

Effective institutions and governance are at the heart of the economic development process (Williamson, 1979; North, 1990; Acemoglu, Johnson, and Robinson, 2001; Banerjee and Iyer, 2005; Lowes, Nunn, Robinson, and Weigel, 2017). Through my research, I seek to unpack the concept of institutions to their micro-foundations with specific focus on: (a) formal legal institutions and the judiciary, (b) local social structures and norms supporting effective collective action and coordination, and (c) rural land inequality. I use empirical approaches to answer specific questions in these broader themes, including reduced form estimation (using experimental and quasi-experimental designs) as well as structural modeling.

I Legal Institutions and the Judiciary Prior work has documented that complex procedural law introduces delays in dispute resolution through formal institutions such as courts (Djankov, et al, 2003). Often, such laws are inherited from the time of colonial institutions, which when modified through legislative amendments generate large welfare gains (Chemin, 2009; Ponticelli and Alencar, 2016; Kondylis and Stein, 2021). In *Front-line Courts As State Capacity: Evidence from India*, I use the universe of disaggregated legal case data across a large sample of district courts in India to examine the effect of judicial capacity constraints on the local economic development process. Exploiting variation in the timing of judge staffing changes in these courts, I show that persistent reduction in judge vacancy reduces litigation backlog in the courts, which in turn stimulates local formal section production. Correspondingly, creation of vacancy is detrimental to the development process. A central mechanism is the role of courts in providing legal services to the enablers of economic production such as banks and the law enforcement agencies. This suggests that investing in strengthening the capacity of such frontline institutions, for example by addressing vacancy, is a Keynesian multiplier that generates returns that are orders of magnitude larger than the cost.

I examine the distributional consequences of the judicial staffing constraints using the same context and data as above on litigant outcomes in *Whither Justice?: Judicial Capacity Constraints Worsen Trial and Litigants' Outcomes*. Consistent with Visaria (2009) and Von Lilienfeld-Toal, Mookherjee, and Visaria (2012), smaller plaintiff firms that are reliant on the formal judicial system for dispute resolution are more likely to suffer due to judge vacancies.

In a third working paper, *Institutional Factors of Credit Allocation: Examining the Role of Judicial Capacity and Bankruptcy Reforms*, I study the complementary role played by strengthening of creditor rights through a large-scale bankruptcy reform in India (stronger than the 2002 reform examined by Vig, 2013) and local judicial capacity in enforcing this right. I note that in the period with improved rights, banks are more likely to file legal suits concerning debt recovery in district courts with lower vacancy and this complementarity also helps increase loan repayments.

In addition to these papers that mainly rely on administrative data and quasi-experimental variations, I am setting up two new projects with Daniel Chen and Shareen Joshi. In the first, we examine optimal assignment of dispute resolution cases to online mediators and arbitrators for settlements out of court. In the second, we test the effectiveness of data-based calendaring tool to help judges improve their productivity. We have identified implementing partners on the ground and are currently in the process of piloting interventions.

II Local Social Structures and Norms In the presence of market and government failures, economic agents rely on local social norms and networks to enforce production outcomes and mediate internal allocation of surplus. However, hierarchies in such social structures could impede effective diffusion of profitable technologies, leading to low levels of adoption in the long run, generating large welfare losses (Anderson, 2011; Gollin, Hansen, Wingender, 2021).

In *Got (Clean) Milk? Organization, Incentives, and Management in Indian Dairy Cooperatives* with Ashish Shenoy, we find that group-level incentives lead to large improvements in production quality within local production teams. This gain is sensitive to the extent of information dissemination about the incentives within the hierarchies in the local social and production structures,

with gains observed only when the information is limited to the elites. I also document barriers imposed by social structures - the jati-caste system - in long run diffusion of profitable agricultural technologies in *Seeding the Seeds: Role of Social Structure in Agricultural Technology Diffusion* with Alain de Janvry and Elisabeth Sadoulet.

In two projects in the field with ongoing endline data collection, *Power of Agency: Evidence from India* and *Mission Kakatiya: An Impact Evaluation of Minor Irrigation Tank Rehabilitation in India*, respectively, with Xavier Gine, Anup Malani, and Aprajit Mahajan, we examine the effectiveness of collective action and coordination in the maintenance of common pool resources for irrigation as a function of the extent of local agency over the choice and implementation of infrastructure projects for storage and distribution of surface runoff from monsoon rains.

III Rural Land Inequality As a crucial link between two big questions in development economics: *why don't people migrate to more productive urban areas?* (Caselli, 2005; Gollin, Lagakos, Waugh, 2014) and *why a large share of population continue to engage in small-scale agricultural production?* (Adamopoulos and Restuccia, 2014; Foster and Rosenzweig, 2022), I study the role of rural land inequality from the perspective of structural transformation process. A large body of literature has shed light on the importance of migration costs (Bazzi, 2017), risk and uncertainty of returns in urban areas (Bryan, Chowdhury, and Mobarak, 2014), informal insurance networks in villages (Munshi and Rosenzweig, 2016), non-pecuniary attachment to land (Fernando, 2022), among a number of other explanations. The third strand of my research examines facts and implications of rural land inequality on structural transformation process in the presence of multiple factor market constraints.

In *Towns and Rural Land Inequality in India* with Juan Eberhard and Prashant Bharadwaj, we document three empirical patterns associating rural land inequality with urbanization: (a) a strong distance gradient, (b) distance correlation observed in the share of mid-sized farmers. and (c) stronger gradient closer to larger towns. We develop and simulate data from a simple model of migration choice faced by each farmer in the presence of land and credit market imperfections, which when aggregated across the distribution of farmers with varying land endowments generates the observed empirical patterns. I also explore the role of rural land inequality in local structural transformation process in an ongoing project *Land inequality and rural structural transformation: Evidence from India* with Frances Lu where we document substantial associations between land inequality, investments in productive agriculture (i.e., irrigation), and the presence of local non-agricultural enterprises.

In the next 5-7 years, I expect work on all three agendas, generating academic publications, informing my teaching of courses in economics wherever I can draw from my own research, as well as providing useful insights for policy.