# Research Statement

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I am an applied microeconomist, and my research interests span topics in public economics, labor economics, and health economics. My current and ongoing research falls into two broad areas: (i) the determinants of children's human capital accumulation—particularly from the perspectives of health status and living environment, and (ii) the consequences of public policy interventions in health insurance markets. I leverage quasi-experimental research designs along with administrative and survey data to conduct causal analysis on questions in these areas. In the following sections, I describe my working papers and publications in each area and outline some of my future research plans.

## 1 Determinants of Children's Human Capital Accumulation

### 1.1 Job Market Paper

**Every Year Counts: The Long-Run Consequences of Pregnancy Timing among Teenagers**

In my job market paper, I investigate the short- and long-run impacts of pregnancy timing—age of mother at birth—on educational and labor market outcomes among teenagers. While the importance of pregnancy timing as a key determinant of women's socioeconomic outcomes has been established in a recently emerging literature, this body of work has primarily focused on pregnancy timing among *adults*; thus, little is known about its impacts on *teenagers*. This is an important gap in the literature for two reasons. First, teen pregnancy rates are high in the US, and addressing concerns related to teen pregnancy is of perpetual policy interest. Second, the timing of pregnancy may have a more profound impact on teenagers, as adolescence is a critical period for laying the foundations for adulthood.

This paper takes a first step to fill this gap in the literature by examining the effects of pregnancy timing among teenage mothers aged 15–18 on their short- and long-run educational and labor market outcomes. Specifically, I *separately* estimate the marginal impact of a *one-year* difference in pregnancy timing for each age interval—15–16, 16–17, and 17–18. There are two key empirical challenges to studying this question. First, typical data sources leveraged in prior research lack sufficient sample size and follow-up period. I address this challenge by utilizing high-frequency, individual-level administrative panel data from Texas, which contain extensive information on more than 250,000 pregnant students. The data also allow me to observe the outcomes for these students before, during, shortly after, and long after their pregnancies. Second, individuals who differ in pregnancy timing are likely to differ in unobservable ways. I overcome this challenge by isolating the random component of pregnancy timing, which arises in my setting due to the extremely high incidence of *unplanned* teen pregnancies. Specifically, I match each teenager who gives birth to a teenager who gives birth a year later, where I require that this matched pair of teenagers shares a set of key characteristics that are known to correlate with adolescent childbearing (e.g., proxies for risky behavior). I then demonstrate that the matched pairs of individuals are observationally comparable across various baseline characteristics (not used in matching), implying

that the sole difference—a one-year difference in the age at which they give birth—is largely driven *by chance*. To identify the causal effect of pregnancy timing, I examine both within-individual changes in outcomes surrounding pregnancy and across-individual comparisons in outcomes after pregnancy among matched individuals.

The results indicate that experiencing pregnancy one year earlier increases absences and the likelihood of leaving school, particularly during the postpartum year. Further, the results indicate that becoming pregnant one year earlier has adverse long-term consequences for these teenagers: it reduces high school graduation by age 20, decreases college enrollment and completion in their early 20s , and leads to lower employment and earnings in their mid 20s, with these detrimental effects being most pronounced for the youngest group. Finally, I present suggestive evidence that providing parental support to teenage mothers could mitigate the negative short-term consequences of teen childbearing, such as increased absences and higher dropout rates.

My paper contributes to three strands of literature. The first strand pertains to a large literature on the socioeconomic consequences of teen childbearing. Specifically, my research adds to this literature by being the first to explore the *intensive* margin question—the timing of becoming a mother while still a teenager, as opposed to the *extensive* margin question—the impact of becoming a teenage mother or not. Second, my work also contributes to a growing literature on the child penalty—the adverse effects of having children earlier—by demonstrating that the child penalty extends beyond adults to teenagers. Importantly, my findings suggest that the scope of the child penalty is broader among teenagers. Adolescence is a critical time for human capital development, and my results indicate that the age at which teenagers become mothers has important impacts on human capital accumulation. Lastly, this paper contributes to a recent literature that studies the impact of family support policies (e.g., parental leave, child care) on women's economic outcomes. To the best of my knowledge, this paper provides the first causal evidence on the impact of parental support programs designed to help teenage mothers, who are more vulnerable and face greater challenges than adult mothers.

Beyond these contributions to the academic literature, my findings also have important implications for policy. For instance, my findings indicate that the benefits of delaying pregnancy vary by age of the mother—with the largest educational and labor market gains among the youngest mothers. These results can inform the targeting of policy aimed at preventing or delaying pregnancy among teenagers and policies aimed at mitigating the disruptive effects of childbirth among teenagers. Moreover, my findings suggest that policies aimed at reducing teen pregnancy rates (through, for example, expanding birth control access or sex education programs) may result in improved outcomes for women not only through reductions in the teen birth rate but also through shifting the age at which teen mothers give birth toward later teenage years. Thus, my findings suggest policymakers should broaden the scope of the impacts they consider when evaluating the benefits of such policies.

### 1.2 Publications

**Living Environments and Child Development: Comparing Two Groups of Out-of-Home Children**
**Journal of Human Capital, 2021, Vol.15(2), p.346–371** *(with Ick-Joong Chung, Ewha Womans University; Jungmin Lee, Seoul National University; Yasuyuki Sawada, University of Tokyo; and Seung-Gyu Sim, Aoyama Gakuin University)*

In this paper, we examine the impact of a *family-like* living environment during early childhood on the cognitive and non-cognitive skill development among *out-of-home* children. We collect data on 210 Korean children living outside their homes using surveys and lab-in-field experiments. We then compare those in two distinct environments: traditional orphanage-type institutions and family-like group homes. To identify the causal effect, we use an instrumental variable (IV) approach that exploits plausibly exogenous assignment of children to institutions, which is generated by capacity constraints in group homes across regions and over time. We find that children in group homes are more altruistic, emotionally stable, satisfied with school, and forward-looking. Our findings suggest that family-like environments with fewer co-residents and more intimate relationships are beneficial for children separated from their parents.

## 2 Consequences of Public Policy Interventions in Health Insurance Markets

### 2.1 Publications and Working Papers

**Do Mandated Health Insurance Benefits for Diabetes Save Lives?**
**Journal of Public Economics, 2022, Vol.216(104762)**

In this paper, I study the effects of *diabetes mandates*—state-level regulations that require private insurance plans to provide coverage for diabetes treatment—on diabetes-related mortality. Diabetes is one of the most prevalent and costly chronic diseases in the US. It affects more than one-third of the population, and the total economic burden attributable to diagnosed diabetes was estimated to be $327 billion in 2017. In response to this public health concern, most states have adopted diabetes mandates since the late 1990s; however, little is known about whether these mandates improve the health of people with diabetes. I use data from the restricted-use Multiple Cause of Death Mortality database and the Behavioral Risk Factor Surveillance System to investigate the effects of diabetes mandates on diabetes-related mortality rates, along with the underlying mechanisms behind the estimated effects. Using a difference-in-differences framework that leverages variation in the enactment of mandates both across states and over time, I find that approximately 3.1 fewer diabetes-related deaths per 100,000 occur annually in mandate states than in non-mandate states. Furthermore, the mechanism analysis suggests higher utilization of the mandated medical benefits caused these mortality improvements. These findings can inform the ongoing policy debate on strengthening or weakening coverage mandates, including Essential Health Benefits under the Affordable Care Act.

**Partial Outsourcing of Public Programs: Evidence on Determinants of Choice in Medicare**

**NBER Working Paper #31141** *(with Marika Cabral, The University of Texas at Austin; and Colleen Carey, Cornell University) Under Review*

In this paper, we investigate the determinants of health insurance choice in the context of *Medicare*—a setting with vast geographic variation in the share of individuals selecting the *public* option (Traditional Medicare) versus the *private* alternative (Medicare Advantage; MA). Specifically, we analyze insurance decisions among individuals who move between areas with differing MA popularity to quantify the relative importance of individual-specific factors (such as preferences or income) and place-specific factors (such as local health insurance options) on individual insurance decisions. We find roughly 40% of the geographic variation in the share selecting private coverage is due to place-based factors, while the remainder is attributable to individual-side factors. Our findings highlight the importance of individual factors in these decisions and may inform discussions about the use of policy to address geographic disparities. For instance, the large observed geographic variation in MA enrollment—which policymakers have often interpreted as evidence of disparities in access to high-quality MA plans—may not alone provide a rationale for policy intervention. In addition, substantial variation in MA enrollment would persist regardless of policy efforts to equalize place-based factors across areas.

## 3 Work in Progress and Future Work

My ongoing and future research continues to delve into the two themes described above, leveraging data that I have already obtained or with which I have extensive working experience. Below, I describe some of my future projects in more detail.

### 3.1 Save the Truth from Selection Bias: Revisiting the Impact of Attending a Specialized School for Pregnant Students [Part of Texas ERC Project # UTA 206]

The first branch of my future research agenda uses the same data I draw on for my job market paper: administrative-linked data for all individuals ever attending K–12 public schools in the state of Texas. In ongoing and planned work, I examine the long-term impacts of policy interventions aimed at students experiencing a major health shock: teen pregnancy.

In one ongoing project in this area, I am studying the effect of attending a *pregnancy school*—a school that exclusively serves pregnant students and female students with babies—on students' long-term human capital formation and labor market performance. Educators have long debated whether these students should be taught in a standalone *alternative* school, such as a pregnancy school, or a *regular* school environment. However, we have limited causal evidence to suggest either system is preferable. In this project, I estimate the causal effect of attending a pregnancy school through exploiting variation in pregnancy school availability stemming from pregnancy school *closures* in Texas. For this project, I made a series of open records requests to school districts in Texas to obtain information on pregnancy schools, both those currently active and those previously located in their districts, including the exact dates of their establishments and closures. Linking this information to the Texas administrative education and

labor market data, I compare across-cohort changes in outcomes between older cohorts (i.e., those who had access to pregnancy schools) and younger cohorts (i.e., those who do not have such access, as the nearby pregnancy schools have closed) within a difference-in-differences research design. My preliminary analysis indicates that attending a pregnancy school has either null or weakly positive effects on the educational and labor market outcomes of teenage mothers. More importantly, it also shows that the negative outcomes of attending a pregnancy school—such as low test scores or poor attendance, which have been documented by previous studies and often cited as grounds for shutting down such schools across states—are largely driven by *negative selection* into pregnancy schools.

### 3.2 No Exam for Better Outcomes: Evidence from the Exam-Free Reform in South Korea

The second branch of my future research agenda seeks to understand the relationship between adolescent *mental health* and long-term outcomes. Specifically, I plan to study how *academic pressures* affect the mental health of children and, in turn, influence other academic and economic outcomes. To do so, I will leverage a unique educational reform in South Korea that eliminated exams for first-year middle school (7th grade) students to alleviate the mental health strain resulting from the intensive academic burden. Importantly, the reform was rolled out nationwide over the three years from 2013 to 2015, generating across-cohort variation. South Korea provides a unique opportunity to study this topic as it primarily employs a lottery-based system to assign students to middle schools. Moreover, the mental health crisis arising from academic pressure is notably severe among Korean students—more than a quarter of whom have considered suicide solely due to academic stress. This project will utilize the Korean Educational Longitudinal Survey (KELS) data, which include comprehensive information on students' mental health, cognitive skills, non-cognitive skills, and college and labor market outcomes. Significant progress has been made on this project. I have successfully linked the KELS data with middle school records, which are anonymized in the KELS, at the individual level using the statistical matching approach.

### 3.3 Evaluating the Impact of Policy Changes in Workers' Compensation

The third branch of my future research agenda addresses important policy-relevant questions in the context of *workers' compensation* insurance—insurance which provides medical and cash benefits to workers who are injured on the job. Specifically, I plan to investigate two distinct research questions that are of first order importance in the setting of workers' compensation insurance. The first question explores the consequences of transitioning from mandating firms purchase this coverage directly from a *state-run public insurer* to mandating firms purchase this coverage from *private firms* in a competitive market. To analyze this question, I will explore the historical privatization of West Virginia's state-run workers' compensation program in 2008 as a case study, focusing on its effects on premiums and medical spending. Given that the appropriate extent of government intervention in insurance markets remains a topic of ongoing political and economic debate, this study should inform policy by improving our understanding of the relative efficiency of the two extreme regimes in this insurance market.

The second question I plan to explore focuses on the consequences of a shift in control over the selection of an injured worker's medical provider. Specifically, I aim to understand the impact of restricted medical provider choices on injured workers' health outcomes, medical expenditures, and return-to-work duration. To advance this research, I have extensively reviewed relevant state statutes to document historical changes in *control over doctor choice*. Using this information, I will conduct both within-state and across-state analyses. For instance, the state of Montana switched from employee to employer choice for injuries occurring on or after July 1, 2011, enabling me to employ a regression discontinuity design. In addition, since many states have not changed their policies related to the choice of doctor, I can employ a difference-in-differences framework using them as control states. Given the growing prevalence of managed care plans that limit the choice of medical providers through network restrictions, I believe the potential findings from this research may provide insights applicable to both workers' compensation insurance and broader health insurance markets.

While both projects are at a relatively early stage, I have extensive knowledge of and research experience in the workers' compensation insurance market. In addition, I have already reached out to and obtained sample data from the National Council on Compensation Insurance (NCCI), the broadest and deepest workers' compensation database in the US, for the first project.