I am a development economist studying labor and behavioral economics questions. My research examines labor and education market imperfections, especially around issues of asymmetric information. My research primarily relies on the use of large scale field experiments in partnership with firms and schools. This allows me to causally identify the effect of various aspects of the employment relationship, including altering contracts, incentives, monitoring, and information. In addition, I focus on measuring richer aspects of behavior and information sets than would traditionally be available in administrative data. Due to the data collection-heavy approach, I work closely with local research firms such as the Center for Economic Research in Pakistan and IFMR in India. My research has been funded by DFID, JPAL, the National Academy of Education, the Spencer Foundation, the Weiss Family Fund, CEGA, the Institute for Research on Labor and Employment, PEDL, IGC, and the Strandberg Fund.

Research Papers

My first area of research is understanding asymmetric information between employers and employees. In my job market paper, **"Inducing Positive Sorting through Performance Pay: Experimental Evidence from Pakistani Schools"** with Tahir Andrabi, we show that performance pay contracts allow schools to attract higher-quality teachers. To test this question, we conduct a two-stage randomized controlled trial in 243 schools. We find that performance pay induces positive sorting along two margins: both high value-added teachers and teachers who respond more strongly to incentives significantly prefer performance pay and sort into these schools. Using additional cross-randomization, we show effects are more pronounced among teachers with more information about their quality and teachers with lower switching costs. Finally, we show there is substantial asymmetric information between employees and employers in this setting. Teachers have considerably more information about their quality than their principal, and this holds throughout most of their tenure. If we take into account these sorting effects, the total effect of performance pay on test scores is nearly twice as large as if we just measured the direct effects on the existing stock of teachers.

Second, I study the extent to which local manager knowledge can help overcome moral hazard problems. A central challenge facing organizations is how to incentivize employees. While high-powered incentives can motivate effort, they can lead employees to distort effort away from non-incentivized outcomes. This is one reason why most performance incentives allow for manager subjectivity. However, this subjectivity can introduce new concerns, including favoritism and bias. In **"Subjective versus Objective Incentives and Employee Productivity"** with Tahir Andrabi, we study the effect of subjective versus objective performance incentives on employee productivity using a randomized controlled trial in Pakistani private schools. We estimate the effect of two performance raise treatments versus a control condition, in which all teachers receive the same raise. The first treatment arm is a "subjective" raise, in which principals evaluate teachers; the second treatment arm an "objective" raise based on student test scores.

We show that both subjective and objective incentives are equally effective at increasing test scores. However, objective incentives decrease non-incentivized student outcomes. We show the effects on student outcomes are driven by changes in teacher behavior in response to the incentives. In objective schools, teachers spend more time on test preparation and use more punitive discipline, whereas, in subjective schools, pedagogy improves. Finally, we investigate the mechanisms of these effects through the lens of a moral hazard model with multi-tasking. We exploit variation within each treatment to isolate the causal effect of contract noisiness and distortion on

student outcomes. We then show that teachers perceive subjective incentives as less noisy and less distorted, and these contract features affect student outcomes, serving as key channels to explain the reduced form effects we see.

Another area of my research is understanding the broader impacts of schooling on human capital development. In **"Attention as Human Capital"**, with Supreet Kaur, Geeta Kingdon, and Heather Schofield, we study whether attention is a general skill which can be developed through high-quality schooling. We first document lower-income individuals exhibit larger attentional declines than more affluent ones across disparate field settings (school tests, worker productivity, voting) in both rich and poor countries and these declines help explain some of the overall performance differences among the rich and poor. Next, through a field experiment with 1,650 low-income Indian primary school students, we vary the amount of individual, focused practice time students experience during the school day. The intervention improves the ability to sustain focus across a variety of unrelated domains—math performance, listening retention, and IQ, as well as on traditional attentional ability measures—indicating that our interventions affected an underlying core cognitive resource. In addition, the intervention improves performance on school-administered tests in core subjects. Our findings suggest that worse schooling environments may disadvantage poor children by hampering the development of general human capital like attention skills.

Going forward

My current ongoing research focuses on the extent to which biases among managers and hiring processes disadvantage women and socially-unconnected workers. In an ongoing project with Maryiam Haroon, **"Search and Matching Frictions for Daily Wage Laborers,"** we have partnered with a construction firm to understand market failures in the market for daily wage laborers. In initial descriptive work, we show lower productivity is not a predictor of unemployment but lower social-connectedness is. Our current study seeks to understand the role social-connectedness plays in solving information asymmetries but also exacerbating inequality. In partnership with the construction firm, we randomly vary payment structures and information about laborer performance to understand how hiring decisions change in the face of different incentives and information.

Finally in **"Statistical and Financial Discrimination by Managers"**, I study how manger evaluations of male versus female teachers change in response to evaluation systems. I use data from the experiment with private schools, discussed above, to measure how accurate principal evaluations are under different conditions. I compare principal evaluations to extremely rich data on teacher behavior to understand if female teachers are penalized by managers. Then I compare the extent of that penalization when principal evaluations have a financial stake for teachers versus when they are solely for feedback purposes. Finally, I compare the extent of gender bias in evaluations by the extent of exposure principals have to teachers, exploiting a randomization treatment which varied how often principals conducted classroom observations of certain teachers.

I am interested in continuing my work on understanding how individuals' beliefs about themselves and others affect labor market outcomes and education decisions. For example, next, I am interested in studying how individuals lower effort in order to avoid negative information about themselves (self-handicapping) and how managers' beliefs about employees affect their decision to invest in labor-enhancing capital.