study on Medicaid, which is in progress, I explore the influence of state government ideology on geographic variation in Medicaid program design and operations, focusing on Medicaid expansion, transition to managed care, fee-for-service reimbursement rates, and expenditures across categories of enrollees. These projects are described in Section IV.

II. Preferences and Incentives of Public Officials: Evidence from U.S. State Courts

In the five papers on U.S. state courts, I investigated four factors that can affect preferences, incentives, and behavior of public officials: (1) the procedure for selection and retention of public officials (appointment vs. election; nonpartisan election vs. partisan election); (2) payoff from the office; (3) active media coverage, which increases voter access to information about political candidates and government decisions; and (4) officials' political orientation and demographic background.

In the first paper, "**Preferences and Incentives of Appointed and Elected Public Officials: Evidence from State Trial Court Judges**" (*American Economic Review*, 2013), I compare how two selection systems, election and appointment, affect decision patterns of judges, using data from the state of Kansas, a state that has within-state variation in selection systems. The study yields three new findings: First, under appointment, policy congruence with voter preferences is attained by selecting judges with homogeneous preferences. In contrast, under election, judges face strong

reelection incentives, while selection on preferences is weak. Second, the effectiveness of elections in attaining policy congruence critically depends on payoffs from the job, which implies that the effectiveness of elections may vary substantially across public offices. Third, reelection incentives may discourage judges with significant human capital from holding office. This paper makes three key contributions. First, it provides a new result on differences in officials' behavior across selection systems. Second, it proposes a new empirical strategy that separately identifies public officials' preferences from their reelection incentives. Third, it provides a new insight on the interaction between payoffs from public office and the relative effectiveness of different selection and retention systems.

In the second paper, "**The Judge, The Politician, and The Press: Newspaper Coverage and Criminal Sentencing across Electoral Systems**" (*American Economic Journal: Applied Economics*, 2015), I and my collaborators, David Stromberg and James Snyder, study how newspaper coverage influences criminal sentencing decisions under different selection systems for judges. We find that newspaper coverage of courts substantially increases sentencing harshness, but only for judges selected through non-partisan elections, an electoral process in which candidates compete without party affiliation. This paper makes two key contributions. First, this is the first paper that studies the interaction between newspaper coverage and selection systems for public officials. Both media activity and electoral systems have been important subjects in political economy. However, the two have been investigated separately. Hence, the interaction between the two has been largely unknown, a notable deficiency in the literature now addressed by this study. Second, this is also the first paper to study media influence on low-level public officials. Many decisions that affect voters' everyday life are made by low-level public officials. And, it is not yet clear whether our knowledge of media influence on high-level public officials, such as Congressmen, can be extended, in a straightforward manner, to the case of low-level public officials. Citizens typically gather little information about low-level public officials. The media often do not provide information about low-level public officials. This paper finds a significant media influence in such low-information environments.

In the third paper, "**Media Influence on Courts: Evidence from Civil Case Adjudication**" (*American Law and Economics Review*, 2015), I investigate media influence on civil case outcomes. I find that the influence of judicial district's political ideology on civil case outcomes is mitigated in areas with active newspaper coverage. To my knowledge, this is the first paper to study media influence on civil case adjudication.

In the fourth paper, **"Elections and the Quality of Public Officials: Evidence from U.S. State Courts**", (*Journal of Public Economics*, 2015), I and my collaborator, James Snyder, investigate the influence of electoral rules on voting behavior and the quality of judges, measured with bar association ratings, using data from 39 states. We find that listing party affiliation on the ballot

suppresses the influence of candidate quality on election outcomes for judges. This is true even if there is no systematic relationship between judges' party affiliation and decision patterns in criminal sentencing. This paper makes two key contributions. First, it empirically studies the role of candidate quality under different electoral systems, which had previously been difficult due to the unavailability of adequate measures of quality. Second, it provides concrete empirical evidence on the adverse effect of partisan elections of low-level public officials, while the theoretical literature has largely been focused on the advantages of providing electoral incentives to public officials.

In the fifth paper, "**Do Judges' Characteristics Matter? Ethnicity, Gender, and Partisanship in Texas State Trial Courts**" (*American Law and Economics Review*, 2016), I and my collaborators, Bernardo Silveira and James Snyder, investigate the influence of judges' political orientation and demographic characteristics on criminal sentencing decisions, using half a million cases from Texas state trial courts. Contrary to existing studies that document a salient influence of government officials' background on decision patterns, we find precisely estimated effects of judges' gender, ethnicity, and party affiliation that are near zero, conditional on geographic factors. At the same time, we find substantial heterogeneity in sentencing harshness across judges. We exploit a unique overlapping structure of Texas state trial courts, where different judicial districts partially overlap with one another, and document strong consistency in individual judges' sentencing behavior across different geographic areas.

This series of papers is distinct from previous studies in terms of economic insights, quality of the data, and strengths of empirical strategy. The determinants of public officials' behavior studied in this series have mostly been studied in isolation. My papers provide new insights by analyzing their interactions. Existing studies often relied on aggregate, proxy measures of public officials' behavior. My papers employ large-scale data sets with measures of individual decisions, with empirical strategies that get at details of mechanisms.

III. Political Environments and the Regulation of the Energy Industry in U.S. States

My second line of research deals with government-industry interactions. My first choice of context was the energy industry. The energy industry is an ideal context for several reasons. First, it is a highly concentrated industry, due to the large capital investment required for entry into the industry. This feature makes it one of the most heavily regulated industries. Second, electricity has a large impact on social welfare due to its importance to economic productivity as well as its environmental impacts. Third, many policies related to the energy industry are set at the state level, which makes it feasible and useful to investigate the relationship between state-level variation in political environments and the conduct of firms.

In my first study on the energy industry, "**Dynamic Natural Monopoly Regulation: Time Inconsistency, Moral Hazard, and Political Environments**", forthcoming in the *Journal of Political Economy*, I and my collaborator Ali Yurukoglu study how regulator ideology interacts with time inconsistency and moral hazard in the regulation of electric utilities. Conservative regulator ideology significantly increases return on equity adjudicated for utilities. High return on equity leads to higher levels of investment in the electric distribution system and better reliability. At the same time, conservative regulator ideology increases operational inefficiency, measured by energy loss incurred by utilities. We specify and estimate a dynamic model that explains these empirical patterns. With estimates of the model, we conduct counterfactual experiments of various rules that mitigate inefficiencies due to time inconsistency and moral hazard.

This paper makes significant contributions to both political economy and industrial organization. It makes a substantive contribution by establishing novel welfare effects of regulatory ideology through its interaction with time inconsistency and moral hazard problems. It also makes a methodological contribution by incorporating a time inconsistency problem into a structural econometric framework in regulation. Although the time inconsistency problem has long been studied in macroeconomics, it has only been studied theoretically in the field of industrial organization due to computational difficulties in incorporating it into structural estimation. This has been a notable deficiency, which we resolve in this paper.

In my second study on the energy industry, "**U.S. Electric Utilities and Deregulation: Trends, States' Choice, and Political Environments**", under revision for the *Journal of Regulatory Economics*, I investigate the conduct of U.S. electric utilities for the past two decades to assess the relative influence of industry-wide trends, individual states' choice of deregulation, and regulator ideology. This study provides a comprehensive investigation of five dimensions of utility conduct -- executive salary, investment, operation and maintenance expenses, reliability, and electricity prices. The literature on electricity deregulation has been primarily focused on the efficiency of generating plants, wholesale power markets, and retail competition. Research on the influence of deregulation on *utilities* has been relatively scarce. This study documents the significant changes in utility conduct associated with the wave of deregulation. The results also demonstrate that individual states' political environments, specifically the ideological makeup of the state public utility commissions, had a much greater impact on utility conduct than the states' decision to deregulate.

These two studies together demonstrate the importance of political environments to industry regulation. Given the importance of the energy industry and that a large number of regulations are designed and implemented by state governments, I believe that my research has the potential to spur a new, important research stream.

IV. The Political Economy of Medicaid Design and Operations

As mentioned in Section I, I chose U.S. health care, in particular Medicaid, as the second context in which to explore government-industry interactions. Variation in the design and operation of Medicaid can largely be divided into two dimensions: eligibility and reimbursement rates. The dimension I investigate is reimbursement.

In my recent paper on Medicaid, "What is Behind the Size Effect? The Role of Large Hospitals in the Medicaid DSH Program", I and my collaborator Jee Hun Choi (a Cornell Ph.D. student) analyze the Medicaid Disproportionate Share Hospital (DSH) program, which is a form of government subsidy and Medicaid reimbursement to hospitals that treat a large number of Medicaid and uninsured patients. Specifically, we investigate to what extent hospital size and ownership types influence Medicaid DSH payments.

We find that large government hospitals in urban and Southern states have significant advantages in reimbursement rates through Medicaid DSH payments, while large private hospitals tend to have disadvantages. That is, the Medicaid DSH program covers a higher proportion of costs for the treatment of indigent patients when the care is provided by large government hospitals, relative to other types of hospitals. We explore potential motives of state governments by linking these patterns to hospitals' profitability. Policy makers and health economists have long suspected that the government may set public insurance reimbursement rates so as to counterbalance disparities in hospitals' ability to cross-subsidize indigent patients, following the logic that hospitals who treat patients with more lucrative private insurance have greater profits and therefore can subsidize the indigent. Among private hospitals, profitability increases significantly as hospital size increases. In contrast, among government hospitals, profitability decreases as hospital size increases. Therefore, large government hospitals' advantages and large private hospitals' disadvantages in reimbursement rates through Medicaid DSH payments are consistent with the government setting the rate in order to counterbalance hospitals' disparities in their ability to cross-subsidize across patient types.

In my second, ongoing study on Medicaid, I and my collaborator Jee Hun Choi investigate the influence of government ideology in U.S. states on geographic variation in Medicaid program design and operations from the mid-1990s to 2013. Medicaid expands primarily in liberal states during times when the Democratic Party is in power. Simultaneously, fee-for-service reimbursement rates for physician services have been notably lower in liberal states. These patterns raise the following question: To what extent does Medicaid expansion induced by liberal state governments lead to re-allocation of resources from populations with greater need to those with less? Resource reallocation in such cases can easily be sustained as a political equilibrium under liberal state governments for two reasons. First, while eligibility is visible to voters and is decided by career politicians, it is relatively difficult to acquire information about reimbursement rates and such rates are determined

by bureaucrats. Second, the budget neutrality requirement induces new cost-saving measures when Medicaid expands.

Our analysis consists of four steps. First, we establish the causal effects of state government ideology on eligibility expansion. To address spurious correlation due to population characteristics and the decision on whether to expand, we use a regression discontinuity design to capture quasi-random changes in state government ideology, and use simulated eligibility in place of the proportion of eligible population. Second, we explore the tradeoff between breadth of eligibility and reimbursement rates as well as the choice of delivery methods (fee-for-service vs. managed care). We characterize various conditions in which Medicaid expansion induces cost-saving measures such as transition to managed care and reduction in fee-for-service reimbursement rates. Finally, we explore resource allocation across eligible categories. We document the extent to which broader eligibility among healthier population categories (e.g., children) reduces expenditures on the elderly and disabled. In sum, this study explores the interplay between political environments, the scope and delivery of Medicaid, and their interactions with health care industry characteristics.

V. Conclusion

The government plays an important role in resource allocation in many economies. Thus, it is of significant importance for economists to understand the forces that shape government officials' behavior and governmental interaction with large industries. My research spans two distinct but related areas: (1) selection and incentives of public officials; and (2) interaction between governments and firms in large, heavily regulated industries. The key features of political environments studied in the first line of research – selection rules, payoffs, and media – are primary factors that shape government officials' behavior in any stable democracy. Thus, the outcomes of my research have broad implications for decision-making in governments in general. My second line of research is on the industries that are at the center of many public policy debates. Research on government-industry interactions in these areas can have far-reaching impacts on understanding the prevalence of non-optimal policies and potential institutional solutions to address them.

Going forward, I plan to investigate how the linkage between political environments and the Medicaid program, in the dimensions of eligibility, delivery methods, and reimbursements, changed following the partial Medicaid expansion that resulted from the ACA. This research will significantly enhance our understanding of how a large-scale structural change induced by the federal government's action influences geographic variation in the design and operation of government programs, the conduct of regulated industries, and social welfare.