

Facilitating Worker Mobility: A Randomized Information Intervention among Migrant Workers in Singapore

Slesh A. Shrestha and Dean Yang*

May 23, 2017

Abstract

International migrant workers often face high job search costs and imperfect information on their legal rights to change employers. Such information constraints can undermine the economic benefits from international migration by tying migrant workers to their current employers, leading them to accept less favorable employment terms. We ran a randomized experiment on the impact of facilitating worker mobility via an information intervention among Filipino maids in Singapore. The treatment led to improvements in knowledge of legal rights related to changing jobs, as well as in job conditions (e.g., improved hours and other conditions of work). Treatment effects are concentrated among workers who initially had (prior to treatment) low knowledge of their legal rights, as well as those with poor initial job conditions. These workers with poor job conditions also became more likely to change employers in response to treatment. The results reveal the empirical relevance of imperfect information in the labor market for migrant workers, particularly information facilitating job-to-job transitions.

*Shrestha: Department of Economics, National University of Singapore, 1 Arts Link, AS2 Level 6, Singapore 117570, slesh@nus.edu.sg. Yang: Department of Economics, University of Michigan, 3315 Weill Hall, 735 S. State Street, Ann Arbor, MI 48109, deanyang@umich.edu. This project is conducted with approval from the National University of Singapore Institutional Review Board (Approval Number: NUS-1879). This article benefited greatly from the comments of the editors and anonymous referees. We are also grateful to seminar participants at the National University of Singapore, IZA Institute of Labor Economics, and Jinan University for their helpful comments and suggestions and to Medha Basu, Anna Weiling How, and Stephanie Foo, who provided outstanding research assistance.

Worker mobility is an important determinant of employment terms and conditions in the labor market (Scully, 1973; Raimondo, 1983; Naidu, 2010; Naidu and Yuchtman, 2013). Foreign migrant workers, in particular, often have limited job-to-job mobility in their countries of employment due to imperfect information (Huang and Yeoh, 1996; Kossoudiji and Cobb-Clark, 2002; Munshi, 2003; Beaman, 2012). Incomplete information can tie migrant workers to their current employers and lead them to accept less favorable terms of employment. In this paper, we examine whether relaxing information constraints related to job-to-job transitions can improve employment outcomes of foreign workers.

82 million individuals from developing countries were residing in developed countries in 2013, mostly for the purpose of employment.¹ Labor migration leads to large income gains (Clemens et al., 2009; Clemens, 2013), some of which are shared with their family members through remittances (Yang, 2008; McKenzie et al., 2010). Remittances sent to developing countries reached \$551 billion in 2013, and have a range of positive impacts on recipient households (Yang, 2011; Gibson and McKenzie, 2014).

At the same time, there is a growing sense among policy-makers and non-government organizations (in both sending and receiving countries) that migrant workers face potentially important barriers to improving their conditions of work overseas. In particular, information constraints could undermine the economic benefits from international migration by decreasing migrants' incomes or their ability to obtain better work conditions.² In a standard job-search model, workers use information about market conditions to determine their outside options (Burdett and Vishwanath, 1988; Gonzalez and Shi, 2010). Migrant workers, however, face multiple information constraints in their foreign country of employment. Restricted information on vacant jobs, partly due to limited local social networks, increases costs of searching for new employment. In addition, lack of knowledge about legal rights and regulations regarding changing employers can further restrict labor mobility and create monopsony power for employers (Ashenfelter et al., 2010; Staiger et al., 2010; Manning, 2011; Matsudaira, 2014).³ Both factors

¹South-North migration accounted for 35 percent of total international migrants in 2013 (United Nations, 2013). In the last two decades, South-North migration has been the main driver of global migration, growing more than twice as fast as the global total.

²Poor working conditions for migrants are a frequent international news item, such as reports of high death rates among migrants in dangerous jobs. For example, in Qatar, a major Middle Eastern destination for migrants from South Asia, 241 Indian and 185 Nepali construction workers died in 2013 (Gibson, 2014). For detailed summary of research on the effectiveness of policies that enhance benefits and reduce risks from migration at all three stages of the migration process (pre-departure, during migration, and return migration), see McKenzie and Yang (2015).

³Legal restrictions that tie migrants to their employers or make it difficult to change employers are commonplace, particularly in countries with larger migrant workforces (Ruhs, 2013). This is clearly a separate issue from imperfect information about migrant worker's legal rights to change jobs.

could reduce migrant reservation wages, restrict their choice of employment, reduce workers' bargaining power relative to current employers, and make it difficult to leave jobs with poor employment conditions.

We implemented a randomized controlled trial examining the impact of providing information aimed at facilitating worker mobility. Our study population was composed of Filipino maids in Singapore. Filipinos make up the largest share of foreign domestic workers (FDWs) in Singapore. FDWs are mostly female and work in private homes performing household chores. The informal nature of the job imposes constraints on effective monitoring of FDWs' working conditions, and surveys of FDWs indicate poor knowledge of their legal rights to change employers. This provides an ideal setting to test the role of incomplete information in influencing work conditions and worker mobility.

FDWs assigned to the treatment group received verbal and written information on Singaporean labor laws about changing employers. Treated FDWs were also handed a list of current job vacancies for domestic work in Singapore, and they were informed of a free online job portal where they could get more up-to-date information on FDW job openings. Several months later, we re-interviewed study participants to determine the impacts of the treatment.

The treatment led, first of all, to substantial improvements in worker knowledge about their legal rights, in particular that they could find and change employers without the use of an agent or middleman. In addition, the treatment led to improvement in an index of self-reported employment conditions. Among the components of the index, the treatment had positive impacts on daily work hours as well as "other conditions," but not on monthly salaries. These overall impacts are statistically significant at conventional levels.

Subsample analyses help shed light on the distributional impacts of the information intervention. The treatment effects on work conditions are concentrated among workers who, at baseline (i.e., prior to treatment), had poor knowledge about their legal rights related to job mobility. Positive impacts on employment conditions were also larger in magnitude among "vulnerable" FDWs (those who reported at baseline to have poor work conditions on specific work dimensions protected by the law in Singapore). This vulnerable sub-population also became more likely to find a new employer as a result of treatment.⁴

To our knowledge, this paper is the first empirical study of the impact of improving information related to migrant worker job mobility. This paper contributes to a growing literature

⁴The non-vulnerable subgroup, on the other hand, does not become more likely to change employers as a result of treatment, but in this group we do find a positive treatment effect on stated *intentions* to seek to improve work conditions in the future.

on the effects of information imperfections in markets for migrant work, and in labor markets more generally. Information imperfections have been shown in some cases (but not others) to affect the migration decision itself (McKenzie et al., 2013; Beam, 2016; Bryan et al., 2014; Beam et al., 2016). Asymmetric information within transnational households (between migrants and their family members back home) have been shown to influence remittances and savings rates (Ambler, 2015; Ashraf et al., 2015). In addition, many public policies aimed at promoting employment among native workers focus on improving access to information (Heckman et al., 1999).

Our paper is also connected to a smaller body of work on the impact of labor market restrictions or distortions on migrant work. Naidu et al. (2016) show that a legal reform in the UAE that loosened restrictions on migrant workers' ability to renew their employment contracts led to higher migrant earnings. McKenzie et al. (2014) show patterns in Filipino migration responses to overseas economics shocks that are consistent with binding minimum wages for migrant work. We contribute to this emerging literature by examining impacts of improving information on migrant legal rights to change jobs.

This paper also relates to the role of labor mobility and easier online search options in determining labor market outcomes (Kuhn and Skuterund, 2004; Stevenson, 2009; Kroft and Pope, 2014). Mobility restrictions have been shown to affect wages and welfare among native workers in developed (Naidu, 2010) and developing countries (Lilienfeld-Toal and Mookherjee, 2010).

The rest of the paper proceeds as follows. Section 1 describes the foreign domestic worker labor market in Singapore. Section 2 outlines the research design and the empirical strategy. Section 3 presents estimates of the causal impact of information intervention on labor market outcomes. Section 4 concludes.

1 Background

Foreign domestic workers (FDWs) are common in Asian economies like Singapore, Hong Kong, and South Korea, Middle Eastern countries like Bahrain, Kuwait, Saudi Arabia, and Israel; and in the Western countries such as the United States, the United Kingdom, and Canada (albeit at a much smaller scale).⁵ Domestic work is also the most important sector of employment

⁵In Hong Kong, close to 60 percent of educated women with young children employ a FDW (Cortes and Pan, 2013); in the United States, Cortes and Tessada (2011) estimate that immigrants represented 25 percent of the workers employed in private household consumption.

among female migrants from several developing countries. More than 85 percent of all female migration from Sri Lanka and 40 percent from the Philippines consisted of domestic workers. In some countries, FDWs even outnumbered male migrants.⁶ This demand for FDWs is fueled by the growing participation of women in industrialized nations in formal labor markets; and their consequent reliance on migrant labor for their household production needs. An aging population in developed countries further adds to this demand (Kremer and Watt, 2009; Yeoh and Huang, 2010).

Since 1978, when Singapore first granted work permits to foreign domestic workers, the number of FDWs working in Singapore has increased from 40,000 in 1988 to 200,000 in 2009 (Yeoh et al., 1999). Currently, one in every five Singaporean households employs a foreign maid. Approximately, three-quarters of FDWs come from the Philippines, one-fifth come from Indonesia, and the rest come from other government-approved countries.⁷ They make up close to 20 percent of its foreign workforce (Government of Singapore, 2014a).

The recruitment and employment of FDWs in Singapore is governed by the Employment of Foreign Manpower Act. Under this Act, households with sufficient income and domestic needs are allowed to hire a female FDW. She must be between the age of 23 and 50, and have completed a minimum of 8 years of education. In turn, employers are required to pay a one-time security bond of SGD5,000;⁸ the deposit would be refunded when FDW returns safely to her home country after the contract expires. In addition, employers also have to pay a monthly levy of SGD265 to the government and purchase personal accident and medical insurance policies for each FDW they hire. They are required to pay FDWs a pre-negotiated fixed salary every month and no later than 7 days after the last day of the salary period, to allow for weekly rest days, and to provide them with a safe work environment.⁹

Employers can hire FDWs directly or through an employment agency, of which there are over 1,000 operating in Singapore. These agencies recruit potential workers through brokers in their home country and match them with employers in Singapore. In addition, they provide

⁶Domestic workers accounted for 66 percent of those departing for foreign employment in Indonesia and 42 percent in Sri Lanka.

⁷This list includes Thailand, Sri Lanka, Philippines, Bangladesh, Hong Kong, India, Indonesia, Macau, Malaysia, Myanmar, South Korea, and Taiwan. The first three countries were approved for recruitment since the beginning in 1978, while the others were added later over time.

⁸The average exchange rate from June-October, 2013 was USD1 = SGD1.24.

⁹Safe work environment is defined as “sufficient ventilation, safety, privacy, space, and protection from the elements like rain and sun.” In addition, FDWs must undergo a medical check-up every six months and attend the Settling-in Program within three working days of arriving in Singapore. They are not allowed to bring with them any family members to Singapore, marry Singaporeans, or become pregnant during their stay in the country. Employers must complete the Employer’s Orientation Program. More detailed information on regulations and requirements is available in Employment of Foreign Manpower Act, Chapter 91A, Schedule 1 and Schedule 4. It can be downloaded at: <http://www.mom.gov.sg/legislation>.

other services like FDW training, and they assist employers to draw up employment contracts with their FDWs that specify the terms and conditions of employment such as their monthly salary. According to Government of Singapore (2010), 90 percent of households in Singapore hire FDWs through an employment agency, and majority of these employers also receive free replacements of FDWs from the agency for a stated period of time, if they are not satisfied with their current one. In contrast, for a FDW her work visa is tied to the employer, and only allows her to work on household chores at the location stated in her contract. It also requires her to reside (or “live-in”) with her employer. The length of the contract is two years, but can be renewed for six more years. Renewals after eight years of employment are considered on a case-by-case basis.

The Employment of Foreign Manpower Act allows FDWs to change employers at any time, as long as they continue to work as domestic workers. This law guarantees the right to transfer without the FDW having to leave Singapore, using an employment agent, or paying any fines. Workers do require approval from their current employer in order to transfer. To initiate a transfer, the new employer must file an application for a new work permit on behalf of the FDW. Almost half of FDWs remain employed with the same employer for over a year, and fewer than 3 percent of FDWs have changed more than two employers (Government of Singapore, 2014b).¹⁰

FDWs are not protected by the Employment Act, which regulates work hours, wages, and other benefits of workers in Singapore. The Singapore government maintains that such controls are impractical due to the unstructured nature of household chores, and therefore, leaves employment conditions to the discretion of the employer and the employee. Instead each employer is required to write a contract with the FDW that states the terms of the employment, which is usually limited to the monthly salary that the employer will pay, and to file this document with the Ministry of Manpower. Not surprisingly, the majority of FDW complaints relate to aspects of their work that are not covered by the employment contract such as work hours and freedom of movement. Human Rights Watch (2005) found that more than 80 percent of domestic workers in Singapore complained of having a heavy workload with not enough time to rest.¹¹ More than two-thirds of FDWs complained about limited access to information and

¹⁰The transfer rates across employment agencies vary from zero to twenty percent, while the retention rates vary from zero to one hundred percent. Both measures are used as an indicator of the employment agency’s quality and performance (Government of Singapore, 2014b).

¹¹Human Rights Watch (2005) estimates that the Indonesian Embassy in Singapore receives fifty complaints per day, mostly from domestic workers. The Philippines Embassy and the Sri Lankan High Commissions each receive forty to eighty complaints from FDWs per month.

external communication.

2 Experimental Design

Our sample consists of Filipino migrants working in Singapore as domestic workers. The research team visited a centrally-located shopping mall popular with Filipino workers, Lucky Plaza Mall, every Sunday from June 2013 to October 2013. Filipino FDWs commonly visit the mall on their rest day (typically Sunday) to meet other FDWs and send money home via the many remittance companies located there. 33.4 percent of FDWs whom we approached for an interview agreed to participate in the study. FDWs who agreed to participate were administered a baseline survey on the spot. Half of respondents were assigned to the treatment group based on a randomly selected sealed envelope that was opened by the surveyor immediately after completing the survey, and revealed the treatment status. FDWs selected into the treatment group received the treatment soon thereafter. All participants were then contacted via phone seven to eight months after the initial visit for a follow-up survey.¹²

The baseline sample consisted of 303 FDWs, out of which 153 FDWs were randomly assigned to the treatment group. Table 1, Columns 1 and 2 report means of baseline variables in the control and treatment groups, respectively, while Column 3 reports the difference in means. Across all the reported demographic, employment, and knowledge variables, we cannot reject that means are equal across treatment and control groups at conventional levels of statistical significance. As indicated by the F-test statistic at the bottom of Column 3, we also cannot reject the joint equality of means between the two groups across the full set of variables shown.

FDWs in our study are on average 37 years old, slightly more than two-fifths are married, and roughly three-fifths have completed college. The average duration of employment in Singapore is 8 years, and they have been employed with the same employer for slightly more than 4 years. Across the sample, we find that labor laws that are designed to protect FDWs are not always adhered to. 30 percent of FDWs report earning less than the minimum wage set by the Philippines government for its overseas domestic workers, USD400.¹³ This is perhaps not

¹²In the baseline survey, study participants were asked to provide their personal cell phone numbers at which we could reach them in the future for the follow-up survey. They also indicated their preferred day/time of the week to receive our call. A majority of our participants chose Sundays as their preferred day (which is also their weekly rest-day), while many others also indicated early afternoon on weekdays as the preferred time to call. For the first try, we called on their preferred day/time as stated in the baseline survey. If we were unsuccessful in the first try, we called at least 20 times on different days/times during the week that included both weekdays and weekends (including Sundays), and we sent a short text message to the same phone number after the 10th unsuccessful try.

¹³The Philippines Overseas Employment Administration regulates the recruitment and employment of Fil-

surprising. The Philippines law does not apply in Singapore, and the Singapore government does not mandate a minimum wage for FDWs—including Filipino FDWs—who are working in Singapore.

While Singapore laws leave many aspects of domestic work unregulated, they mandate FDWs to be paid within the week after the last day of their salary period, guarantee one rest day per week, and require provision of a safe workspace. More than 20 percent of FDWs report not having at least one of these conditions fulfilled by their current employer. We categorize them as “vulnerable” FDWs for later analysis.

FDWs were also tested on Singapore labor laws related to FDW transfer. They were asked to provide true-or-false answers to the following four statement questions: According to Singapore law, FDWs are allowed a) to work in Singapore only via an agent; b) to change employers without suing an agent; c) to change employers but have to leave Singapore first; and d) to change employers but need an approval from the current employer. The correct answers are “False” for the first and third questions, and “True” for the second and fourth. More than 95 percent of FDWs answered the fourth question correctly. On the remaining three questions however only 10 percent of FDWs could correctly answer all three questions, and 35 percent answered at least two out of the three questions correctly.¹⁴

The Singapore government does not disclose the census data on FDWs, which makes it difficult to compare the characteristics of our study sample with that of the FDW population working in Singapore. The only other data on FDW characteristics that we are aware of comes from an independent survey conducted by the Humanitarian Organization for Migration Economics (HOME).¹⁵ While this also might not constitute a representative sample, the data was collected by visiting multiple (at least 4) sites around Singapore that are frequented by FDWs, and it included FDWs from four different countries including the Philippines. This allows us to compare how Filipino FDWs (focus of our study) might be different from the rest of the FDWs in Singapore, and also compare the characteristics of Filipino maids across the two datasets.

Table 2 presents means of variables that are common across the two datasets and additional Filipinos for work abroad, including setting their minimum wage standards. For detailed discussion on the minimum wage standards for Filipino FDWs, see McKenzie et al. (2014).

¹⁴We use the knowledge of these three labor laws in the follow-up survey to measure the impact of the treatment on FDW knowledge.

¹⁵The survey of FDWs who are working in Singapore was conducted by HOME between November 2013 and May 2014. HOME is a nongovernmental organization founded in 2004 with the goal of serving the needs of the migrant worker community in Singapore. For more information about the organization and the FDW survey conducted by HOME, refer to Humanitarian Organization for Migration Economics (2015). This report can be downloaded at www.home.org.sg/wp-content/uploads/2015/07/HOME_2015_Home-sweet-home_short.pdf.

variables from the HOME data that are related to job mobility and employment outcomes of FDWs in Singapore. Column 1 reports means for all FDWs included in the HOME sample, and Column 2 restricts this sample to include only Filipino maids.

Filipinos are on average older and are more likely to have completed college compared to other nationalities. They also have more years of experience of working in Singapore (7.5 years compared to 6.1 years for the overall sample). Despite these differences, however, job mobility among Filipino FDWs is as limited as that of FDWs from other countries. More than 30 percent of FDWs (32 percent for Filipinos and 34.7 percent for the entire sample) have worked with only one employer during their entire time in Singapore. In addition, only about one-fourth of FDWs are allowed to leave their employer’s house at will, and one-fifth of them report that their employers regularly search their personal belongings. Both Filipino and non-Filipino FDWs report similar workload and monthly salary.¹⁶

Column 3 of Table 2 reports the means for FDWs from our study sample. Across all the common variables (except one), FDWs in our study sample do not look very different from Filipino FDWs in the HOME sample (p-values of these differences are reported in Column 4). The share of FDWs who report earning less than the minimum wage set by the Philippines government is statistically significantly different across the two samples (p-value of 0.035). But we cannot reject the joint equality of means between the two samples as indicated by the F-test statistics at the bottom of Column 4.

2.1 Information intervention

The treatment consisted of verbal and written information about the labor market for domestic help in Singapore. We provided two types of information. Treated FDWs were first handed a flyer on Singapore labor laws about changing employers for FDWs. It included information about their legal rights guaranteed in Singapore, and provided detailed instructions on how to request transfers, including where they could obtain application forms.

The second set of information focused on employment opportunities currently available to them in Singapore. They were informed about a new, free online job portal with job postings from employers seeking to hire FDWs. DWjobs.org was setup in 2012 as a non-profit enterprise, and the website and its mobile application serve as a job-matching platform for FDWs seeking to transfer, by allowing prospective employers to post advertisements and FDWs to download

¹⁶Filipino FDWs are less likely to be earning below the minimum wage set by the Philippines government. This is expected given other governments do not impose minimum wage requirements for their overseas workers.

them for free.¹⁷ In addition to this information, treated FDWs were also given a print-out of the ten most recent job postings from the website. Each job posting came with a brief job description and the employer’s contact information. We updated this print-out weekly.

Our survey staff provided a verbal summary of the key information from the written material before handing it over to treated respondents. Appendix Figures A1 and A2 reproduce the FDW legal rights flyer and an example of a job postings print-out used in the intervention respectively.

We would expect that this information could increase job mobility, as well as increasing employees’ bargaining power by improving their outside options. If FDWs were information constrained, this information intervention should decrease their job search costs.

2.2 Sample attrition

Out of 303 FDWs interviewed in the baseline, we successfully followed up with 178 FDWs via phone.¹⁸ The attrition rate is almost identical and not statistically different between treatment and control groups (see bottom of Column 3, Table 1), suggesting that attrition bias is not a prominent concern. Columns 4-6 in Table 1 present means of baseline variables in the treatment and control groups and their differences for this restricted follow-up sample. Means in the baseline and follow-up samples are similar. In the follow-up sample, three (out of 20) differences between treatment and control groups (age, indicator for working over eight hours per day, and indicator for having been injured at work) are statistically significant at the 10 percent level. The F-test in Column 6 does not reject the joint equality of means between the two groups at conventional levels of statistical significance.

Table 3 examines whether the attrition is correlated with the FDW’s characteristics, by regressing the indicator variable of whether a FDW shows up in the follow-up sample on her baseline characteristics. The estimated coefficients on all variables (except college graduate) are not statistically significant at conventional levels. Moreover, the F-test statistic at the bottom

¹⁷The website’s goal is to create a more equitable job marketplace for FDWs. Both employers and FDWs can use the internet-based service for free and avoid paying employment transfer fees to middlemen (e.g., employment agencies) that can range from SGD400 to SGD600. The website also provides a forum for discussions of issues faced by employers and workers, along with the list of basic skills training resources available to FDWs in Singapore. More information about the organization and its online job-matching service can be found at dwjobs.org.

¹⁸This follow-up success rate of 60 percent is consistent with other migrant studies such as Ambler et al. (2015) and Ashraf et al. (2015). The latter study successfully tracked 57 percent of migrants from El Salvador living in Washington, D.C. from the baseline. The follow-up rate in Ambler et al. (2015) is 73 percent. In our study, FDWs whom we could not contact in the follow-up might have left the country, changed their phone number, or did not want to be re-interviewed. If we could not contact an FDW after calling her for more than 10 times, we sent a short text message to the same number, informing our intention to contact for the follow-up survey. After the text, we tried calling at least 10 more times.

of Column 3 cannot reject that the reported characteristics are jointly significant, providing no evidence of a potential self-selection into the follow-up sample on observed characteristics.¹⁹

2.3 Empirical specification

We estimate intention-to-treat effects of our information intervention by estimating OLS with the following specification:

$$Y_i = c + \gamma Treatment_i + X_i' \delta + \epsilon_i \quad (1)$$

where Y_i is the outcome measure for individual i , $Treatment_i$ is a binary indicator for treatment assignment of individual i , and X_i is a vector of individual-level covariates. The covariates are included to improve estimation precision and to account for any chance differences between treatment and control groups in their baseline characteristics. Because we randomized at the individual-level, the variable $Treatment_i$ should be uncorrelated with the individual-specific error term, ϵ_i .

The coefficient of interest in the regression is γ , the causal impact of treatment on FDW outcomes, Y_i .

3 Results

We estimate the effect of the treatment on four types of outcomes: knowledge about labor laws related to job mobility, employment outcomes, intentions related to employment, and job search outcomes. For each set of outcome variables, we show treatment effects in the full (follow-up) sample in Table 4. Treatment effects for subsamples of the data (partitioned by baseline knowledge and by work conditions) are presented in Table 5.

3.1 Average treatment effects

We first discuss treatment effects in the full sample of FDWs that show up in the follow-up survey, in Panels A, B, C, and D of Table 4.

Panel A examines whether FDWs who received treatment had better knowledge of Singaporean labor laws related to job mobility at the time of the follow-up survey. We focus on

¹⁹In addition, the attrition rates are not different between high and low knowledge FDWs; and between vulnerable and non-vulnerable FDWs. We also do not find differential attrition by treatment status in each of these four subsamples for which we later estimate the treatment effects separately.

three Singapore laws that allow FDWs: a) to work in Singapore without using an agent; b) to change employers without using an agent; and c) to change employers without having to leave Singapore first.²⁰

The results in Panel A indicate that the treatment had a positive impact on respondents' knowledge of labor regulations related to FDW job transfers. We find large and positive treatment effects on correct answers for the first two questions, which are statistically significant at the 1 percent level. Impact for question 3 is positive but small, and it is not statistically significant at conventional levels.

To account for the problem of multiple inference, we construct summary indices that aggregate information over multiple treatment estimates, as in Kling et al. (2007). The knowledge index in Panel A, Column 5 is calculated by taking an equally weighted average across the three knowledge outcome indicator variables (equivalent to the share of the three questions answered correctly). The impact on the knowledge index is positive and significant at the 1 percent level. The impact of 0.220 on the knowledge index is large, amounting to 37.2 percent of the mean in the control group (0.592).

Impacts on employment outcomes are presented in Panel B. FDWs were asked during the follow-up survey whether their employment conditions had changed since the baseline. The treatment had positive impacts on FDWs' self-reported workload and other work conditions (excluding salary and work hours). FDWs who received treatment are 9.3 percentage points more likely to report that their daily work hours declined or remain unchanged, and 10.5 percentage points more likely to report that other work conditions improved or remain unchanged, compared to those who did not receive treatment.²¹ The two effects are statistically significant at the 5 percent and 1 percent levels respectively. On the other hand, treatment has no large or statistically significant impact on the likelihood of changing employers or of increasing one's monthly salary.

The positive impact on FDW's work hours without decreasing their monthly salary suggests that the treatment increased their "effective" hourly wage. More importantly, the treatment improved the aspects of household work that are relatively hard to monitor (compared to salary)

²⁰As mentioned earlier, the knowledge of the fourth law, which requires FDWs to obtain an approval from their current employer to request a transfer, was already very high in the baseline (95 percent of study participants). We drop this knowledge outcome from our analysis. Including this knowledge outcome in the analysis does not change the results on the knowledge index (Column 5) and the differential results by baseline knowledge in Panel A of Table 5.

²¹Other work conditions variable is likely to measure FDW's ability to leave the employer's house at will and their access to information and external communications. According to the Human Rights Watch (2005), freedom of movement and communication are two aspects of their job that most FDWs have grievances on, besides their salary and workload.

and are therefore often excluded from their employment contract.

The effect on an employment index (the average of the dependent variables in Columns 1-4) is positive and statistically significant at the 10 percent level. The point estimate indicates an increase in the index of 0.05, which is not trivial in magnitude compared to the mean in the control group (0.581).

Panel C estimates the effect on FDWs' intentions to seek better employment conditions with employers. The dummy dependent variables indicate whether respondents chose a value 5 or more in a 10-point scale (10 being extremely likely) to express their intentions to search for new employment, ask for higher salary, ask for better work hours, and seek more rest days in the near future.²² The treatment increased the likelihood that FDWs reported they would seek new employment by 16.2 percentage points. The estimate is statistically significant at the 5 percent level, and large with respect to the mean in the control group (11.2 percent). Impacts on other intentions outcomes are also positive, and the magnitudes are not trivial compared to the means but they are not statistically significant at the conventional levels. Column 5 reports the impact on an index of intentions (the average of the dependent variables in Columns 1-4), and indicates that the treatment had a positive and statistically significant impact (at the 10 percent significance level) on FDWs' intentions to seek better work conditions. The effect on the intentions index, 0.068, amounts to roughly a 50 percent increase over the mean in the control group (0.154).

Panel D reports impacts on job-search behaviors. Columns 1-3, respectively, report impacts on indicator variables for looking for a new employer, searching for multiple employers, and using alternate channels to search besides an employment agency. The fourth job-search outcome is an indicator for the respondent reporting that job search was an easy process. The information intervention had no effect on any of the search variables or on an index of job search (the average of the dependent variables in Columns 1-4).

3.2 Treatment effects in subsamples

To provide insights into the distributional effects of providing information on labor laws and job availability to FDWs, we now turn to analyses of impacts in subsamples. We first consider subsamples divided by initial knowledge of labor laws, and then turn to subsamples according to initial work conditions in Panels A and B of Table 5, respectively.

²²The results in Table 4, Panels C are robust to using category variables (1-10) for the four measures of intentions instead of the dummy variables. The results are provided in Appendix Table A1.

3.2.1 Subsamples by initial knowledge

We define “high knowledge” as in Table 1: an indicator for respondents answering correctly at least two out of the three questions about labor laws in the baseline survey. Panel A of Table 5 estimates regressions where we add an indicator for Treatment interacted with the indicator for “high knowledge” (the main effect for high knowledge remains included in the regression as a control variable.) The coefficient on treatment then represents the treatment effect for those with low knowledge. The coefficient on the interaction term represents the difference in the treatment effect for those with high knowledge (compared with those with low knowledge). We also report the p-value of the F-test that the treatment effect for those with high knowledge (the sum of the coefficient on the treatment main effect and the coefficient on the interaction term) is statistically significantly different from zero.

We highlight heterogeneity in the treatment effect on the four indices of knowledge, employment, intentions, and search outcomes.²³ Results in Panel A indicate that impact on employment conditions is larger among those with low initial knowledge. For the employment index outcome variable in Column 2, the main effect (impact of treatment for the initially low knowledge) is positive and statistically significant at the 5 percent level, while the F-test cannot reject that treatment effect among the high-knowledge is zero. Moreover, we can reject at conventional statistical significance levels that the treatment effect is the same in the low- and high-knowledge subsamples: the interaction term is negative and statistically significant at the 10 percent level.

Results in Column 1 indicate that the treatment effect on knowledge is large and positive for respondents with baseline low knowledge. The coefficient on the treatment main effect for the knowledge index is statistically significant at the 1 percent level. The Treatment*High knowledge interaction term is close to zero, and it is also not statistically significant. The F-test can reject at conventional levels that the treatment effects for initially high-knowledge respondents are zero. For the intentions and search indices in Columns 3 and 4, the treatment effects are not statistically different from zero for both low- and high-knowledge subsamples.

3.2.2 Subsamples by initial work conditions

It is natural to suppose that workers with initially worse working conditions would be more responsive to the treatment, as they would likely have higher potential gains from changing

²³The heterogenous treatment effect estimates on the full sets of outcome variables are presented in Appendix Tables A2-A5.

jobs or from negotiating with their current employers for better conditions. We therefore now turn to exploring heterogeneity in treatment effects according to baseline work conditions. As discussed previously, Singaporean labor law requires employers to pay FDWs on time, allow one rest day a week, and provide a safe working environment to work. We categorized FDWs as “vulnerable” if they reported in the baseline that at least one of these conditions was not fulfilled by their current employer. These vulnerable FDWs comprise of slightly more than 20 percent of our sample. Results are in Panel B of Table 5.

Results for the employment index, in Column 2, indicate that treatment effect is larger for vulnerable respondents. The treatment effect for the non-vulnerable is 0.020 (not statistically significant), while that for the vulnerable (the sum of the treatment main effect and interaction term coefficients) is 0.158 and statistically significant at the 1 percent level. Coefficient on the Treatment * Vulnerable FDW interaction term is positive, and statistically significantly different from zero at the 5 percent level. It is also striking that, unlike the results for the full sample in Table 4, the treatment leads vulnerable FDWs to be more likely to change employers (see Appendix Table A3, Panel B, Column 1). The treatment effect on the “new employer” outcome for vulnerable FDWs amounts to 17.0 percentage points, with a p-value of 0.073.

Results in Column 3 indicate that the effect on FDW’s intentions index is close to zero and is statistically insignificant at conventional levels among vulnerable FDWs. For non-vulnerable FDWs, however, the effect is positive and statistically significant at the 5 percent level. (That said, the difference in the treatment effect between the two groups is not statistically significant at conventional levels.)

Taken together with the heterogeneous treatment effect estimates on employment outcomes, the results suggest differences in the timing of action between the vulnerable and non-vulnerable FDWs in response to treatment. Treatment led to an immediate response on switching to a new employer and improving their employment conditions by vulnerable FDWs. Non-vulnerable FDWs who received treatment raise their reported intentions to improve their conditions in the future, including their intentions to switch employer (see Appendix Table A4, Panel B, Column 1), but do not report having done so yet at the time of the follow-up survey. This result is also sensible, in that vulnerable FDWs would presumably feel greater urgency to improve their situations compared to non-vulnerable FDWs.

Results in Column 1 indicate that the effect on the knowledge index of vulnerable FDWs is positive (though not statistically significant). For non-vulnerable FDWs, the effect on the knowledge index is also positive and statistically significant, but not statistically significantly

different from vulnerable FDWs. In Column 4, the treatment effect on the search index among vulnerable FDWs is positive, but it is not statistically significant at conventional levels, while the effect on non-vulnerable subgroup is close to zero and also not statistically significant.

4 Conclusion

In a sample of Filipino migrant workers working as domestics (maids) in Singapore, we conducted a randomized controlled trial testing the impacts of providing information related to job mobility. The treatment provided information on workers' legal rights to change employers, and access to actual job listings. We found positive impacts on knowledge about legal rights related to job mobility, employment conditions, and intentions to improve employment conditions in the future. Subsample analyses reveal magnified effects in migrants with initially (pre-treatment) low knowledge of their legal rights, and who were "vulnerable" in these sense of having experienced poor working conditions at baseline. The subpopulation of vulnerable workers also became more likely to change employers in response to the treatment. These results reveal the empirical relevance of imperfect information as a market failure influencing employment outcomes in a labor market for migrant workers.

From a policy standpoint, there is substantial concern on the part of governments in migrant-origin countries and concerned non-government organizations that migrant legal rights are poorly protected. Ruhs (2013) emphasizes that national interests of migrant-destination countries often undermine an expansion of migrant rights. Our findings identify a simple intervention (simply providing information) that could improve employment outcomes of migrant workers, especially those who are poorly informed and vulnerable to exploitation, even when it is not possible to alter the legal status quo related to migrant job transitions. That said, our findings apply most directly to labor markets (such as Singapore) where migrant job mobility is relatively unrestricted, but where this may not be completely known by migrants.

Our results also reveal that labor mobility more generally has an important effect on employment conditions of migrant workers. Many migrant-dominated occupations in developed countries, including domestic work, are characterised by fixed-length contracts and work permits that tie them to their employers. While rapid expansion of these sectors has allowed large numbers of workers from developing countries to seek lucrative employment opportunities, our results are suggestive (and consistent with the findings of Naidu et al. (2016)) that reforming labor laws that govern work contracts and conditions could further increase migrants' benefits

from such employment.

There are important aspects of information constraints that are not explored in this paper, in particular the role of social networks. In our endline survey, more than 70 percent of treated FDWs reported sharing information on legal rights and job openings with friends. We view more detailed examination of the nature and extent of such information flows within social networks as an important area for future research, which we intend to explore.

References

- Ambler, Kate. 2015. "Don't Tell on Me: Experimental Evidence of Asymmetric Information in Transnational Household." *Journal of Development Economics* 113:52–69.
- Ambler, Kate, Diego Aycinena, and Dean Yang. 2015. "Channeling Remittances to Education: A Field Experiment among Migrants from El Salvador." *American Economic Journal: Applied Economics* 7:207–32.
- Ashraf, Nava, Diego Aycinena, Claudia Martinez, and Dean Yang. 2015. "Savings in Transnational Households: A Field Experiment Among Migrants from El Salvador." *Review of Economics and Statistics* 97:332–51.
- Ashenfelter, Orley C., Henry Farber, and Michael R. Ransom. 2010. "Labor Market Monopsony." *Journal of Labor Economics* 28:203–10.
- Beam, Emily A. 2016. "Do Job Fairs Matter? Experimental Evidence from the Philippines." *Journal of Development Economics* 120:32–40.
- Beam, Emily A., David McKenzie, and Dean Yang. 2016. "Unilateral Facilitation Does Not Raise International Labor Migration from the Philippines," *Economic Development and Cultural Change* 64:323–68.
- Beaman, Lori A. 2012. "Social Networks and the Dynamics of Labour Market Outcomes: Evidence from Refugees Resettled in the U.S." *Review of Economic Studies* 79:128–61.
- Bryan, Gharad, Shyamal Chodhury, and Ahmed Mushfiq Mobarak. 2014. "Underinvestment in a Profitable Technology: The Case of Seasonal Migration in Bangladesh." *Econometrica* 82:1671–748.
- Burdett, Kenneth and Tara Vishwanath. 1988. "Declining Reservation Wages and Learning." *The Review of Economic Studies* 55: 655–65.
- Cahuc, Pierre, Fabian Postel-Vinay, and Jean-Marc Robin. 2006. "Wage Bargaining with On-the-job Search: Theory and Evidence." *Econometrica* 74:323–64.
- Clemens, Michael A. 2013. "Why Do Programmers Earn More in Houston Than Hyderabad? Evidence from Randomized Processing of US Visas." *American Economic Review Papers and Proceedings* 103:198–202.
- Clemens, Michael A., Claudio Montenegro, and Lant Pritchett. 2009. "The Place Premium: Wage Differences for Identical Workers across the US Border." *HKS Faculty Research Working Paper Series, No. RWP09-004*.
- Cortes, Patricia and Jessica Pan. 2013. "Outsourcing Household Production: Foreign Domestic Helpers and Native Labor Supply in Hong Kong." *Journal of Labor Economics* 5:32–64.
- Cortes, Patricia and Jose Tessada. 2011. "Low-Skilled Immigration and the Labor Supply of Highly Skilled Women." *American Economic Journal: Applied Economics* 3:88–123.
- Gibson, John and David McKenzie. 2014. "The Development Impact of a Best Practice Seasonal Worker Policy." *Review of Economics and Statistics* 96:229–43.
- Gibson, Owen. 2014. "Qatar Government Admits Almost 1,000 Fatalities among Migrants." *The Guardian*.

- Gonzalez, Francisco M. and Shouyong Shi. 2010. "An Equilibrium Theory of Learning, Search, and Wages." *Econometrica* 78:509–37.
- Government of Singapore. 2014. *Foreign Workforce Numbers*. Ministry of Manpower. Available at: <http://www.mom.gov.sg/statistics-publications/others/statistics>.
- Government of Singapore. 2014. *Employment Agency Directories*. Ministry of Manpower. Available at: <http://www.mom.gov.sg/eadirectory>.
- Government of Singapore. 2010. *FDW and FDW Employer Study*. Ministry of Manpower.
- Heckman, James J., Robert J. Lalonde, and Jeffrey A. Smith. 1999. "The Economics and Econometrics of Active Labor Market Programs." *Handbook of Labor Economics* 3:1865–2097.
- Huang, Shirlena and Brenda S. A. Yeoh. 1996. "Ties That Bind: State Policy and Migrant Female Domestic Helpers in Singapore." *Geoforum* 27:479–93.
- Human Rights Watch. 2005. *Maid to Order: Ending Abuses Against Migrant Domestic Workers in Singapore*. New York, NY.
- Humanitarian Organization for Migration Economics. 2015. *Home Sweet Home? Work, Life and Well-being of Foreign Domestic Workers in Singapore*. Singapore.
- Kling, Jeffrey, Jeffrey Liebman, and Lawrence Katz. 2007. "Experimental Analysis of Neighborhood Effects." *Econometrica* 75:83–119.
- Kossoudiji, Sherrie A. and Deborah A. Cobb-Clark. 2002. "Coming Out of the Shadows: Learning about Legal Status and Wages from the Legalized Population." *Journal of Labor Economics* 20:598–628.
- Kremer, Michael and Stanley Watt. 2009 "The Globalization of Household Production." Mimeo.
- Kroft, Kory and Devin G. Pope. 2014. "Does Online Search Crowd Out Traditional Search and Improve Matching Efficiency? Evidence from Craigslist." *Journal of Labor Economics* 32: 259–303.
- Kuhn, Peter and Mikal Skuterund. 2004. "Internet Job Search and Unemployment Durations," *American Economic Review* 94:218–32.
- Lilienfeld-Toal, Ulf von and Dilip Mookherjee. 2010. "The Political Economy of Debt Bondage," *American Economic Journal: Microeconomics* 2:44–84.
- Manning, Alan. 2011. "Imperfect Competition in the Labor Market." *Handbook of Labor Economics* 4:973–1041.
- Matsudaira, Jordan D. 2014. "Monopsony in the Low-Wage Labor Market? Evidence from Minimum Nurse Staffing Regulations." *Review of Economics and Statistics* 96:92–102.
- McKenzie, David and Dean Yang. 2015. "Evidence on Policies to Increase the Development Impacts of International Migration." *World Bank Research Observer* 30:155–192.
- McKenzie, David, Caroline Theoharides, and Dean Yang. 2014. "Distortions in the International Migrant Labor Market: Evidence from Filipino Migration and Wage Responses to Destination Country Economic Shocks." *American Economic Journal: Applied Economics* 6:49–75.

- McKenzie, David, John Gibson, and Steven Stillman. 2010. "How Important is Selection? Experimental vs. Non-Experimental Measures of the Income Gains from Migration." *Journal of the European Economic Association* 8:913–45.
- McKenzie, David, John Gibson, and Steven Stillman. 2013. "A Land of Milk and Honey with Streets Paved with Gold: Do Emigrants have Over-Optimistic Expectations about Incomes Abroad?" *Journal of Development Economics* 102:116–27.
- Munshi, Kaivan. 2003. "Networks in the Modern Economy: Mexican Migrants in the U.S. Labor Market." *The Quarterly Journal of Economics* 118:549–99.
- Naidu, Suresh. 2010. "Recruitment Restrictions and Labor Markets: Evidence from the Post-bellum US South." *Journal of Labor Economics* 28: 413–45.
- Naidu, Suresh and Noam Yuchtman. 2013. "Coercive Contract Enforcement: Law and the Labor Market in Nineteenth Century Industrial Britain." *American Economic Review* 103:107–44.
- Naidu, Suresh, Yaw Nyarko, and Shing-Yi Wang. 2016. "Monopsony Power in Migrant Labor Markets: Evidence from the United Arab Emirates," *Journal of Political Economy* 124:1735–92.
- Raimondo, Henry J. 1983. "Free Agents' Impact on the Labor Market for Baseball Players." *Journal of Labor Research* 4:183–93.
- Ruhs, Martin. 2013. *The Price of Rights: Regulating International Labor Migration*. Princeton University Press.
- Scully, Gerald W. 1973. "Economic Discrimination in Professional Sports," *Law and Contemporary Problems* 38:67–84.
- Staiger, Douglas O., Joanne Spetz, and Ciaran S. Phibbs. 2010. "Is There Monopsony in the Labor Market? Evidence from a Natural Experiment." *Journal of Labor Economics* 28:211–36.
- Stevenson, Betsey. 2009. "The Internet and Job Search." In *Studies of Labour Market Intermediation*, ed. DH Autor. University of Chicago Press.
- United Nations. 2013. *International Migration Report*. Economic and Social Affairs, New York.
- Yang, Dean. 2011. "Migrant Remittances." *Journal of Economic Perspectives* 25:129–52.
- Yang, Dean. 2008. "International Migration, Remittances, and Household Investment: Evidence from Philippine Migrants' Exchange Rate Shocks." *Economic Journal* 118:591–630.
- Yeoh, Brenda S. A. and Shirlena Huang. 2010. "Foreign Domestic Workers and Home-Based Care for Elders in Singapore." *Journal of Aging and Social Policy* 22:69–88.
- Yeoh, Brenda S. A., Shirlena Huang, and Joaquin Gonzalez III. 1999. "Migrant Female Domestic Workers: Debating the Economic, Social and Political Impacts in Singapore." *International Migration Review* 33:114–36.

Table 1: Summary statistics and balance tests

	Baseline sample			Follow-up sample		
	Control (1)	Treatment (2)	Diff (3)	Control (4)	Treatment (5)	Diff (6)
<u>Demographic characteristics:</u>						
Age (years)	36.60	37.37	0.772	36.88	38.65	1.775*
Married	0.418	0.427	0.008	0.438	0.449	0.011
Number of children	1.373	1.275	0.099	1.360	1.449	-0.090
College graduate	0.562	0.607	0.045	0.607	0.618	0.011
<u>Employment characteristics:</u>						
Duration in Singapore (years)	8.059	8.200	0.141	8.404	9.404	1.000
Duration of current employment (years)	4.185	4.154	-0.031	4.235	4.673	0.438
Work more than 8 hr/day ^a	0.954	0.973	0.019	0.944	0.989	0.045*
Monthly salary (SGD)	526.93	523.81	-3.121	532.92	537.28	4.360
Paid less than SGD500 ^b	0.366	0.300	-0.066	0.326	0.236	-0.090
Vulnerable FDW	0.209	0.247	0.038	0.202	0.236	0.034
Ever paid late	0.046	0.047	0.001	0.056	0.045	-0.011
Ever worked on rest days	0.137	0.167	0.029	0.135	0.169	0.034
Ever injured at work	0.039	0.080	0.041	0.023	0.079	0.056*
Sends remittances	0.954	0.927	-0.028	0.955	0.899	-0.056
Communicates with other FDWs	0.778	0.773	-0.004	0.843	0.764	-0.079
<u>Knowledge about labor laws:</u>						
Need approval	0.935	0.967	0.032	0.955	0.966	0.011
Work w/o agent	0.255	0.287	0.032	0.225	0.270	0.045
Change w/o agent	0.261	0.300	0.039	0.303	0.337	0.034
Change w/o leaving	0.739	0.780	0.041	0.719	0.809	0.090
High knowledge	0.340	0.380	0.040	0.315	0.393	0.079
Observations	153	150		89	89	
Months between baseline and follow-up				7.556	7.927	0.371
Attrition between baseline and follow-up	0.418	0.407	-0.01			
F-test statistics			0.716			1.037
P-value			0.794			0.422

Notes: Vulnerable FDW is a dummy variable that equals one if a FDW reports being paid late, working on rest days, or getting injured at work. High knowledge is a dummy variable that equals one if a FDW correctly answers at least two out of the following three questions: work w/o agent, change w/o agent, and change w/o leaving. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$ are based on the robust standard errors. ^aThe Employment Act requires that native workers in Singapore not work more than 8 hours per day. FDWs, however, are not protected by the Act.

^bThe Philippines Overseas Employment Administration sets a minimum wage for Filipino FDWs. The minimum wage is USD400 (or SGD500, based on the average exchange rate from June-October, 2013). This minimum wage law however does not apply in Singapore, and it is not enforced by the Singapore government.

Table 2: Comparison across different samples

	HOME sample		Study sample	P-values (2)=(3)
	All	Filipinos only		
	(1)	(2)	(3)	(4)
<u>Demographic characteristics:</u>				
Age (years)	33.39	36.38	36.98	0.400
Married	0.299	0.351	0.422	0.135
College graduate	0.545	0.656	0.584	0.134
<u>Employment characteristics:</u>				
Duration in Singapore (years)	6.135	7.469	8.129	0.293
Worked with only one employer	0.347	0.320	-	-
Duration of current employment (years)	3.510	3.758	4.170	0.384
Work more than 8 hr/day	0.967	0.981	0.964	0.279
Monthly salary (SGD)	520.39	548.66	525.38	0.480
Paid less than SGD500 ^a	0.336	0.240	0.333	0.035
Employer lets FDW leave house at will	0.253	0.454	-	-
Employer searches FDW belongings	0.202	0.223	-	-
Observations	455	154	303	-
F-test statistics	-	-	-	1.525
P-value	-	-	-	0.157

Notes: HOME sample includes FDWs of four nationalities working in Singapore surveyed by Humanitarian Organization for Migrant Economics between November 2013 and May 2014. Study sample includes control and treatment FDWs who were interviewed in the baseline between June 2013 and October 2013.

^aThe Philippines Overseas Employment Administration sets a minimum wage for Filipino FDWs. The minimum wage is USD400 (or SGD500, based on the average exchange rate from June-October, 2013). This minimum wage law however does not apply in Singapore, and it is not enforced by the Singapore government.

Table 3: Relationship between FDW baseline characteristics and attrition

	Coeff. (1)	Std.error (2)	P-value (3)
Age	-0.006	0.0062	0.355
Married	-0.045	0.0701	0.523
College graduate	-0.122**	0.0611	0.047
Number of children	-0.020	0.0272	0.456
Years in Singapore	-0.010	0.0070	0.145
Years with current employer	0.008	0.0084	0.360
Works more than 8 hr/day	-0.065	0.1538	0.671
Monthly salary	-0.000	0.0003	0.394
Vulnerable FDW	0.061	0.0694	0.381
Sends remittances	0.172	0.1212	0.159
Communicates with other FDWs	-0.078	0.0690	0.260
High knowledge	0.034	0.0591	0.565
Observations	303	-	-
Mean dep. var.	0.413	-	-
F-test statistic	-	-	1.04
P-value	-	-	0.412

Notes: The sample includes all FDWs who were interviewed in the baseline i.e. full sample. The dependent variable is a dummy variable that equals one if a FDW does not show up in the follow-up survey, and zero otherwise. The independent variables are FDW's demographic, employment, and knowledge characteristics from the baseline survey. The estimated coefficients are reported in column 1, the robust standard errors are reported in column 2, and the p-values in column 3; *p<0.1, **p<0.05, ***p<0.01.

Table 4: Average treatment effects

	(1)	(2)	(3)	(4)	(5)
<u>Panel A: Knowledge outcomes</u>					
	Work w/o agent	Change w/o agent	Change w/o leaving	-	Knowledge index
Treatment	0.315*** (0.0706)	0.317*** (0.0681)	0.0268 (0.0574)	- -	0.220*** (0.0500)
Mean dep. var., control	0.449	0.506	0.820	-	0.592
<u>Panel B: Employment outcomes</u>					
	New employer	Monthly salary	Work hours	Other conditions	Employment index
Treatment	0.022 (0.0451)	-0.022 (0.0790)	0.093** (0.0414)	0.105*** (0.0403)	0.050* (0.0291)
Mean dep. var., control	0.079	0.483	0.888	0.876	0.581
<u>Panel C: Intention outcomes</u>					
	Job search	Monthly salary	Work hours	Rest days	Intentions index
Treatment	0.162** (0.0623)	0.073 (0.0733)	0.008 (0.0608)	0.027 (0.0465)	0.068* (0.0408)
Mean dep. var., control	0.112	0.315	0.135	0.056	0.154
<u>Panel D: Search outcomes</u>					
	New employer	Multiple employers	Channel besides agent	Easy process	Search index
Treatment	0.004 (0.0557)	0.014 (0.0470)	0.027 (0.0345)	0.019 (0.0380)	0.016 (0.0365)
Mean dep. var., control	0.146	0.090	0.034	0.056	0.082
Observations	178	178	178	178	178

Notes: The specifications control for FDW's demographic, employment, and knowledge characteristics. The dependent variables in columns 1-4 are dummy variables constructed from the self-reported outcomes in the follow-up survey. The indices in column 5 are constructed by taking an equally weighted average of the outcome dummy variables from columns 1-4. The robust standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Table 5: Heterogenous treatment effects

	Knowledge index (1)	Employment index (2)	Intentions index (3)	Search index (4)
<u>Panel A: By knowledge</u>				
Treatment	0.211*** (0.0651)	0.092** (0.0375)	0.056 (0.0531)	0.010 (0.0475)
Treatment x High knowledge	0.022 (0.1110)	-0.114* (0.0637)	0.031 (0.0901)	0.015 (0.0806)
High knowledge	0.148* (0.0788)	0.058 (0.0454)	-0.006 (0.0642)	-0.041 (0.0575)
P-value of F-test: Treat + Treat x High knowledge	0.007	0.272	0.213	0.161
<u>Panel B: By work conditions</u>				
Treatment	0.257*** (0.0560)	0.020 (0.0324)	0.097** (0.0456)	-0.009 (0.0409)
Treatment x Vulnerable FDW	-0.174 (0.1180)	0.138** (0.0682)	-0.137 (0.0962)	0.117 (0.0861)
Vulnerable FDW	0.041 (0.0882)	-0.109** (0.0510)	0.141* (0.0719)	-0.025 (0.0644)
P-value of F-test: Treat + Treat x Vulnerable FDW	0.428	0.010	0.644	0.161
Observations	178	178	178	178
Mean dep. var., control	0.592	0.581	0.154	0.082

Notes: The specifications control for FDW's demographic, employment, and knowledge characteristics. High knowledge is a dummy variable that equals one if a FDW correctly answers at least two out of the three labor law questions in the baseline. Vulnerable FDW is a dummy variable that equals one if a FDW reports being paid late, working on rest days, or getting injured at work in the baseline. Low tenure is a dummy variable that equals one if a FDW has been in Singapore for less than 6 years (median value in the baseline). The robust standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

A Appendix: Tables and Figures

Table A1: Average treatment effects on intention outcomes (category variables)

	Job search (1)	Monthly salary (2)	Work hours (3)	Rest days (4)	Intentions index (5)
Treatment	1.074** (0.4750)	0.766 (0.5810)	0.256 (0.4500)	0.430 (0.3640)	0.632* (0.3210)
Observations	178	178	178	178	178
Mean dep. var., control	3.079	4.292	2.393	2.000	2.941

Notes: The specifications control for FDW's demographic, employment, and knowledge characteristics. Job search is a category variable which takes the values between 1 to 10, 10 being extremely likely that FDW will search for a new employer in the next six months. Salary is a category variable which takes the values between 1 to 10, 10 being extremely likely that FDW will ask for higher salary in the next three months. Work hours is a category variable which takes the values between 1 to 10, 10 being extremely likely that FDW will ask for better working hours in the next six months. Rest days is a category variable which takes the values between 1 to 10, 10 being extremely likely that FDW will ask for more rest days in the next three months. Intentions index is an equally weighted average of the four intention outcome variables. The robust standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Table A2: Heterogenous treatment effects on knowledge outcomes

	Work w/o agent (1)	Change w/o agent (2)	Change w/o leaving (3)
<u>Panel A: By knowledge</u>			
Treatment	0.342*** (0.0919)	0.290*** (0.0886)	0.003 (0.0747)
Treatment x High knowledge	-0.070 (0.1560)	0.073 (0.1500)	0.064 (0.1270)
High knowledge	0.215* (0.1110)	0.102 (0.1070)	0.128 (0.0905)
P-value of F-test: Treat + Treat x High knowledge	0.026	0.002	0.496
<u>Panel B: By work conditions</u>			
Treatment	0.347*** (0.0794)	0.311*** (0.0767)	0.114* (0.0630)
Treatment x Vulnerable FDW	-0.147 (0.1670)	0.029 (0.1620)	-0.403*** (0.1330)
Vulnerable FDW	0.043 (0.1250)	-0.089 (0.1210)	0.168* (0.0992)
P-value of F-test: Treat + Treat x Vulnerable FDW	0.181	0.020	0.015
Observations	178	178	178
Mean dep. var., control	0.449	0.506	0.820

Notes: The specifications control for FDW's demographic, employment, and knowledge characteristics. Work w/o agent is a dummy variable which equals one if a FDW correctly answered that FDWs can work in Singapore without using an agent. Change w/o agent is a dummy variable which equals one if a FDW correctly answered that FDWs can change employers without using an agent. Change w/o leaving is a dummy variable which equals one if a FDW correctly answered that FDWs can change employers without leaving Singapore. The robust standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Table A3: Heterogenous treatment effects on employment outcomes

	New employer (1)	Monthly salary (2)	Work hours (3)	Other conditions (4)
<u>Panel A: By knowledge</u>				
Treatment	0.024 (0.0587)	0.053 (0.1020)	0.181*** (0.0787)	0.110** (0.0525)
Treatment x High knowledge	-0.004 (0.0996)	-0.201 (0.1740)	-0.236*** (0.0896)	-0.013 (0.0891)
High knowledge	-0.041 (0.0710)	0.134 (0.1240)	0.149** (0.0639)	-0.011 (0.0636)
P-value of F-test: Treat + Treat x High knowledge	0.799	0.272	0.432	0.161
<u>Panel B: By work conditions</u>				
Treatment	-0.019 (0.0503)	-0.037 (0.0890)	0.061 (0.0463)	0.073 (0.0451)
Treatment x Vulnerable FDW	0.189* (0.1060)	0.069 (0.1870)	0.148 (0.0975)	0.148 (0.0950)
Vulnerable FDW	-0.067 (0.0792)	-0.085 (0.1400)	-0.175** (0.0729)	-0.109 (0.0710)
P-value of F-test: Treat + Treat x Vulnerable FDW	0.073	0.848	0.017	0.010
Observations	178	178	178	178
Mean dep. var., control	0.079	0.483	0.888	0.876

Notes: The specifications control for FDW's demographic, employment, and knowledge characteristics. New employer is a dummy variable which equals one if a FDW reports that she changed employer since the baseline. Salary is a dummy variable which equals one if a FDW reports that her monthly salary increased or remained unchanged since the baseline. Work hours is a dummy variable which equals one if a FDW reports that her daily work hours decreased or remained unchanged since the baseline. Other conditions is a dummy variable which equals one if a FDW reports that other aspects of her work improved or remained unchanged since the baseline. The robust standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Table A4: Heterogenous treatment effects on intention outcomes

	Job search (1)	Monthly salary (2)	Work hours (3)	Rest days (4)
<u>Panel A: By knowledge</u>				
Treatment	0.177** (0.0811)	0.105 (0.0954)	-0.057 (0.0787)	-0.001 (0.0604)
Treatment x High knowledge	-0.039 (0.1380)	-0.085 (0.1620)	0.173 (0.1340)	0.075 (0.1030)
High knowledge	0.040 (0.0982)	0.145 (0.1150)	-0.115 (0.0953)	-0.094 (0.0731)
P-value of F-test: Treat + Treat x High knowledge	0.197	0.874	0.260	0.352
<u>Panel B: By work conditions</u>				
Treatment	0.212*** (0.0697)	0.080 (0.0826)	0.059 (0.0679)	0.038 (0.0523)
Treatment x Vulnerable FDW	-0.229 (0.1470)	-0.035 (0.1740)	-0.232 (0.1430)	-0.052 (0.1100)
Vulnerable FDW	0.234** (0.1100)	0.120 (0.1300)	0.126 (0.1070)	0.084 (0.0824)
P-value of F-test: Treat + Treat x Vulnerable FDW	0.895	0.769	0.176	0.891
Observations	178	178	178	178
Mean dep. var., control	0.112	0.315	0.135	0.056

Notes: The specifications control for FDW's demographic, employment, and knowledge characteristics. Job search is a dummy variable which equals one if a FDW reports that she is likely to search for a new employer in the next six months. Salary is a dummy variable which equals one if a FDW reports that she is likely to ask for higher salary in the next three months. Work hours is a dummy variable which equals one if a FDW reports that she is likely to ask for better working hours in the next six months. Rest days is a dummy variable which equals one if a FDW reports that she is likely to ask for more rest days in the next three months. The robust standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Table A5: Heterogenous treatment effects on search outcomes

	New employer (1)	Multiple employers (2)	Channel besides agent (3)	Easy process (4)
<u>Panel A: By knowledge</u>				
Treatment	-0.010 (0.0725)	0.009 (0.0612)	0.050 (0.0449)	-0.007 (0.0494)
Treatment x High knowledge	0.037 (0.1230)	0.014 (0.1040)	-0.061 (0.0762)	0.069 (0.0839)
High knowledge	-0.097 (0.0878)	-0.011 (0.0741)	0.020 (0.0544)	-0.077 (0.0598)
P-value of F-test: Treat + Treat x High knowledge	0.776	0.781	0.855	0.342
<u>Panel B: By work conditions</u>				
Treatment	-0.028 (0.0626)	-0.005 (0.0529)	0.013 (0.0388)	-0.018 (0.0424)
Treatment x Vulnerable FDW	0.146 (0.1320)	0.088 (0.1110)	0.066 (0.0818)	0.170* (0.0893)
Vulnerable FDW	0.032 (0.0986)	-0.037 (0.0833)	-0.019 (0.0612)	-0.075 (0.0668)
P-value of F-test: Treat + Treat x Vulnerable FDW	0.315	0.406	0.278	0.059
Observations	178	178	178	178
Mean dep. var., control	0.146	0.090	0.034	0.056

Notes: The specifications control for FDW's demographic, employment, and knowledge characteristics. New employer is a dummy variable which equals one if a FDW reports that she searched for a new employer since the baseline. Multiple employers is a dummy variable which equals one if a FDW reports that searched for more than one employer since the baseline. Channel besides agent is a dummy variable which equals one if a FDW reports that she searched using channels other than her employment agency. Easy process is a dummy variable which equals one if a FDW reports that her search experience was very easy. The robust standard errors are reported in parentheses; *p<0.1, **p<0.05, ***p<0.01.

Figure A1: The Information Flyer

DOMESTIC WORKERS: KNOW YOUR RIGHTS

FDWs can work in
Singapore **WITHOUT**
using an agent

FDWs can change
employer **WITHOUT**
using an agent

FDWs can change
employer **WITHOUT**
leaving Singapore

FDWs can change
employer with
NO fee

For more information, visit:

<http://www.mom.gov.sg/Documents/services-forms/passes/WPSPassConditions.pdf>

To report any violation, visit:

<http://www.mom.gov.sg/contact-us/Pages/report-to-us.aspx>

WHAT DOES THE LAW SAY?

The Ministry of Manpower gives you the legal right to request for transfer to any new employer of your choice, if:

- Your current Work Permit is still valid for 30 days or more
- Your passport is valid for at least 7 months
- Your current employer approves your transfer to a new employer

You can find more information at the Ministry of Manpower website:

www.mom.gov.sg/foreign-manpower/passes-visas/work-permit-fdw/inform-mom/

WHAT DO YOU NEED TO DO?

The transfer process is EASY and FREE.

- Your new employer will submit a new Work Permit application on your behalf to the Ministry of Manpower
- Your current employer must complete Part 5 of the Work Permit application to give his/her consent for the transfer
- Once your application is approved, you can collect your new Work Permit by visiting the Work Pass Service Center located at Tanjong Pagar Complex, 7 Keppel Road #02-27/29

The application form can be downloaded at:

http://www.mom.gov.sg/Documents/services-forms/passes/WP_Appln_Form_for_FDW.pdf

WHERE TO FIND NEW EMPLOYERS?

dwjobs.org is a FREE website with:

- Daily information on the large number of employers in Singapore seeking to hire domestic workers
- Detailed job descriptions including wages and contact numbers for you to call

You can also access all these ads on DWjobs Facebook page: www.facebook.com/dwjobs

Figure A2: Sample of a Job Posting Flyer

JOB POSTING 1: Domestic Helper on Transfer Wanted Immediately
Contact Number: [REDACTED]
Salary: S\$ 550
Property Type: Landed
Area: [REDACTED]
Skills Required: Cooking, Housekeeping
Description:
Good & total housekeeping and some cooking for family of 4 adults. Prefer English speaking, honest, committed, clean and hardworking. off-day every week, own room plus bathroom.

JOB POSTING 2: Filipino Helper Needed
Contact Number: [REDACTED]
Salary: S\$ 520
Property Type: Landed
Area: [REDACTED]
Skills Required: Marketing, Cooking, Housekeeping
Description:
Able to communicate in English, Independent, and Honest.

JOB POSTING 3: Looking for a Transfer Helper
Contact Number: [REDACTED]
Salary: S\$ 500 ++
Property Type: Landed
Area: [REDACTED]
Skills Required: Elder Care, Marketing, Cooking
Description:
A local family of six adults staying in 3 storey landed house around [REDACTED] area looking for a transfer helper. She is required to do mainly the household chores and preferably able to cook well. Ability to speak a little mandarin will be an added advantage. Willing to pay to a good, honest and hardworking helper! Interested please call Raymond Hp [REDACTED]

JOB POSTING 4: Looking for a Helper Who Has Got Good Cooking Skills
Contact Number: [REDACTED]
Salary: Negotiable
Property Type: Condo
Area: [REDACTED]
Skills Required: Cooking
Description:
I'm looking for a helper which is good in cooking and baking. call me if you are [REDACTED] thank you

JOB POSTING 5: Australian Expat Family Looking for Help
Contact Number: [REDACTED]
Salary: S\$ 550 - 650
Property Type: Landed
Area: [REDACTED]
Skills Required: Child Care, Pet Care, Housekeeping, Infant Care
Description:
We are an Australian family new to Singapore with a pet dog, an 18 month old boy and a baby due in August. We have recently moved into a 5 bedroom landed property on the [REDACTED] and are seeking assistance in the following duties: Infant Care of our new baby; Child care of our 18 month old son; Housekeeping (including ironing); Marketing and cooking. We are looking for a helper who: Has at least two years experience with infant and child care (a must); Is good with dogs; Has a happy nature and loves children; Speaks english well; Has at least 4 years experience (some with Expat families); is in her 30's or early 40's and has the energy to look after a 18 month old boy; is genuinely interested in being a part of our family for the foreseeable future. All Sunday's and public holidays are off. Previous employer references are required. If you are interested please contact me via the following with your name and transfer date and we will contact you soon regarding an interview: email: [REDACTED] or Phone: [REDACTED] or Text: [REDACTED] Regards, [REDACTED]

JOB POSTING 6: Looking for Helper Who Enjoys Taking Care of Young Children
Contact Number: [REDACTED]
Salary: S\$ 500 - 600
Property Type: Other
Area: [REDACTED]
Skills Required: Child Care, Pet Care, Housekeeping, Cooking
Description:
We are looking for a helper who enjoys looking after young children. We are family with 2 active children aged 1 & 2.5 and a cute toy dog. Start date can be end July or early August 2013; Prefers helper with reference from current/former employer; 1 day off per week. Please sms me at [REDACTED] with the following info if you are interested to meet up for an interview: Name, Nationality, WP #, and General info about you. Thanks!

JOB POSTING 7: Family Looking for Suitable Helper
Contact Number: [REDACTED]
Salary: S\$ 500 - 550
Property Type: Condo
Area: [REDACTED]
Skills Required: Child Care, Housekeeping, Cooking, Marketing
Description:
Small family looking for helper with the following criteria: (1) Able to handle and care for children (9 yr and 12 yr); (2) Responsible and Independent; (3) Organised and Honest; (4) Have experience working with family where both parents are working. If you have the above qualities, please sms me with your current and past experience. Thanks

JOB POSTING 8: Looking for Trustworthy Helper
Contact Number: [REDACTED]
Salary: S\$ 500 - 600
Property Type: Condo
Area: [REDACTED]
Skills Required: Infant Care, Housekeeping, Marketing, Cooking
Description:
We are a friendly Singaporean chinese couple with a newborn living in a 3bedroom condo in Serangoon. We are looking for a honest and trustworthy helper who can help take care of our baby while me and my wife are at work. The right helper must have at least 2 years of domestic working experience in Singapore and possess the following qualities: (1) experience with newborn; (2) good in general household chore, very clean & organized; (3) quick learner & flexible; (4) good budget/marketing skill and able to cook; (5) reference and recommendation letter from current/previous employer will be a plus. Weekly sunday off and salary will commensurate with experience. We prefer the helper to start ASAP but also flexible with start date if you fit our requirements. If you possess the above qualities, we would love to meet and welcome you to be a part of our family. Please msg a short intro of yourself to me at [REDACTED] or u may contact me direct. Thank you. [REDACTED]

JOB POSTING 9: Transfer Filipino/Indonesian Helper Needed
Contact Number: [REDACTED]
Salary: S\$ 500
Property Type: Other
Area: [REDACTED]
Skills Required: Housekeeping, Cooking, Marketing, Elder Care
Description:
At least 2 years working experience in SG. Able to communicate in English. Independent

JOB POSTING 10: Seeking Transfer Maid
Contact Number: [REDACTED]
Salary: S\$ 450
Property Type: HDB
Area: [REDACTED]
Skills Required: Elder Care, Housekeeping, Cooking, Marketing
Description:
Looking for good and trustworthy maid to do general housework and look after aged lady. Must be hardworking, honest, tidy and willing to learn to cook and of independent disposition.

Many More Up to Date Job Advertisements Available at dwjobs.org

Note: The personal contact information in the above figure has been blacked out for privacy reasons. This information was visible to the participants of the study.