

Devaki Ghose, University of Virginia

Trade, Internal Migration, and Human Capital: Who Gains from India's IT Boom?

(Job Market Paper)

How do trade shocks affect welfare and inequality when human capital is endogenous? I develop a quantitative spatial equilibrium model incorporating two novel channels: higher education choice and differential costs of migrating for college and work. I estimate the model using an external IT demand shock and detailed internal migration data from India. Using this framework, I then quantify the aggregate and distributional effects, and perform counterfactuals. I endogenize human capital acquisition by incorporating two margins of response: first, agents can acquire new skills and second, they can migrate internally to acquire these skills. I find that without any of these channels, estimated aggregate welfare gains from the IT boom would be halved and estimated regional inequality would be a third higher. Shutting down the second channel alone (not allowing migration for education) reduces the estimated aggregate welfare gains marginally but increases regional inequality by 15%. In the short-run, when skills are fixed, unskilled worker welfare falls in one third of Indian districts as costs of living rise and skilled workers migrate out of these districts.

Sector specific trade shocks, such as the Indian IT boom, change the relative returns to occupations across locations depending on two factors: the location's comparative advantage in that sector and its connectivity to other locations. The changes in the relative returns to occupations affect an individual's incentives to invest in different skill types. Skill investments are constrained by the local availability of higher education and the costs of moving to regions with colleges. The key ingredient of my model is that individuals make education and work decisions in two stages. In the first stage, they decide what and where to study taking access to higher education and job opportunities into account. In the second stage, individuals choose the sector and location of work.

The paper makes three contributions. First, I introduce human capital acquisition decisions in a general equilibrium economic geography model. The general equilibrium aspect is important, since human capital takes time to respond to employment opportunities, during which both people and goods can move. Second, in the model, people face differential migration costs when they move for education or for work. I develop a framework to estimate these two costs separately and find that the mobility costs for education are 7 percentage points higher than those for work. Individuals born in districts with greater access to education and jobs gained as much as 2.63%, while those in remote districts experienced gains as low as 0.67%. Third, the framework is well-suited for analyzing the effects of policy-induced spatial frictions to moving for higher education, such as in-state quotas at colleges. Reducing these barriers would increase aggregate welfare marginally but substantially decrease the impact of the export shock on regional inequality. The results underscore the potential for education policies to distribute the gains from globalization more equally.

JEL Classification: F16, F63, I24, J24, R12

Keywords: trade, human capital, inequality, migration, gravity, information technology