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Essays on Digital Economy and Inequality
(Dissertation)

In the digital age, inequalities persistently emerge across different facets of the economy, especially in developing countries. This dissertation delves into the distributional effects of digitalization on firms and gender disparities in the gig economy.

In the first chapter, “Digitalization as a Double-Edged Sword: Winning Services and Losing Manufacturing in India,” I explore the impacts of digitalization on firms in India. While digitalization can enhance productivity, in developing countries with missing markets and labor market frictions, firms may not be able to universally avail themselves of digitalization opportunities leading to distributional effects. I utilized a massive expansion in digital payments resulting from a demonetization policy in 2016 to inquire what are the consequences of digitalization for firms in a developing country and whether there are winners and losers in the short run. I find divergent growth paths between the service and manufacturing sectors. Specifically, service firms experienced growth in income and productivity, while manufacturing firms witnessed a decline. Services increased ICT capital and hired complementary skilled labor whereas manufacturing firms did not. Hence, the divergence in trajectories was attributed to the reallocation of scarce ICT labor, favoring service over manufacturing firms. The results highlight the potential of digitalization to exacerbate sectoral disparities in the short term in the presence of limited spatial mobility.

The second chapter, “Does the Gig Economy Discriminate against Women? Evidence from Physicians in China,” shifts focus to gender disparities in the burgeoning gig economy. Using novel data from a major Chinese online healthcare platform, I show that female physicians charge 2.3% lower prices and provide 11.0% fewer consultations than males. I consider several channels to explain this pattern and find evidence that the gaps are due to discrimination and the platform’s algorithm. Patients penalize female physicians more for not providing information about work experience and reward them more for providing a strong positive signal about quality, such as a senior professional title. Over time, the revelation of work experience by physicians leads to the elimination of the gender penalty. The platform's design, particularly its ranking algorithm, plays an important role in enlarging gender gaps. Although the ranking algorithm initially treats female physicians equally upon their platform entry, it amplifies and perpetuates the disparities by taking historical consultations and thus pre-existing discrimination into account and, subsequently, placing fewer females at the top of search results.

Together, the two chapters comprehensively examine how the digital economy can exacerbate inequalities in developing countries.

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