Research Statement

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My research lies at the intersection of Labor and Development Economics.

The world has seen unprecedented economic development over the last few decades. The advent of Digital Technology in recent years (such as broadband internet, smartphones, etc.) has disrupted socio-economic interactions across countries and holds the potential to unlock further economic growth, especially in low- and middle-income countries. While these technologies have reduced costs of acquiring information, mitigated spatial barriers of trade and employment, and democratized access to labor markets more generally, firms and workers in these countries continue to face challenges, which are particularly salient for vulnerable groups like small businesses, women, and the youth.

My research focuses on studying the causes and consequences of frictions faced by firms and workers in a rapidly changing world. I examine these questions from both a macroeconomic perspective (Section 1) as well as through an applied microeconomic lens (Section 2). The latter allows me to study these frictions in great detail, examine specific mechanisms and channels, and study the impact of policy reforms. The former on the other hand, is aimed at understanding their aggregate implications on the misallocation of resources and talent, and its consequences on aggregate growth and productivity in the economy. My research contributes to several fields including labor and development economics, organizational and personnel economics, and the economics of gender and digitization. Drawing on tools and insights from disparate fields, my work often combines methodological approaches including economic theory, field experiments, and empirical analysis of observational data.

1 Digitization, Structural Transformation and Economic Development: A Macroeconomic Perspective

My research brings together three areas of economic development: patterns of structural transformation across countries over the last half a century; the potential of Information and Communications Technology (ICT) to unlock growth and accelerate economic development; and the implications of this development for vulnerable sections of society, and in particular, women.

For example, Chiplunkar and Kleineberg (Working Paper, 2022) documents the role of gender in structural transformation and economic development using nationally representative data covering over a billion people, and across four decades (1970-2015). We show that despite a closing of these gender differences in wages and occupational choice over time and across countries, significant gaps still persist. We then develop and estimate a general equilibrium model of occupational and sectoral choice to quantify these barriers after accounting for standard economic channels (such as comparative advantage, returns to ability, sorting, non-homothetic preferences, etc.). The results indicate that while non-economic barriers faced by women (such as social norms, etc.) have been improving over time, they continue to remain a key challenge despite economic progress, and account for a substantial proportion in lowering aggregate growth and productivity.

The above paper therefore raises the question of what policy can do to mitigate these gender barriers. While this has undoubtedly been at the forefront of discussion across many countries, the focus continues to rely on labor supply-side challenges faced by women (such as conservative norms, household duties, etc.) Chiplunkar and Goldberg (Under Revision at Econometrica, 2022) document a novel labor demand-side pattern instead: women entrepreneurs hire more women employees, and there is a lack of business ownership by women across the world. Taking these observations as a starting point, this paper develops a framework to explore the differential barriers to entry and operation faced by women, as well as their aggregate implications. In the context of India, we find that the costs for *expanding businesses* through the hiring of workers is substantially higher for women as opposed to *starting new businesses*. Moreover, since women entrepreneurs hire more women, policies that promote female entrepreneurship alone can significantly boost female LFP. More generally, removing all excess barriers faced by women entrepreneurs generate substantial gains in aggregate productivity and welfare. These gains are due to higher LFP, higher real wages and profits, and reallocation: low productivity male-owned firms sheltered from female competition are replaced

by higher productivity female-owned firms previously excluded from the economy.

The two papers discussed previously suggest two things: first, there are substantial differences in how men and women contribute to the economy, both as entrepreneurs and workers; second, these have important aggregate implications in terms of structural transformation, misallocation, aggregate productivity, and growth. Could technology, and in particular, the rapid expansion of 3G mobile internet hold the key to unlocking economic development and getting more women to participate productively in the labor force? Chiplunkar and Goldberg (Working Paper, 2022) provides the first clean, causal inference to study this important question with nationally representative data across 12 countries and around 7,000 sub-national regions (districts, counties, municipalities, etc.), along with novel data on the expansion of 3G networks in these regions. We find that the availability of 3G significantly increases the labor force participation rate of women, and the employment rates of both men and women. Moreover, 3G affects the type of jobs and there is a distinct gender dimension to these effects. Men transition away from unpaid agricultural work into operating small agricultural enterprises, while women take more unpaid jobs, especially in agriculture, and operate more small businesses in all sectors. Both men and women are more likely to work in wage jobs in the service sector.

2 Frictions in the Labor Market: A Microeconomic Perspective

A tradeoff in studying the economy from a macroeconomic lens is that it often limits our understanding of specific mechanisms and channels that could drive these patterns, as well as studying the impact of policy solutions to it. A key part of my research agenda (discussed below) aims to overcome this from an applied microeconomics lens– using field experiments, policy reforms and rich observational data.

While linked in no particular order, I briefly discuss a set of papers below that examine various facets of these frictions, both from the perspective of workers and employers alike. These papers explore topics related to firms' compliance with labor laws and their political connections, to the consequences of matching frictions in labor markets, and the role of social networks in disseminating job information.

Compliance with Labor Laws and Informality: A key feature of labor markets in developing countries is the presence of a large informal sector consisting of low productiv-

ity firms and an unprotected workforce outside the purview of policy regulation. Chaurey, Chiplunkar and Soundararajan (Working Paper, 2022) study the role of the informal sector in understanding the implications of policies that penalize formal sector firms for not complying with Employment Protection Legislations (EPLs). In our context, it is a policy that penalized firms in the formal sector for hiring workers "off-the-books". We show that while the policy *reduces* informality on the "intensive margin" i.e., formal sector firms hire fewer workers off-the-books (and more on payroll), it *increases* informality on the "extensive margin", as firms are now more likely to operate in the informal sector instead. This lowers real wages and welfare in equilibrium.

Firms' Political Connections During a Crisis: Given the advent of severe macroeconomic crises in recent years (such as the Covid-19 pandemic), an important question that is increasingly starting to receive attention is the role of firms' political connections in being able to respond to it. While the literature has examine *whether* these connections matter, it is not clear *how* they matter. Chiplunkar et al. (Working Paper, 2022) attempts to examine this question by contributing in two distinct ways: first, as opposed to primitive measures of political connections that are commonly used in the literature (such as regional associations, social identity, etc.), we assemble a very novel data of firms' political connections in India. The novelty relies on not only measuring *direct* connections between entrepreneurs, politicians and bureaucrats, but also developing sophisticated machine learning algorithms to capture *indirect* associations between them through public appearances, friendships, etc. through more than 6 million newspaper articles from leading dailies. A second innovation is the use of detailed annual balance sheets and financial transactions for a panel of firms that allows us to examine changes to assets, liabilities and borrowings portfolio of these firms. Using a synthetic difference-in-differences framework, we find that in response to a large macroeconomic shock in India, connected firms were relatively more likely to get access to short-term credit, and delay their short-term payments to suppliers and creditors. They were therefore able to invest in productive assets, resulting in 8-10% higher income, sales, costs, as well as productivity gains that were persistent for over a three year period following the crisis.

How Important are Matching Frictions? A long standing literature has documented search frictions as an important barrier for young workers to find jobs in low-income countries. In Banerjee and Chiplunkar (Under Revision at Review of Economics and Statistics, 2022) we study another important yet understudied margin, namely the role

of labor market intermediaries (very common in these settings) in inefficiently matching job-seekers to jobs. In particular, we show that placement officers in vocational training institutes in India have very little information about the employment preferences of job-seekers and thus often place them in jobs that these job-seekers have no interest in working in. Using a field experiment, we then show that providing placement officers with information on these preferences substantially improves the set of interviews that job-seekers end up. They are more likely to retain these jobs in the short-run, and also more likely to be employed in the labor force over the longer run.

Role of Social Networks in Disseminating Job Information: Social networks play an important role in disseminating information to individuals within the network. However, a key distinction regarding information on jobs is the "rival" nature of this information–sharing information with others mechanically reduces the probability that an individual gets the job. In a field experiment in India, Chiplunkar, Kelley and Lane (In Progress, 2022) show that when the job information is rival, it dramatically reduces the likelihood of information sharing, especially with the high-ability individuals within the network. This results in a lower quality of applicants. We show that increasing wages–a common tactic employed by firms to attract talent– in fact worsens competition..

Marriage Markets and the Rise of Dowry: A key part of labor force decisions for both individuals and households in developing countries is linked to their marital decisions. Bride price and dowry payments are common practice in many regions of the world and yet, there is very little empirical evidence on how these institutions emerge and evolve over time. Chiplunkar and Weaver (Under Revision at the Journal of Development Economics, 2022) fills this gap in the Indian context and offers one of the first empirical insights into how the institution of dowry has evolved over the last century in India. Using data on around 75,000 marriages, we document a substantial rise in dowry payments in Indian marriages between 1930-75. We empirically test whether four prominent theories of dowry can explain this rise, and find support for only one: dowry emerges due to increased differentiation in groom quality as a result of modernization. We then show that the average real value of dowry payments declines after 1975 and that this can be rationalized by a search model of marriage markets.