

Transport, urban labor market integration, and women's mobility

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ABSTRACT

A well-integrated citywide public transport network contributes to economic growth by reducing transport costs and travel time, facilitating specialization of firms and workers, and decreasing the cost of economic transactions. Yet, despite increasing urbanization, many cities in developing countries suffer from a poorly connected public transport network. In addition, in many contexts with conservative norms or high crime in the city, female workers may face greater restrictions on their physical mobility within the city. This limits the pool of workers that firms can attract and retain. Limited transport options may thus reduce the growth-enhancing effects of urbanization, which operate in part through the increased size and scope of skilled labor markets. In this project, we test the overall impact of transport to work on men, women, and the differential impact for women of women's-only transport. We experimentally vary access to a transport service, and study how this affects job search, employment outcomes, and employers' access to a broader pool of candidates. For women, the comparison between women's-only and mixed-gender transport services allow us to quantify the benefit of a reduction in cost, an improvement in safety and social acceptability, and the two combined, on women's mobility, labor force participation, other activities outside the home, and empowerment. The results of this research will inform policy on how transport services can best be designed, adapted and expanded to improve urban economic integration and labor market outcomes, as well as women's mobility and empowerment.

EXTENDED ABSTRACT

Background

Women's mobility is highly restricted in many countries with religiously conservative cultural norms. One reason for this is that women's use of most means of transport – such as crowded buses or rickshaws driven by men - involves breaking social taboos against women coming into close contact with unrelated men, and the ensuing discomfort, social stigma and threat of possible harassment or attack discourage women's use of public transport systems. These social norms potentially have a major impact on women's ability to choose whether and how to participate in the labor force: whether to take a job, and where and what type of job to eventually take. It also affects their ability to move freely for other important purposes, such as engaging socially and civically; making independent purchasing decisions; and using public services. Freedom of movement is a key factor in women's empowerment in these countries. Restrictions to women's mobility are an issue in most of South Asia and the Muslim World, regions with a total population of 1.5 billion people; many areas in these regions are urbanizing rapidly. This intensifies the challenge, since women's mobility is often more, not less, restricted due to the threats in large, anonymous urban environments. Urbanization also increases the opportunities, since urbanization comes with more choices of education and employment opportunities for women if they can reach them. Urban density also allows for economies of scale for solutions such as high-quality transport services, which may help overcome mobility restrictions. Safe and socially acceptable transport for women is an under-researched intervention with great potential for women's economic empowerment in a large part of the developing world.

Research on how norms affect women's labor force participation mostly focuses on whether it is acceptable for women to participate in the labor force at all (e.g. Tolciu and Zierahn 2012), rather than exploring norms around specific constraints that may play a role and could be mitigated by policy, such as mobility and transport.

Work on urban public transport and spatial mismatch of unemployed workers to work opportunities is limited overall (e.g. Cropper et al. 2007, Gulyani et al. 2006, Yepes and Lall 2008). The existing work on transport interventions has focused more on road connectivity to rural areas (Khandker et al. 2006 and World Bank 2007), not urban and peri-urban areas. Very few studies are able to credibly identify a causal effect of transport on labor market outcomes; however, those with credible identification suggest that transport has an important impact at least on job search (Phillips 2014 among unemployed jobseekers in Washington, DC, Franklin 2014 among job seekers in Addis Ababa, Ethiopia).

Safe and acceptable urban public transport is an under-researched intervention for women's economic empowerment in many developing countries. Cities in Israel, Japan, India, Pakistan, Egypt, Iran, Brazil, Mexico, Indonesia, the Philippines, Malaysia and the United Arab Emirates have all adopted women's-only spaces in public transport. The idea of a separate space on transport for women is a polarizing one, with strong advocates for and against such measures. Yet the impact of such initiatives on women's empowerment and economic outcomes has not yet been rigorously evaluated, in part due to the difficulty of identifying an appropriate comparison group or counterfactual. This study directly addresses these issues by estimating the impact of transport to work for men, women, and for women on a women's-only vehicle.

This project implements a Randomized Control Trial (RCT) in Lahore, Pakistan, in which we test the overall impact of women's-only transport on women's mobility, labor force participation, and firm-level outcomes. Our field experiment will quantify the impact of social norms on women's participation in the public sphere, including in the labor force, and will test whether a simple intervention can expand women's opportunities outside the home and firms' access to female

workers. Door-to-door pick-and-drop transport services are provided in collaboration with the leading Pakistani employment service. In one treatment arm, these transport services will be female only; in the second treatment arm, they will be mixed-gender. In control areas, no new transport services are provided. To get at the firm side, we also randomize over the universe of service sector and manufacturing employers that are assigned to the pick-and-drop routes.

The provision of these transport services has the potential to affect employers by increasing their ability to hire and retain qualified female workers. As an example, within the first month of the intervention pilot, one of the employers offered a position to a female candidate who agreed to take the job only on the condition that she be provided with a transport service between her home and the office. Without the pilot service, this employee would not have accepted the job. Qualitative evidence from discussions with firms and female workers suggests that this is a common phenomenon, and that for many urban women, a safe and trusted mode of transport to work is the deciding factor between jobs or between working and staying home. To investigate the impact on firms, we seek survey firms at baseline and followup and measure the number of men and women hired, the residential areas they come from, their objective qualifications and their employers' and colleagues' perceptions of the new employees' abilities.

Understanding how firms are affected by being able to more easily hire women will substantially enhance the public policy implications of improved transport for women. For instance, it will allow the researchers to analyze whether any change measured on the labor supply side represents a shift between treated and untreated women in the same jobs, or if firms are actually able to hire and retain more women as a result of the treatment.

None of the existing literature has focused on how women use transport differently than men, nor has it addressed how norms may affect women's use of these services. Yet norms appear be central in the labor supply decision for women in this context. The majority of women who do not work report that they or their male family members do not want them to work *outside the home* as the primary reason; this suggests that taboos on exposure to the public space may be an important constraint.

For those women who do travel, women's patterns of transport use are also completely different than those of men. Even conditional on indicating that they are available to work, men are ready to travel much further than women for a job. This is relevant for daily commutes as well as migration: men are about twice as likely to say they are ready to go elsewhere in the district for a job, for example. Far more women do not report spending any significant time commuting for work; and across the distribution, men spend more time traveling than women. These differences reflect the unique difficulty women face in travel and commuting, including social stigma and harassment when using public vehicles crowded with men (Ali 2012, Chhachi and Pittin 1996). This factor is very likely part of the reason why women's overall labor force participation in Pakistan, along with many other Muslim countries and South Asia, is far lower than in other countries with similar levels of GDP per capita.

Research questions

By incorporating both a worker-side and employer-side randomization of transport to work, our study addresses the following research questions:

1. How do transport services affect men's and women's labor market search; participation on the extensive margin (the decision to work); intensive margin (hours), and job choice?
2. How does *women's-only* transport affect women differently from mixed-gender transport?

3. If there are changes in women's workforce participation, how does this affect measures of women's empowerment? How does it affect the attitudes of family members and members of the treated women's social networks on women's mobility outside the home, gender-segregated spaces and women in the workplace?
4. How do transport services affect employers?
 - a. Does attendance improve due to reliable transport (versus the status quo in which women often rely on a male family member to accompany them to and from work)?
 - b. Do employers have a better pool from which to choose as a result?
 - c. Do they hire more women, and/or women who are better matches for the position?
 - d. Does retention of female employees improve?
5. How does the intervention affect the attitudes of supervisors and co-workers on:
 - a. Their female employees, and women in the workplace more generally? (For example, they may become more comfortable through exposure to a greater number of women in the workplace.)
 - b. Women's mobility outside the home and gender-segregated spaces? (For example, they may become more comfortable with women traveling independently; or the women's-only transport could have the unintended consequence of reinforcing the view that women should stay in gender-segregated spaces.)

Intervention

Our field experiment tests a women's-only pick-and-drop service on a range of routes throughout the metropolis of Lahore, Pakistan (population approximately 10 million). The service offers a safe, socially acceptable means of transport for women to travel to work, access public services, and visit their family members and friends.

The intervention takes the form of a door-to-door "pick and drop" transport service which takes individuals from home to work and back on a monthly subscription basis. This is commonly practiced by larger employers, but small employers usually do not do so due to economies of scale and coordination costs. Employers may be stuck in a low equilibrium in which any individual does not hire women who would require transport because providing it for a few employees would be prohibitive, but if several neighboring firms hired women the costs per user would be sustainable. The intervention will help to solve the coordination problem between employers by providing transport and subsidizing empty seats for a duration of approximately one year, with the aim of moving firms into an equilibrium with more female employees and thus making the service financially self-sustaining by the end of the RCT.

To implement the intervention, the research team is working in collaboration with a transport operator who already provides pick and drop to larger employers. Through the project, the operator is subsidized for a limited period of time to help overcome the coordination costs involved in arranging a pick-and-drop that serves a whole cluster of smaller employers. This service is offered in addition to existing public and private transport services that are available in the status quo.

Measurement of key outcome variables for jobseekers

Measuring changes in female labor supply raises a number of challenges, particularly when women have limited information about job opportunities. To address this challenge, we developed an employment assistance service, "Job Talash," which acts as a unique measurement tool for labor market supply and demand side outcomes. The service connects respondents of the household

survey who express job interest at baseline to employers in the employer survey that have job vacancies.

For initial enrollment, we surveyed approximately 50,000 households in a clustered random sample of households across metropolitan Lahore. In each household, a respondent reports a roster of adult household members and basic information on their age, education, and current work status, for a total sample of approximately 150,000 members. For each member (whether currently working or not), the enumerator asks whether he/she was interested in signing up for Job Talash, a job search service, and if so notes contact information for him/her. The enumerator also leaves a flyer with a unique code and a contact number for Job Talash. Individuals from all areas of the urban and peri-urban sample expressed interest, including men and women of all education levels. The majority of these individuals were not actively searching; of those searching, the most common search method was through social networks. This suggests that (a) the platform is likely an important tool to ensure that participants know about jobs farther away that they might access through transport; in the absence of this platform jobseekers might not find out about jobs further from their residential area and thus they might not be able to respond to the transport intervention in the short run; and (b) the interventions on this platform including transport have the potential to increase labor force participation on the extensive margin.

The Job Talash call center then calls the individuals marked as interested in the household to sign them up. On each call, the Job Talash team verifies the individual's interest in the service; this stage yielded a total sample of approximately 9,000 subscribers. For interested respondents, the Job Talash team then signs him / her up as a Job Talash "subscriber" by gathering more detailed background information about the applicant's education including institutions, specializations, and grades, and full details of work experience and responsibilities, along with current job search activity and preferences for different types of jobs. The Job Talash team then prepares a CV for each subscriber with the information gathered on the call. The CV is sent to the subscriber to confirm accuracy and any final changes are made. Once the subscriber is enrolled, Job Talash includes him/her into a pool of potential candidates.

To enroll employers, we again cover a representative sample across the metropolitan area. We subdivide existing administrative zones in this area. We then use a listing of employers we compiled from multiple administrative sources and geocoded to identify the industry composition of each area. We use this to draw a stratified random sample of clusters, ensuring representative coverage of different industries. A field team will list all firms / organizations within each selected cluster, distinguishing larger, formal organizations (i.e. those that appear to have a reception or multiple employees) from smaller ones in the listing.

The Job Talash team then contacts the large, formal organizations by telephone in advance to arrange an appointment. A team of high-level enumerators goes to the field and approaches smaller organizations on the spot for an interview, while following up with the large organizations to meet with the appropriate respondent (manager / HR officer). The enumerators present the Job Talash service to employers, offering them the opportunity either to enroll now to list jobs immediately, or to enroll for the option to list jobs later. The dual approach to fieldwork and the approach through Job Talash helps to ensure that both large, formal and small, informal firms are represented in the survey, as well as maximizing the response rate for a representative sample of employers. Firms with greater labor constraints may be more likely to participate; to address this, we encourage those who express no interest in Job Talash to respond to the survey for research purposes and offer non-financial incentives to respondents in larger firms for doing so (a certificate and plaque). We record observable data on non-responders for analysis of how non-response at baseline might affect the generalizability of the results.

At the enrollment stage, each employer is invited to submit any current vacancies. Employers will also be contacted periodically to submit any vacancies that may come up in the future. For each new job identified by Job Talash, the team uses a simple filter of required educational level and years of experience to identify matching candidates, resulting in thousands of potential matches for male and female jobseekers of all education levels.

Job Talash sends the SMS announcements of these job opportunities. Individuals can respond to confirm interest in the job. The Job Talash team then places a follow-up call to individuals to whom the job has been sent, to confirm they have received the SMS and check their interest. Job Talash team members also confirm the applicant has understand the location of the job and confirm they plan to attend an interview if invited. This **decision to apply** is our initial outcome of interest. The Job Talash team sends a packet of CVs of interested applicants to the employer, who may choose to call them for interviews. After several days, the team then calls the employer to gather **follow-up data on whether an applicant was selected for an interview, attended, offered a job and ultimately accepted employment**. We propose to present results of the randomized offer for transport on these initial outcome variables at the workshop.