

RESEARCH STATEMENT

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I am a microeconomist, with research interests in labor economics, social networks, and applied theory. Here I discuss work that I have finished, work that is in progress, and ideas for future work. Most of my research considers how innate factors (such as race, family, and gender) influence (1) the network of personal relationships, and (2) economic outcomes in markets where the network of personal relationships matter.

Completed Papers

In my job market paper, I consider how races influence labor market outcomes through employee referrals (a social networks based mechanism). I build a model of employee referrals with two main features: unemployed workers choose which employed workers to ask for referrals based on the type of ties (weak or strong) they have with them, and firms try to infer some information about the abilities of the unemployed workers through the recommendations of its employees. The model predicts that the returns to using a tie vary with the unemployed worker's ability, the tie strength, and the proportion of workers who have access to different types of ties. I then develop two applications of this model. (1) There is significant evidence suggesting that the black-white wage gap widens as one moves up the wage hierarchies of the private sector in the US. The model shows that the lack of access to strong ties for blacks can be behind this empirical finding. (2) In the second application, I explore some implications of the employee referrals for job search. The model can explain (i) the mixed evidence about the use of different types of ties in job search, and (ii) the mixed evidence about the wage differentials between workers who found jobs through referrals and workers who found jobs by formally applying to firms. Although these predictions do not emerge in the existing model of employee referrals, they are consistent with existing empirical evidence, suggesting that the tie selection and the strategic recommendation are important aspects of employee referrals and are useful for understanding job search.

In my previous work, I consider how communities (such as family) influence the formation of social networks (for instance, the marriage network) through social pressures. I study environments in which individuals are restricted to form or break certain relationships/links by members of their communities/groups. I show that these restrictions can help reconcile the tension between stability and efficiency which often exists in the absence of such constraints due to the presence of network externalities. Firstly, I characterize consent rules (group structures and consent requirements) that can optimally lead to the formation of efficient networks. In the optimal consent rules, I find that the size of groups and the consent requirement (group's influence) are positively related. For instance,

the optimal consent rules can be big groups with high consent requirement or small groups with low consent requirements. Secondly, I show how the optimal consent rules depend on the form of network externalities. In environments with negative externalities and where the payoff comes from multiple paths, one needs big groups with high consent requirements to stabilize efficient networks. On the other hand, in environments with negative externalities and where the payoff comes from shortest paths, one needs small groups with low consent requirements to stabilize efficient networks.

This paper has already been submitted to a journal. I am currently working on the empirical part of my job market paper (see below). The three chapters of my dissertation will include this submitted paper, the theoretical and the empirical parts of my job market paper.

Works in Progress

- *Empirical Part of Job Market Paper*: I am using US data from the “Multi-City Study of Urban Inequality, 1992-1994: [Atlanta, Boston, Detroit, and Los Angeles]”, a survey particularly well-suited for my study because it contains data on (1) many occupations, and (2) the races of unemployed and employed workers.

I have already obtained an important preliminary result: I find that black workers rely on cross-race ties twice as much as white workers do. This finding provides support for the model’s prediction related to the black-white wage gap. However, this is just the start of my exploration of this data set. Some of the model’s predictions that I plan to test include: (1) the black-white wage gap is smaller in occupations/regions where black workers have to rely less on cross-race ties, (2) black workers have higher returns to weak ties, and (3) the wage differentials between workers who found jobs through referrals and workers who found jobs by formally applying to firms depends on their abilities (i) above average ability workers always have positive returns to ties, and (ii) below average ability workers can have small, insignificant and even negative returns to ties.

Future Research

Economists have long recognized that innate factors based inequalities exist in labor market outcomes. In particular, race and gender based inequalities in labor market outcomes have received much attention from labor economists. I think that the network of personal relationships is an important element to understand such inequalities because innate factors can influence the network of personal relationships, and personal relationships matter in determining labor market outcomes. My job market paper shows that black workers receive lower wage offers in high earning occupations than white workers because they have little access to strong ties. Do women also face

limited access to certain type of ties which restrict their opportunities in the labor market? Besides employee referrals, are there other social networks based mechanisms which can influence labor market outcomes? If so, what can firms or the government do to influence such mechanisms and improve labor market outcomes? These questions constitute my agenda for future research. I will now discuss three specific research ideas, which I plan to pursue in the near future.

- *Cross-Sex Ties and Gender Inequality*: At this point, little is understood about how cross-sex ties influence labor market outcomes. I want to take a first step towards understanding this relationship. For instance, how does the returns to finding a job through referrals depend on the genders of the unemployed and the employed workers? Are the returns to cross-sex ties lower? Do women rely more on cross-sex ties than men? How does their reliance on cross-sex ties vary with occupations?

Similar to the black-white wage gap, there is some evidence suggesting that the gender wage gap is also higher for higher earning occupations. I build a model of employee referrals which takes into account the genders of the employed and unemployed workers. I then show that the lower returns to cross-sex ties can explain this finding. Since many high earning occupations are male dominated, women have to rely more on their cross-sex ties to get these jobs. As a result, women get lower wages in these jobs than their men counterparts. The “Multi-City Study of Urban Inequality, 1992-1994: [Atlanta, Boston, Detroit, and Los Angeles]” has data on the genders of the unemployed and employed workers, which will allow me to test my theory. I use this data set to further explore the relationship between cross-sex ties and labor market outcomes.

- *Clientele Networks and Racial Inequality*: Although employee referrals have been widely studied, little is understood about other social networks based mechanisms which can influence the labor market. There is evidence suggesting that those occupations with the largest black-white wage gaps are those that are client-based, such as lawyers, physicians, and certain sales occupations. I build a model of clientele networks to explain this finding. I show that employees use their existing social networks to build their clientele networks, and white employees are able to form wealthier clientele because their social networks include wealthier people.
- *Optimal Design of the Employee Referrals Mechanism*: If a firm wants to maximize the information it can extract about the abilities of unemployed workers, then what is the optimal design of employee referrals? I find that the optimal design is such that the firm can extract more precise information about the abilities of unemployed white workers than unemployed black workers. As a result, black workers get lower wages than white workers. Thus, there is an efficiency (maximize information extraction) and equality (black-white wage gap) trade-off with the design of employee referrals mechanism.