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Do job fairs matter? Experimental evidence on the impact of job-fair attendance[☆]

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ABSTRACT

I estimate the causal impact of attending a job fair on employment outcomes and labor market perceptions, using a randomized encouragement design to induce individuals in the rural Philippines to attend a nearby job fair for domestic and overseas work. Attending a job fair matters: though it does not facilitate direct matches with a job-fair employer, attendance leads to a large increase in reported formal sector employment and in the likelihood of looking for any work outside the region in the months following the job fair. Several overseas recruitment agencies participated in the job fair, and attendance affects individuals' overseas labor market perceptions but does not encourage them to take steps to migrate. These results suggest that job fairs can be important tools for encouraging individuals to move to the formal sector and for conveying information about labor market prospects.

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1. Introduction

Governments and non-governmental agencies in the Philippines rely on job fairs as a key tool to promote employment by matching employers with job seekers (Esguerra et al., 2001), sponsoring more than 400 job fairs per year; for example, the 2013 Labor Day job fairs attracted nearly 40,000 jobseekers. In other countries, governments, educational institutions, NGOs, and private companies use job and career fairs to help link qualified job seekers with employers. I use a randomized encouragement design to estimate the causal impact of attending a job fair for domestic and overseas work, focusing on job seekers' employment outcomes and labor market perceptions. I find that in the medium run, job-fair attendance matters: it increases the

likelihood of formal sector employment and updates attendees' labor market perceptions.

I conduct this randomized experiment in the rural Philippines, specifically in the municipality of Bulan, Sorsogon Province. Men and women ages 20–35 were randomly assigned to receive a modest voucher conditional on attending a nearby job fair, which offered both domestic and overseas jobs. This randomized encouragement design was successful in increasing attendance by 39.1 percentage points, compared with a control-group rate of 13.1 percent. This design allows me to estimate both intention-to-treat (ITT) and local average treatment effects (LATE) of job-fair attendance ten months after the fair on employment outcomes and job-search decisions, as well as on labor market perceptions.

Attending a job fair shifts individuals out of self-employment and into formal and informal sector employment domestically. However, respondents did not shift into jobs obtained directly at the fair; of the 210 respondents who attended the fair, only two were potentially employed by an employer at the fair.¹ Fair attendance does lead to a 10.6 percentage-point increase in reported formal sector employment ten months after the job fair, which suggests that information, rather than jobs, may be the most important contribution of the fair.

Job fairs may have multiple effects on those who attend. The main aim is for attendees to be recruited by participating employers, but in the presence of incomplete information, attendees may also learn about their labor market prospects. This information may be specific,

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¹ Two respondents reported working in the business processing operations sector, in which the domestic employer was involved.

such as one's qualifications for a particular position, or it may be more general, such as the costs of search and how and where to find work.² In this experimental setting, individuals could (1) learn about the returns to search overseas or (2) learn about the returns to search domestically. Additionally, attendees could (3) learn more about how and where to apply for work by interacting with employers and connecting with other jobseekers.

I test this first mechanism using a cross-randomized experiment that measures the impact of improving information along two specific dimensions: overseas wages and minimum qualifications for overseas work.³ Both treatments do affect respondents' behavior and perceptions: wage information increases the likelihood of being employed overall and leads individuals to obtain passports as a step toward finding work abroad; meanwhile, qualification information affects overseas labor market perceptions, particularly for men. This result complements work by McKenzie et al. (2013), which finds that individuals, particularly men, underestimate overseas wages and that wage expectations positively predict the likelihood of applying for work abroad.

However, the information treatment impacts cannot fully account for the impact of job-fair attendance on labor market outcomes and perceptions. Wage information only has a 1.9 percentage-point effect (point estimate: 0.019, 95% CI: $-0.024, 0.062$), and qualification information has a 1.0 percentage-point effect on informal sector employment (point estimate: 0.010, 95-percent CI: $-0.035, 0.055$), far smaller than the 10.6 percentage-point LATE estimate of the impact of job-fair attendance. This result suggests either that the information treatments are ineffective in moving individuals' expectations enough to induce increased formal sector participation, that the fair provides different information about the overseas market, or that fair attendance provides some other sort of information, such as about returns to search in the domestic market or about how and where to look for work.

If the fair provides different or better information than the information treatments about the returns to overseas work, then attendance should affect the likelihood of taking steps to migrate or increase investment in the domestic market as individuals try to build the skills, experience, and savings as a "stepping stone" to overseas work. However, job-fair attendance does not induce individuals to take steps to work abroad, and individuals are no more likely to report being interested in working abroad (point estimate: -0.05 , 95-percent CI: $-0.133, 0.023$). Additionally, while job-fair attendance increases individuals' expectations about the wages they could earn abroad and raises their reservation wages, it actually reduces their perceived likelihood of being able to deploy abroad, conditional on finding a job. Beam et al. (2016) find evidence of multiple, reinforcing barriers to overseas work, and this result suggests that individuals may indeed underestimate these barriers.

Secondly, exposure to the formal sector may help individuals learn about the returns to domestic search. In addition to increasing investment in formal and informal employment, respondents change where they search for work. Attendees are 7.1 percentage points more likely to look for work outside the province, primarily in the capital, in the months following the fair, and they are 9.1 percentage points likely to receive job offers in the ten months following the fair. If attendees learn about higher returns to search outside the province, they may adjust their search accordingly.

Finally, job-fair attendance could provide individuals with information about how and where to look for work. Consistent with what has been documented elsewhere (Ioannides and Loury, 2004; Munshi, 2003), social networks are an important means of job search: among

those who looked for work in the ten months following the fair, 66% did so through family or friends. I also find that the extensive-margin increase in search outside the capital is concentrated in looking for work via family and friends, rather than by applying directly. I cannot pin down the exact reason for this change, though it is likely that for individuals living outside Manila, social networks are the most cost-effective way to look for work in the capital region, and that attending a job fair encourages them to use these networks.

Although I lack multiple treatment arms to confirm these second and third specific mechanisms, the results suggest that learning about the returns to search in the domestic labor market and about how and where to search for work could be an important driver of the labor market impacts I observe. From a policy perspective, however, given the popularity of job fairs for facilitating employment, simply having a rigorous estimate of the impact of attending a job fair is important.

Job fairs are one piece of a diverse portfolio of active labor market programs that governments undertake to promote employment (Betcherman et al., 2004; Card et al., 2010). Similar to other employment services like job-search counseling, job exchanges, and posting boards, a job fair aims to reduce job-search costs and encourage better matches. And similar to training programs, which may target some combination of vocational skills or "soft skills," attending a job fair may promote human capital development by teaching job-seekers how to look for work and providing hands-on experience applying.⁴

Experimental evidence on the impact of employment service provision has mainly focused on developed countries.⁵ One related study finds that providing job seekers with brochures that include information about job-search strategies and encourage them to look for work increases employment and wages for those at high risk of long-term unemployment (Altmann et al., 2015).

In developing countries, evidence is more limited, though encouraging. One related set of papers by Dammert, Galdo, and Galdo measures the impact of providing digital information about job postings to unemployed workers in Peru (Dammert et al., 2013, 2015). This low-cost intervention has large impacts on labor market perceptions and also increases the likelihood of employment measured one and two months later. Jensen (2012) assesses the impact of providing recruitment services for the business process outsourcing (BPO) industry to young women in rural India. He finds that recruitment exposure yields large effects on employment in the BPO sector, as well as increased investment in schooling.

Job fairs differ from direct information provision or recruitment services in several ways: they may expose attendees not only to specific jobs on offer, but also to more general information about the distribution of labor market opportunities and the steps needed to acquire formal employment. Secondly, attending a job fair is a relatively low-intensity treatment; the fair discussed in the present paper occurred on two days, while respondents in Peru received labor market information on a regular basis (Dammert et al., 2013, 2015), and recruitment efforts in India were repeated over three years (Jensen, 2012). Job fairs also target a broader population, attracting both unemployed and employed job seekers. Despite these differences, my results are in line with the existing literature: attending the fair has substantial, positive effects on employment outcomes, and it also leads individuals to revise their labor market expectations. For policymakers in particular, these results are encouraging; this relatively low-cost intervention can lead to sizable shift out of self-employment and into formal and informal sector employment.

² Attending a job fair could also affect individuals through behavioral channels, such as by priming individuals to think more seriously about employment. I cannot separate these factors from the factual information described above, so I consider these effects jointly.

³ I focus on overseas work because several recruiters at the fair advertised overseas positions, and because the potential information gaps are higher.

⁴ To the extent that a job fair provides information about one's labor market prospects (as the change in overseas labor market perceptions indicates it does), it may be more effective than a training program that provides a comparable increase in soft skills.

⁵ For recent examples, see Vinokur et al. (2000), Rosholm (2008), Graversen and van Ours (2008), Crépon et al. (2013).

2. Background

2.1. Employment in the Philippines

An estimated 25% of working Filipinos are employed in the formal sector (Chua et al., 2013). The remainder is either employed informally or self-employed. The formal sector typically offers greater stability and higher wages, particularly relative to self-employment, but there are higher barriers to entry (Hasan and Landoc, 2010). Both supply- and demand-side barriers may prevent individuals from obtaining formal sector employment. In the rural areas, such as the municipality of Bulan, there are relatively fewer formal sector opportunities; many job seekers travel to the provincial capital of Sorsogon City or to larger cities like Manila to find work. Additionally, individuals may have incomplete information about their labor market prospects or have limited experience looking for work through more formal means: although 85% of respondents were working or had worked in the past, 51% of those with work experience had never submitted a resume nor interviewed for a job.

Attending a job fair may address barriers to formal employment in two ways. It could directly provide individuals with access to domestic labor market opportunities, specifically the jobs on offer. Second, fair attendance may provide individuals with information via general exposure to the formal sector. Attendees may have learned more about how and where to apply for work, observed others applying for formal-sector jobs, and been primed to think seriously about formal sector employment after leaving the fair. This second channel may affect whether individuals are employed and in what sector, their job-search decisions, and their labor market perceptions.

2.2. Job fairs in the Philippines

Job fairs are commonly used throughout the Philippines to increase access to formal employment domestically and overseas. Public Employment Service Offices (PESO) located in each municipality are charged with promoting employment through job fairs and related activities. These fairs directly connect some attendees with jobs, but they also may serve to convey information about formal sector employment more broadly.

At these fairs, recruitment agencies or employers collect applications and conduct preliminary interviews with applicants. Agencies invite qualified applicants to complete the process by visiting their offices in person, usually to participate in a final interview with the employer and finish documentation processing.

The job fair studied in this paper was organized in collaboration with the municipal government of Bulan. It took place on March 1 and 2, 2011 (both weekdays), at a local meeting hall near the downtown area. One domestic business process outsourcing (BPO) firm and five international recruitment agencies participated. The BPO firm was based in a neighboring province and the overseas recruitment agencies were based in Manila. The overseas agencies were all licensed and in good standing with the Philippine Overseas Employment Agency, and they had been partners on related projects in Sorsogon.

The domestic BPO firm recruited for call center agents, search engine optimization assessors, and copywriters. Although it was the only firm offering domestic employment, it was particularly popular with participants; nearly half (46%) of those who visited a recruitment agency booth visited the BPO firm. The observed impacts of job-fair attendance, therefore, pool the effects of being exposed to the overseas labor market as well as to the domestic BPO market. However, as reported in Appendix Table A.7, I find no evidence that attending the job fair leads to employment directly through the BPO firm; only two respondents report working as call center agents during the time between the job fair and the endline survey, neither of whom received the voucher. No respondents reported working in search engine optimization or as copywriters.

The overseas agencies advertised for a broad range of positions, mainly low- and medium-skilled jobs, which were likely to represent

the types of jobs that one would encounter at any job fair for overseas work. The participating recruitment agencies were large and had hundreds of vacancies at any given time. The most common positions were jobs as domestic helpers, factory workers, and service sector workers, which included waiters, food service crew, cashiers, and salespersons. However, attendees also applied for positions as construction workers, skilled trades workers, caretakers, office assistants and receptionists, cleaners, and security guards. The agencies posted large signs near their booth indicating the types of positions on offer, so this information was readily available to all attendees.

3. Research design

I implemented a randomized field experiment to test the causal impact of job-fair attendance on individuals' labor market perceptions and outcomes. I generated exogenous variation in individuals' likelihood of attending a job fair by assigning individuals in randomly selected neighborhoods to receive a small, in-kind subsidy conditional on attendance. I cross-randomized voucher assignment with random assignment to a wage information treatment and a qualification information treatment that targeted potential information gaps about one's overseas prospects. Randomization took place at the neighborhood level to reduce the impact of spillovers.

3.1. Study location

This study took place in the municipality of Bulan in Sorsogon Province, located on the southern tip of the main island of Luzon, 12 h from Manila by bus. Sorsogon is a relatively poor and isolated province: approximately 43% of families live below the poverty line of US\$300 per year, making it the 21st poorest out of 79 provinces (National Statistical Coordination Board, 2006).⁶ With 92,000 residents, Bulan is the largest municipality in Sorsogon Province after the province's capital city (National Statistics Office, 2007). It has a centralized downtown as well as far-removed rural areas. The local labor market is oversupplied with workers, and a large share of workers travel to urban areas, primarily Manila, to look for work. In my sample, 51% of respondents had worked in Manila in the past.

3.2. Sample selection and attrition

The baseline survey was conducted from January to February 2011, and the full sample consists of 865 respondents who were randomly selected from 96 neighborhoods located in 17 barangays in the municipality of Bulan, Sorsogon Province. The barangay is the smallest administrative unit in the Philippines and can be thought of as a village or a municipal district.⁷ Each barangay consists of three to ten formally defined neighborhoods (puroks). Sample barangays were selected non-randomly to include both rural and urban areas. Eligible respondents were aged 20–35 and had never worked abroad, and I stratified by gender to select approximately equal numbers of men and women. Appendix 7 provides additional details about the process for selecting neighborhoods and respondents.

I obtained a survey response rate of 53%. Because the survey was conducted at home, individuals with lower labor-force attachment are over-represented in this sample.⁸ Non-response does not affect the internal validity of the study, as assignment was randomized by neighborhood, but the implications for its external validity is ambiguous. Those with lower labor-force attachment may have been less qualified for

⁶ The poverty line is set separately for urban and rural areas by province to reflect the minimum income required to meet a family's basic needs.

⁷ Bulan has 63 barangays with an average of 1500 residents in each (National Statistics Office, 2007).

⁸ Appendix Table A.3 shows that 35% of respondents were working at baseline, compared with 57% of individuals ages 20–35 living in the region.

Table 1
Summary statistics and balancing tests.

	No voucher	Voucher	No info.	Wage info.	Qualif. info.
Baseline characteristics	(1)	(2)	(3)	(4)	(5)
Female	0.54	0.56	0.54	0.54	0.57
Age (mean)	27.46	27.39	27.47	26.76	28.03
Married	0.63	0.62	0.60	0.58	0.70*
High school or greater	0.74	0.69	0.72	0.76	0.69
College graduate	0.16	0.14	0.15	0.16	0.15
Working at baseline	0.35	0.35	0.37	0.35	0.33
Ever worked	0.85	0.86	0.85	0.84	0.86
Total years experience	4.40	4.00	4.18	3.73	4.87
Monthly income (thousands of pesos)	6.01	5.25	5.43	6.58	5.33
Strong interest work abroad	0.25	0.21	0.27	0.23	0.22
Likelihood offered job abroad	0.49	0.48	0.48	0.50	0.49
Plan to apply abroad	0.34	0.29	0.29	0.35	0.33
Currently has passport	0.05	0.04	0.03	0.05	0.06
Ever applied abroad	0.28	0.24	0.23	0.27	0.29
Any family ever abroad	0.69	0.65	0.71	0.68	0.64
Distance to job fair (km)	2.96	3.14	2.74	3.57	2.77
Observations	465	220	228	220	237
Joint F-test statistic		0.60		1.04	1.73
p-Value		0.873		0.431	0.063*

Sample restricted to endline respondents. Starred values in columns 2, 4, and 5 indicate statistically significant differences with their respective control groups in columns 1 and 3. Tests for statistically significant differences are clustered at the neighborhood level. Monthly income is top-coded at P40,000. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

work and therefore less likely to be recruited at a job fair. Conversely, they may have the largest information gaps and therefore have the most to gain from attending the fair. However, it is encouraging that I do not find evidence of heterogeneous impacts by baseline employment status, suggesting that the interpretation of my results is relatively robust to selection on this dimension.⁹

Enumerators revisited all baseline respondents in early 2012, ten months after the job fair. Attrition is of particular concern in this study because if respondents moved out of the municipality for work and were missing from endline reports, actual increases in employment would be indistinguishable from differential attrition by treatment. By using proxy surveys with an alternate household member if the original respondent was unavailable, I obtained a follow-up rate of 96.5%, with full surveys for 80.0% of baseline respondents and proxy surveys for the other 16.5%. I find no evidence of differential attrition across treatments.¹⁰ To minimize reporting errors, and because labor force perceptions could not be collected from proxy respondents, I concentrate on the 685 endline respondents who were re-interviewed personally.¹¹

3.3. Baseline characteristics

Table 1 presents descriptive statistics of 685 endline respondents separately by treatment group. By design, approximately half the sample is female. Nearly three-fourths of respondents have completed high school, and 15% have completed college.¹² Slightly more than one-third of respondents are currently working at baseline; this

Table 2
Intention-to-treat estimates of voucher assignment on job-fair attendance.

	Attend job fair		Attend, search intensely	
	(1)	(2)	(3)	(4)
Voucher	0.378*** [0.041]	0.391*** [0.041]	0.094*** [0.031]	0.104*** [0.030]
Wage information	0.019 [0.041]	0.021 [0.042]	−0.000 [0.029]	−0.016 [0.029]
Qualification information	0.007 [0.037]	0.009 [0.038]	0.002 [0.034]	0.001 [0.033]
Observations	685		685	
Dependent mean, control	0.131		0.108	
First-stage F-statistic	86.52	91.51		
Individual covariates	No	Yes	No	Yes

Sample restricted to endline respondents. Robust standard errors clustered at the neighborhood level reported in brackets. Specifications include individual baseline characteristics from Table 1, along with stratification cell and enumerator fixed effects. Missing values for passport-holding and perceived likelihood of job-finding abroad are coded as zero and missing data flags are included. "Search intensely" is defined as visiting a recruitment agency, employer, or information booth at the fair. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

includes anyone who worked for pay in the previous month, regardless of whether it was in the formal or informal sector.

3.4. Wage and qualification information

During the baseline survey, respondents from randomly selected neighborhoods received information about average overseas wages (wage information) or information about the minimum qualifications for overseas work (qualification information). Those assigned to the wage information treatment received a flier comparing the average earnings of overseas Filipino workers with the average reported income of families in Sorsogon Province, which the interviewers read through with the respondent. Those assigned to the qualification information discussed a set of cards with interviewers that detailed the minimum educational and experience requirements for four common overseas positions, tailored to each respondent's background and interests.¹³

3.5. Job fair invitation and voucher intervention

After the survey, all respondents were invited to attend a job fair for overseas work, described in detail in Section 2. All respondents received two text message reminders in the days leading up to the job fair, which minimized potential differential salience effects based on the date of the survey. To increase general interest, the survey team advertised the fair using fliers and radio advertisements in the week prior to the fair.¹⁴ These efforts were effective: overall attendance was 770, and survey respondents made up 25% of all attendees. Among the control group, 13.1% attended the job fair.

To generate exogenous variation in the likelihood of job-fair attendance, I assigned respondents in randomly selected neighborhoods (one-third) to receive a voucher that could be exchanged for a gift certificate worth P150 (US\$3.42, roughly the cost of a dinner for a family of four) to Jollibee, a popular fast-food chain restaurant, which has a location in the central business district.¹⁵ Respondents were required to pick up the gift certificates in person at the job fair, and they could

⁹ Results available upon request.

¹⁰ See Appendix Tables A.1 and A.2.

¹¹ Including proxy respondents reduces the precision of my estimates, but it does not affect the magnitude of overall results. See the robustness tables in Appendix 8.

¹² These education completion rates are consistent with statistics from the 2011 Philippine Labor Force Survey, which show that 63% of Bicol region residents aged 20–35 have completed at least high school, and 13% have completed college (National Statistics Office, 2011). See Appendix Table A.3 for a more detailed comparison with LFS statistics.

¹³ See Appendix 7.4 for more details and https://sites.google.com/site/eabeam/jobfairs_interventionmaterials.pdf for the complete set of intervention materials.

¹⁴ Of non-survey respondents, 58% of attendees say they heard about the fair through radio advertisements, 17% through a flier, and 24% through a friend.

¹⁵ This and all other conversions are calculated using the average exchange rate from January–February, 2011 of 1 US\$ = 43.7976 PHP (OANDA, 2012).

Table 3
Impact of job-fair attendance on self-reported employment status.

	Any		Formal		Informal		Self-employment	
	ITT	LATE	ITT	LATE	ITT	LATE	ITT	LATE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Attendance		0.027 [0.083]		0.106** [0.051]		0.085 [0.072]		−0.164** [0.077]
Voucher	0.010 [0.034]		0.041** [0.021]		0.033 [0.029]		−0.064** [0.031]	
Wage information	0.091** [0.043]		0.019 [0.022]		0.066* [0.039]		0.006 [0.039]	
Qualification information	0.024 [0.041]		0.010 [0.023]		0.030 [0.034]		−0.016 [0.034]	
Dep. mean, control	0.497		0.077		0.138		0.282	

Sample restricted to endline respondents. Robust standard errors clustered at the neighborhood level reported in brackets. Specifications include individual baseline characteristics from Table 1, along with stratification cell and enumerator fixed effects. Missing values for passport-holding and perceived likelihood of job-finding abroad are coded as zero and missing data flags are included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

only do so during the two days of the job fair. Forty-seven percent of those assigned to receive a voucher attended the fair.¹⁶

The voucher was successful in attracting attendees; assignment increased attendance fourfold.¹⁷ Columns 1 and 2 of Table 2 report intention-to-treat estimates of voucher and information assignment on job-fair attendance. Including individual-level covariates, the voucher increases attendance by 39.1 percentage points (298%). While some respondents may have left immediately after receiving their vouchers, I find that getting people into the job fair led to large increases in fair participation. Columns 3 and 4 report the impact of voucher assignment on whether respondents “search intensely,” defined as visiting a recruitment agency, employer, or information booth at the fair. Assignment causes a 10.4 percentage-point increase in the rate at which respondents search intensely, essentially doubling the control-group rate. Neither information treatment has any detectable impact on job fair attendance or on the likelihood of participating in the fair.

3.6. Randomization

To reduce contamination from information spillovers, I randomized voucher and information assignment at the neighborhood level.¹⁸ I followed a block-randomization process, randomizing within eleven stratification cells, each composed of nine neighborhoods, based on neighborhood density and distance from the location of the job fair (Bruhn and McKenzie, 2009).

One-third of neighborhoods were assigned to the voucher treatment. One-third of respondents received no information, one-third received wage information, and one-third received qualification information.¹⁹

¹⁶ Nine respondents assigned to receive the voucher attended the fair but did not redeem the voucher; these respondents are still counted as attending.

¹⁷ To calculate attendance, I link attendance rosters with baseline survey data using an approximate string-matching algorithm. Specifically, I match individual names based on pairs of letters in relatively similar positions of the string (Winkler, 2004) and verify close matches with additional data on gender, age, and barangay when available. The specific protocol is available upon request.

¹⁸ Baseline results indicate that spillovers would most likely occur within the neighborhood unit. Overall, 86% of those friends whom respondents talk to regularly (at least 7 times per week) live within the same barangay, and 72% live within the same neighborhood. If respondents did share information from the job fair with friends and family living outside their neighborhood, who ended up forming the control group, this would bias my results toward zero.

¹⁹ Attendance results are broadly robust to excluding respondents cross-randomized to either of the two information treatments, though there is a substantial loss of significance due to eliminating two-thirds of the sample. See Appendix 8 for these results. I also test for the presence of interaction effects, but I do not find compelling evidence of interaction effects between voucher assignment and the information treatments on job-fair attendance or the outcome variables of interest.

In column 2 of Table 1, I report covariate means for members of the voucher treatment group, with stars indicating statistically significant differences. The sample is largely balanced, and I cannot reject the null hypothesis that these means are jointly equal between treatment and control groups ($F = 0.60$, $p = 0.87$). Columns 3–5 present means for the information control, wage information treatment, and qualification information treatment groups, all of which include both voucher and non-voucher recipients. In columns 4 and 5, I star those covariate means that are statistically significantly different from the information control group. While I only observe imbalance in the likelihood of being married among members of the qualification treatment group, I do reject the joint equality of means between the qualification information treatment and information control groups at the ten-percent level (p -value = 0.06). I control for these individual-level covariates, which are likely to be correlated with the outcome variables, in subsequent specifications to improve the precision of my estimates.

3.7. Estimation

I first report intention-to-treat (ITT) estimates of the impact of voucher assignment and the information treatments. Because job-fair attendance is likely endogenous, I instrument attendance using randomly assigned voucher assignment using two-stage least squares to obtain estimates of the local average treatment effects (LATE). To the extent that job-fair attendance has heterogeneous impacts, the LATE estimates can be interpreted as the impact of job-fair attendance for those induced to attend the fair as a result of being assigned the voucher.

I stratified my sample by gender in order to consider differential effects for men and women. However, because I find evidence of differential treatment effects by gender only when considering labor market perceptions, I report the impacts of job-fair attendance and the information treatments by gender of the other outcomes in Appendix 9. In both ITT and LATE specifications, I include indicators for the two cross-randomized information treatments, the set of individual covariates included in Table 1, and a set of stratification-cell fixed effects and enumerator fixed effects.²⁰ Standard errors are clustered at the neighborhood level, the unit of randomization. The first-stage is strong, yielding an F-statistic of 91.5 overall (Table 2, column 2). Random assignment ensures that the instrument, voucher assignment, is not correlated with the error term.

²⁰ I include individual-level covariates in my main specifications to increase the precision of my estimates. Results excluding these covariates are broadly similar, which I report in Appendix 8.

Table 4
Impact of job-fair attendance on job-search effort.

	Whether searched, two months after fair						Offered job, 10 months after fair					
	Anywhere		Inside province		Outside province		Anywhere		Inside province		Outside province	
	ITT	LATE	ITT	LATE	ITT	LATE	ITT	LATE	ITT	LATE	ITT	LATE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Attendance		0.010 [0.038]		−0.059** [0.026]		0.071** [0.033]		0.043 [0.068]		−0.058 [0.055]		0.091** [0.045]
Voucher	0.004 [0.015]		−0.023** [0.010]		0.028** [0.013]		0.017 [0.028]		−0.023 [0.022]		0.036* [0.018]	
Wage information	−0.001 [0.018]		−0.014 [0.013]		0.013 [0.012]		−0.028 [0.032]		−0.028 [0.029]		−0.011 [0.018]	
Qualification information	−0.005 [0.017]		−0.008 [0.013]		0.010 [0.012]		0.009 [0.032]		−0.017 [0.027]		0.021 [0.019]	
Observations	685		685		685		685		685		685	
Dep. mean, control	0.043		0.034		0.009		0.123		0.090		0.039	

Sample restricted to endline respondents. Robust standard errors clustered at the neighborhood level reported in brackets. Specifications include individual baseline characteristics from Table 1, along with stratification cell and enumerator fixed effects. Missing values for passport-holding and perceived likelihood of job-finding abroad are coded as zero and missing data flags are included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

To minimize the likelihood that the voucher directly affects respondents' labor market perceptions or decisions to look for work, violating the exclusion restriction, both treatment and control respondents were invited to attend the job fair, and all respondents received a flier to keep and two text message reminders about the fair. Additionally, enumerators informed respondents that they were receiving the voucher to encourage them to attend the fair without any mention of their own qualification levels or job-finding prospects. Because randomization took place at the neighborhood level, respondents' neighbors received the same offer, so it is less likely that spillovers would have induced respondent to feel relatively more or less qualified by comparison.

The exclusion restriction could also be violated if the voucher affected respondents' budget constraints. However, while the cash value was P150, roughly 2.5% of monthly household income, the realized value was approximately one family meal.²¹ I find no evidence that respondents exchanged the voucher for cash.²²

Because I test for impacts for three separate randomizations across multiple outcomes, I am likely to falsely reject some null hypotheses. I adjust for multiple hypothesis testing by creating standardized index measures of my four main outcome families: employment, job-search, migration, and perceptions, following Katz et al. (2007). Appendix Table A.8 reports these results. There are still twelve tests across the four outcome families and three treatments, so I also report a set of p -values that are adjusted to control the familywise error rate (FWER) and a set of q -values that are adjusted to control the false discovery rate (FDR) (Benjamini and Hochberg, 1995; Holm, 1979). Overall, the impact of voucher assignment on the standardized employment and job search outcomes are statistically significant at the one-percent level. After either the FWER or FDR adjustment, both the employment and job-search results remain statistically significant at the ten-percent level.

4. Experimental evidence on the impact of job-fair attendance and information

By attending a job fair, individuals can interact with employers and recruiters, apply for formal sector jobs, observe others applying for formal sector jobs, and connect with other jobseekers. In addition to any direct job-finding, these interactions may convey information about

the returns to search in the domestic or overseas market and about how and where to look for work. This information may update individuals' expectations about their domestic or overseas labor market prospects, which could translate to a change in labor market outcomes or perceptions.

4.1. Impact of job-fair attendance on domestic labor market outcomes

It does not appear that those induced to attend the fair were more likely to find employment through this channel; I see no increase in migration, nor increased employment in the domestic employer's industry (see Appendix Table A.7). Table 3 shows that, overall, attending the job fair causes a 10.6 percentage-point increase in being employed in the formal sector (an ITT effect of 4.1 percentage points), significant at the five-percent level. This is a large effect compared with the control-group rate of 7.7%.²³ There is an increase of similar magnitude in informal employment, with both increases coming at the expense of self-employment, rather than respondents moving out of non-employment.²⁴ I do not find that attendance leads to employment directly; at endline, only two respondents were working in the domestic employer's industry (see Appendix Table A.7).

In this context, it is likely that shifting from self-employment to formal sector employment, or even to informal sector employment, is welfare improving. Hasan and Landoc (2010) report that in the Philippines, permanent employees, who would be likely to be employed in the formal sector, earn between two and three times more than self-employed workers. On average, the returns to being a casual employee, which is more likely to fall under informal employment, relative to self-employment are more modest, but are generally positive.²⁵

By exposing respondents to information about the labor market, job-fair attendance could also affect search decisions, possibly affecting the likelihood or direction of search. Table 4 reports the impact of job-fair attendance on whether respondents looked for work in the two months following the fair and on whether they were offered a job in the ten months after the fair. I consider search and offers within the region of

²¹ Jollibee is substantially more expensive than cooking at home or eating at a local canteen. It is a common destination for birthday parties and special occasions like baptisms.

²² I conducted a brief survey conducted in May 2012 with 96 randomly selected respondents, of whom 31 were voucher treatment group members. Of the 14 voucher group members who recalled receiving the voucher, no one traded or gave it away.

²³ It is more appropriate to compare the control-group mean against the ITT estimates rather than the LATE estimates, as the latter reflect estimates for the marginal applicant.

²⁴ This measure of formal sector employment is self-reported; it could be upward biased if attending the job fair led some respondents to reclassify their employment as formal.

²⁵ Because these outcome variables are measured at endline, I cannot rule out the possibility of a crowd-out effect, that job-fair attendance differences between treatment and control groups that reflect losses incurred by those who did not attend the fair. However, because the total size of the treatment group (275) is small compared to the total municipal population (92,000), the potential for crowd-out seems relatively small.

Sorsogon Province (“inside region”) and outside the region, which is generally in Manila.²⁶ Attendance increases the likelihood of search outside the region by 7.1 percentage points, and it increases the likelihood of receiving a job offer outside the region by 9.1 percentage points, both significant at the 5-percent level.

Overall, reported job search is largely informal: among respondents who looked for work in the ten months after the fair, 66% of respondent used family and friends. Additionally, the increase in search outside the province is concentrated entirely among those who look for work through family or friends (see Appendix Table A.4). Alongside the employment results, the change in job search behavior suggests that job-fair attendance encourages respondents to broaden their search for work using their social network, which may enable them to move out of self-employment and into formal and informal sector employment.

4.2. Impact of job-fair attendance on migration

Table 5 indicates that, despite the presence of several overseas recruiters, attending the job fair does not lead respondents to take steps to migrate, as measured on three dimensions: (1) whether respondents look for work overseas in the ten months following the job fair (excluding the month of the fair); (2) whether respondents plan to apply abroad in the next six months; and (3) whether respondents hold a valid passport.²⁷

Although there are no detectable effects on steps to migrate, attending the fair does convey information and update respondents' beliefs about the overseas labor market, specifically about their labor market prospects, wages, and the deployment process. Table 6 shows that job-fair attendance modestly reduces the perceived likelihood of being offered a job abroad by 3.3 percentage points, though the estimate is not statistically significant. Attendance also has differential effects for men and women, reducing the perceived likelihood of being offered a job abroad by 22.8 percentage points for men and raising it by 10.9 percentage points for women, significant at the 5- and 10-percent levels, respectively. By estimating a fully interacted model pooling men and women, I can reject the null hypothesis that the effects of attendance for men and women are equal at the one-percent level.

This result suggests that men initially overestimate their job prospects, while women underestimate them. This differential effect may reflect the high level of occupational segregation for men and women,²⁸ and that there may be more opportunities for the women of my sample than the men.²⁹ Attendance also conveys information about the process of deploying overseas, as seen by the 9.8 percentage-point reduction in respondents' perceived likelihood of deploying abroad conditional on being offered a job (column 2), significant at the 10-percent level. Effects are slightly larger for men, but the difference is not statistically significant.

Consistent with respondents underestimating overseas wages, as seen in McKenzie et al. (2013), attending the job fair increases what they expect they could earn abroad by PHP6512 (US\$149, 26%). Respondents' reservation wages also rise: attending the job fair increases the minimum monthly wage they would accept to work abroad by

Table 5
Impact of job-fair attendance on steps to migrate.

	Look for work abroad, last 10 mo.		Plan to look for work abroad, next 6 mo.		Have current passport	
	ITT	LATE	ITT	LATE	ITT	LATE
	(1)	(2)	(3)	(4)	(5)	(6)
Attendance		−0.010 [0.021]		0.007 [0.064]		−0.002 [0.035]
Voucher	−0.004 [0.008]		0.003 [0.026]		−0.001 [0.014]	
Wage information	0.004 [0.010]		−0.013 [0.032]		0.036** [0.018]	
Qualification information	0.004 [0.009]		−0.035 [0.028]		0.009 [0.016]	
Observations	685		685		685	
Dep. mean, control	0.013		0.135		0.069	

Sample restricted to endline respondents. Robust standard errors clustered at the neighborhood level reported in brackets. Specifications include individual baseline characteristics from Table 1, along with stratification cell and enumerator fixed effects. Missing values for passport-holding and perceived likelihood of job-finding abroad are coded as zero and missing data flags are included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

PHP7397 (US\$169, 32%), significant at the 5-percent level. Reflecting that women receive better news about their overseas job prospects relative to men, the magnitudes of both estimates are larger for women, though the difference is not statistically significant.

That attendance does not induce steps to migrate is initially surprising, and contrasts with Jensen (2012), which finds that providing BPO recruitment services leads to a direct increase in BPO employment. However, finding work abroad is substantially more complicated than finding work domestically. The migration process typically involves obtaining a passport and accompanying documentation, traveling to the capital, passing a medical examination, interviewing with the employer, passing qualifying examinations, obtaining a visa, and financing these pre-departure expenses along with a placement fee. Consequently, the mean rates at which respondents take steps to migrate are low even among the control group: fewer than two percent of respondents look for overseas work in the ten months following the job fair.³⁰ If respondents learn that the process is, in fact, harder than they originally thought (as the results on overseas labor market perceptions suggest, especially for men) many potentially qualified applicants may decide not to initiate the process, even after attending a job fair makes it easier to apply.³¹

4.3. Impact of wage and qualification information

In the presence of incomplete information, providing information about average overseas wages and minimum qualifications for overseas work may help individuals better assess their own overseas labor market prospects. As a result, they could increase their investment in the local labor market as a stepping stone to overseas work, and they could also take steps to find work abroad. Table 3 shows that wage information increases the likelihood of being employed by 9.1 percentage points, and this increase is concentrated in the informal sector, while qualification information has no effect on employment. Neither information treatment affects job-search behavior (Table 4) or the likelihood

²⁶ Reflecting its relative nearness compared to Manila, any search associated with the BPO firm, located in neighboring Albay Province, would be coded as within the Sorsogon region.

²⁷ Table 5 restricts the sample to those who are in Bulan at the time of the endline survey, which could underestimate the impact on steps to migration. Appendix Table A.5 reports alternative migration outcomes for the entire sample. The rates of overseas search are indeed higher for these samples, but job-fair attendance does not increase steps to migration.

²⁸ Data collected from *workabroad.ph*, the most popular online website for overseas work in the Philippines indicates that only 15% of job vacancies are open to both men and women.

²⁹ For example, domestic helpers make up 51% of female positions, and these positions do not typically require work experience. However, the most common occupations for men are as factory workers and in skilled trades, which tend to require some work experience, usually at least two years (Philippine Overseas Employment Administration, 2010).

³⁰ Because of possible barriers at each step of the process, Beam et al. (forthcoming) found that providing information, job-search assistance, and help getting a passport were not sufficient to induce migration.

³¹ Consistent with this interpretation, (Appendix Table C.4) shows that men are less likely to plan to look for work abroad in the next six months, significant at the five-percent level, while women are actually more likely (though not statistically significant).

Table 6

Impact of job-fair attendance on overseas labor market perceptions, by gender.

	Likelihood offered job, applied		Likelihood deploy, if offered job		Likeliest wage offered abroad		Minimum wage willing to accept		Strongly interested working abroad	
	ITT	LATE	ITT	LATE	ITT	LATE	ITT	LATE	ITT	LATE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Panel A: All Attendance</i>										
		−0.033 [0.045]		−0.098* [0.056]		6.512* [3.659]		7.397** [3.163]		−0.055 [0.040]
Voucher	−0.013 [0.018]		−0.037* [0.021]		2.527 [1.562]		2.796** [1.256]		−0.021 [0.016]	
Wage info.	0.028 [0.020]		0.014 [0.023]		2.547 [1.970]		2.134 [1.470]		0.004 [0.025]	
Qualification info.	0.023 [0.024]		0.026 [0.026]		−0.337 [1.382]		−0.653 [1.440]		−0.040* [0.023]	
Observations	661		661		641		648		661	
Dep. mean, control	0.480		0.459		25.0		22.9		0.093	
<i>Panel B: Men Attendance</i>										
		−0.228** [0.101]		−0.167 [0.107]		4.671 [4.264]		1.635 [4.543]		−0.109 [0.078]
Voucher	−0.073** [0.031]		−0.053 [0.034]		1.470 [1.536]		0.514 [1.575]		−0.035 [0.025]	
Wage info.	−0.000 [0.031]		0.003 [0.038]		3.073 [2.258]		4.009** [1.966]		0.030 [0.041]	
Qualification info.	0.079** [0.033]		0.081** [0.039]		1.379 [1.935]		0.738 [1.912]		−0.036 [0.043]	
Observations	301		301		297		298		301	
Dep. mean, control	0.517		0.500		25.0		23.1		0.113	
<i>Panel C: Women Attendance</i>										
		0.109* [0.059]		−0.064 [0.073]		8.166* [4.419]		9.501** [3.913]		0.013 [0.049]
Voucher	0.047* [0.027]		−0.028 [0.033]		3.607 [2.179]		4.025** [1.760]		0.006 [0.023]	
Wage info.	0.042 [0.036]		0.011 [0.033]		2.939 [2.933]		0.769 [2.252]		−0.018 [0.036]	
Qualification info.	−0.027 [0.034]		−0.043 [0.035]		−2.059 [2.072]		−2.355 [2.012]		−0.059* [0.030]	
Observations	360		360		344		350		360	
Dep. mean, control	0.449		0.424		25/0		22.8		0.075	
p-value, men = women	0.005***	0.004***	0.590	0.409	0.453	0.598	0.146	0.192	0.275	0.217

Sample restricted to endline respondents with non-missing values for the respective outcome variable or baseline beliefs. Robust standard errors clustered at the neighborhood level reported in brackets. Specifications include individual baseline characteristics from Table 1, along with stratification cell and enumerator fixed effects. Missing values for passport-holding and perceived likelihood of job-finding abroad are coded as zero and missing data flags are included. Controls for baseline perceived likelihood of deployment, likeliest wages, and minimum wages willing to accept abroad are also included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

that respondents have looked for work abroad or plan to work abroad (Table 5).³²

Wage information does encourage respondents to take steps to migrate, increasing the likelihood that respondents have a current passport by 3.6 percentage points, compared with a control group-rate of 6.9 percentage points. Consistent with individuals underestimating overseas wages, as McKenzie et al. (2013) find, wage information increases both what individuals report as the likeliest wage they would earn abroad and the minimum wage they would accept, though these impacts are only statistically significant in the case of reservation wages for men. The qualification information increases both men's perceived likelihood of job-finding and perceived likelihood of deploying, though there is no change in the likelihood they are strongly interested in working abroad.

These results indicate that individuals have incomplete information about the returns to overseas job search, and that providing information, particularly about overseas wages, leads to increased labor market investment domestically and overseas. In addition, the impacts of information provision on labor market outcomes and perceptions are

different from the impact of job-fair attendance. This difference suggests that job fairs improve individuals' information in some other way.

5. Conclusion

Even for those who attend but do not find work directly, job fairs matter. Using a randomized encouragement design, this paper estimates the causal impact of job-fair attendance on employment and labor market perceptions. Job-fair attendance more than doubles the rate of formal sector employment, though not as a result of obtaining the jobs offered at the fair. This increase is offset by a reduction in the likelihood of self-employment, rather than non-employment. Though not conclusive, that the increase in formal sector employment comes alongside changes in the likelihood of job search outside the region, primarily through informal channels, suggests that the information and exposure respondents received at the fair may have encouraged attendees to broaden their search for work, enabling them to move out of self-employment and into formal and informal sector employment.

Although several overseas recruitment agencies participated in the fair, attendance has no effect on steps to migration, though it does influence respondents' overseas labor market perceptions. The impacts differ by gender, with men revising their beliefs about their likelihood of finding work abroad downward, while women revise their beliefs

³² However, these results should be interpreted with some caution because of a coding error that overstated average local wages on the intervention flier, effectively understating the returns to migration.

upward. Both men and women appear to underestimate what they could earn overseas, consistent with (McKenzie et al., 2013), as attendance induces them to revise upwards their expected wages and reservation wages.

Without multiple treatment arms, I am unable to pin down the exact mechanisms through which job fairs affect labor market outcomes. However, the information results, combined with the absence of increased interest or steps to migrate as a result of attending the fair, suggest that it is unlikely job fair attendance increases the perceived returns to overseas job search. Additionally, because the increase in job search outside the province is concentrated in search through informal channels, it appears that individuals may not be learning how or where to search for work, except perhaps through social networks. Instead, these results suggest that the opportunity to connect with other jobseekers and to learn about the returns to domestic search may be important. This change in perceived returns could be in absolute terms or relative to the returns to overseas search, if attending a job fair reduces the expected returns to looking for work abroad.

For policymakers, these results are particularly encouraging. They indicate that job fairs can have large impacts on formal sector employment that extend beyond any direct job-matching that occurs at the fair. These results come at the relatively low cost of approximately US\$35 per person induced to move into formal sector employment.³³ Because this study evaluates only one job fair, it may be that extending this study to include more employers or more qualified applicants could have lead to more direct job-finding as a result of job-fair attendance. Regardless of this limitation, this study demonstrates that exposure to formal sector employment seems to matter, and that expanding access to job fairs may be a low-cost way to increase this exposure.

For researchers, this paper highlights the presence of incomplete information among job seekers in domestic and overseas labor markets, and it indicates that additional exposure to labor market opportunities can be important to reduce these information gaps. It demonstrates the effectiveness of a randomized encouragement design in generating exogenous variation in job-fair attendance, and it outlines a clear agenda for future research into the impact of job fairs: pursuing a similar research design across multiple job fairs, focusing on domestic employment, will permit a more detailed analysis of the mechanisms through which job fairs affect individual labor market decisions.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <http://dx.doi.org/10.1016/j.jdeveco.2015.11.004>.

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³³ This estimate reflects the total cost of the job fair and incentives divided by the ITT effect per sample member. Costs include redeemed vouchers for respondents, facility rental, advertising, and the estimated value of PESO staff time.