My research agenda explores the impact of both K-12 and higher education policies on student outcomes, as well as their spillover effects on parents. Specifically, I focus on the effects of admission policies in primary schools and universities and I study a wide range of student outcomes, including educational attainment, socio-emotional skills, mental health, and decision-making. I primarily employ reduced-form empirical methods to address these questions. In particular, I utilize national and subnational policy changes as quasi-experimental variations, allowing me to estimate the causal effects of these programs. To shed light on underexplored aspects of admission policies, I leverage unique institutional settings and data in different countries.

K-12

My dissertation centers on a critical component of primary school admission policies, the age requirement, and examines a unique school-starting age (SSA) reform in China during the 1980s and 1990s. This reform, implemented in the 1980s and 1990s, lowered the age requirement for primary school entry from age seven to age six while maintaining the cutoff date and compulsory schooling duration. To the best of my knowledge, there is no prior research estimating the overall policy impact of this SSA reform.

The first chapter of my dissertation, **"The Shifting Timelines: School Starting and Leaving Ages in China in the 1980s,"** establishes the presence of the first stage effects of the SSA reform by documenting the change in school-starting age distribution in response to the reform. According to the Office of Information Disclosure at the National Bureau of Statistics of China, there is no official data available on school starting age or age requirements for school entry. To address this, I thoroughly review decades of education regulations to identify the treatment margin. Utilizing data from the 1982 and 1990 censuses, China Family Panel Studies 2010, and China Health and Nutrition Surveys from 1989 and 1993 for estimation, I construct three distinct proxies, which are alternative methods for estimating school starting age distribution. I document the similarities and differences between each proxy and discuss the limitations and contributions of each approach. My findings indicate that the SSA reform substantially increased the fraction of children who started school at age six and reduced the fraction of those who started school after age seven. This change in school starting age is unlikely driven by trends in early enrollments.

In the second chapter of my dissertation, **"Early School Access and Educational Attainment: Evidence from China's School Starting Age Reform (Job Market Paper),"** I estimate the causal effects of the reform on educational attainment by exploiting the staggered adoption of this unique education reform. Using China's 2005 census microdata and implementing the heterogeneity-robust difference-in-differences by Callaway and Sant'Anna (2021), I find that the SSA reform increased high school enrollment by 5.5 percentage points and high school graduation by 5.3 percentage points. Heterogeneity analysis reveals more pronounced effects for students with better pre-primary education resources but little differences by gender or birth month. Additional analysis suggests a potential mechanism is through dynamic complementarity of early skills increased long-term human capital accumulation.

The findings of this paper shed light on previously unexplored aspects of school starting age. Prior literature study school starting age using age differences within a grade resulting from variation in birth dates relative to school entry cutoff dates. This estimation strategy cannot distinguish between the timing effects of starting school at a younger age and the peer effects of being relatively

younger than classmates. Through estimating the program effect of the unique education reform in China, I isolate the timing effects and show that the early start of formal schooling increased human capital accumulation, holding peer effects and duration constant. The finding of this paper challenges the conventional wisdom that children benefit from later school start, which manifested in parents' behavior and policymaking.

Moreover, additional analysis of this paper suggests the SSA effects may persist into later adulthood. Future collaborative work with Ze Song (Associate Professor, Nankai University, School of Economics) will delve into **the effects of SSA reform on later adulthood outcomes**, including college enrollment, employment, earnings, occupation, marriage, and fertility, using restricted-use China 2010 and 2015 census microdata.

Another future project will examine **the effects of SSA reform on parental labor supply and household income**. Given the limited access to preschools and formal childcare centers in China in the 1980s, a younger school starting age might serve the purpose of childcare: schools provided children supervision of teachers and purposefully designed daily routines for children. Reducing childcare duty for women has been viewed as an avenue for promoting female labor supply. Existing studies center around urban working moms in developed countries and suggest the effect of childcare on parental labor supply is context-dependent. This forthcoming project fills in the gap by looking at historical China with over 70 percent rural population. Leveraging the detailed non-wage income and wealth data collected by the China Household Income Project rural survey, including the value of the farm, the total amount of cultivated land, quantity and value of various crops, and the value of agricultural machinery, I am able to overcome the challenges of measuring parental labor supply in rural settings and provide novel evidence of parental labor response to childcare in developing countries.

In the forthcoming project with Estelle (Hyewon) Shin (Ph.D. Candidate, UC Davis, Department of Economics), we look at the other element of the primary school admission policies, the cutoff date. In particular, this project seeks to examine the impact of an education reform in South Korea that shifted the cutoff date from March 1st to January 1st. We focus on understudied yet extremely important student outcomes that go beyond test scores and attainment. These encompass aspects such as self-esteem, social skills, learning habits, aggression, and depression. This study represents the first exploration of **how a change in cutoff date affects social-emotional skills and mental health**. This study represents the first exploration of how a change in cutoff date affects social-emotional skills and mental health. We plan to employ a difference-in-difference design, utilizing data from the Korea Children and Youth Panel Survey 2010 and 2018. Our analysis will involve a comparison between students who entered school before and after the implementation of the policy reform. Our treatment group is students born in January and February, as they are directly affected compared to students born in other months. This empirical strategy identifies the differential treatment effect between the directly affected children and the indirectly affected children. Additionally, the data set includes information regarding students' physical development, such as height, weight, and the onset of puberty, which will enhance our understanding of how relative age at school entry impacts the development of children's social-emotional skills.

Higher Education

Another section of my research agenda centers around university admissions policies. In particular, in the series of forthcoming joint projects with Isaac Ahimbisibwe (Ph.D. Candidate, UC Davis, Agricultural and Resource Economics), we plan to explore rich student-level proprietary data in Uganda, including linked college entrance exam test scores, college application school and major choices, admission results, and college test scores, to answer various questions addressing **inequality in university admissions**.

In Uganda, students submit a list of six majors to the university during application. Students will only be admitted to a major they list on the application. Once admitted, students are assigned to a specific major, which is binding and difficult to change after enrollment. The decision of admission and the major is determined by the ranking of entrance exam test scores, students' high school track, and the order of the major.The first project of the series documents the errors and suboptimal strategies of order we observe in the application and how these high-cost detrimental acts correlate with the socioeconomic status of students. Down the road, we plan to examine how students update their beliefs about their ranking before and after knowing their entrance exam test scores by comparing the regular applications submitted after the entrance exams and early applications submitted before the entrance exams.

We also plan to estimate how unexpected changes in major prerequisite subjects, known as 'exogenous shocks,' differentially affect students from different socioeconomic backgrounds. In particular, one project will examine an admission policy change that imposed an additional requirement on the law major. Before the policy, law majors only needed to submit entrance exam test scores like other majors. After the policy, the test score of a separate specialized exam, similar to the LSAT in the United States, was required to be submitted to be considered for admission to the law major. We seek to investigate whether the additional new requirement widens or narrows the inequality between students from prestigious high schools and less prestigious high schools.