

ONLINE APPENDIX

Hiring Frictions and the Promise of Online Job Portals: Evidence from India

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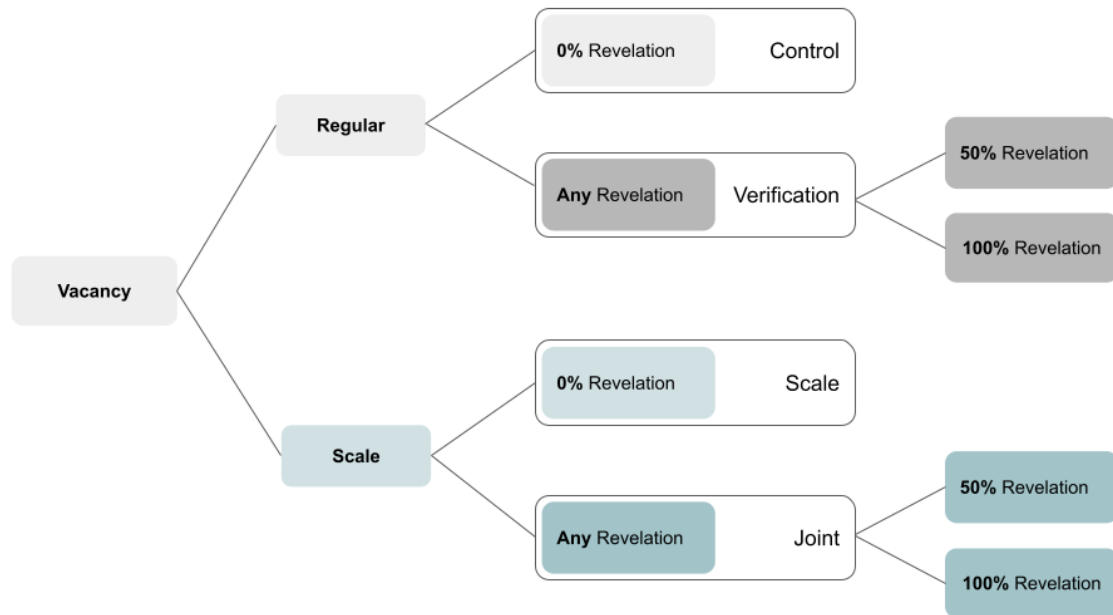
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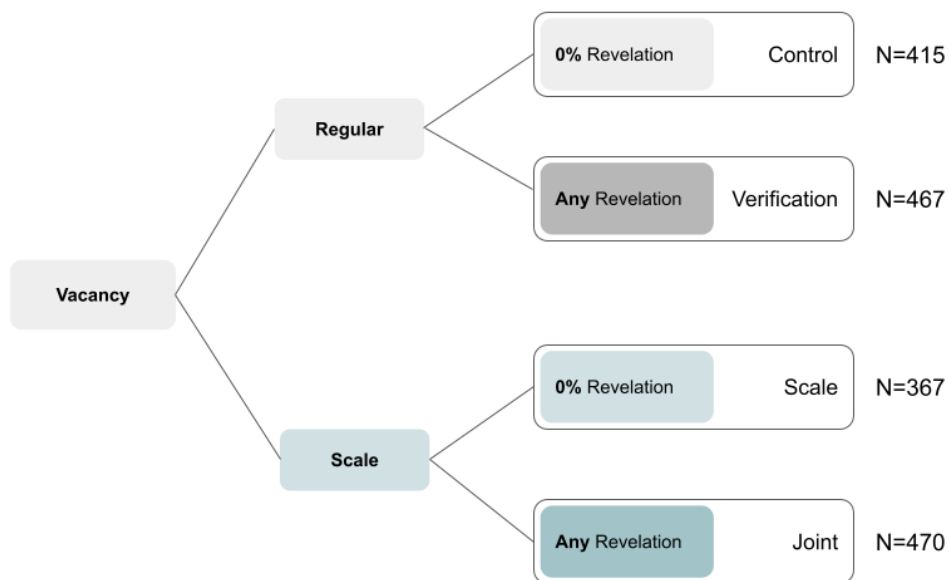
Appendix A Experimental Design and Data

Appendix A.1 Experimental Design

Panel A: Design



Panel B: Sample Sizes for Main Specification



Notes: This figure shows the experimental design. Panel A shows the experimental groups: vacancies are assigned to *Control*, *Verification*, *Scale*, or the *Joint* treatment. For vacancies in the *Verification* and *Joint* treatments, either 50% or 100% of applicant verification outcomes are revealed to employers. Panel B shows the sample sizes for the different groups for the main specification which pools together the 50% and 100% verification cells into “Any revelation.”

Appendix A.2 Comparison of Study Sample to Firm Census

Table A2: Comparison of Sample Firms with Urban-area Firms in Economic Census 2013-14

	(1) Study Sample	(2) Census Urban Karnataka	(3) Census Bengaluru
<i>Panel A: Sector of Operation</i>			
Wholesale & retail trade, transport, accommodation & food service	29.92%	54.36%	n/a*
Professional, technical & admin	13.42%	3.76%	
Information & communication	13.08%	1.17%	
Education, human health & social work	11.04%	4.53%	
Manufacturing, mining & others	9%	23.46%	
Real estate	8.53%	0.85%	
Other services	7.28%	5.84%	
Financial & insurance activities	4.32%	2.02%	
Construction & utilities	3.41%	2.01%	
Agriculture, forestry & fishing	0%	2.00%	
<i>Panel B: Other Firm Attributes</i>			
Located within HH premises	8.62%	18.35%	8.50%
Located outside HH premises	91.38%	81.65%	91.49%
Establishments with at least 1 hired person	98.01%	44%	52.83%
Establishments with less than 8 persons	37.73%	95.8%	94.30%

Notes: This table compares sample firms to a population census of firms, the Economic Census 2013-14, conducted by the Indian government. Data on the study sample comes from firm surveys. Census statistics are compiled by the authors from the annual report for the Economic Census 2013-14 for the Karnataka region. Panel A shows the sector of operation. Panel B shows additional firm attributes.

* Sector of operation is not available separately for the Bengaluru area in the annual reports.

Appendix A.3 Descriptive Evidence on Hiring Frictions

Table A3: Summary Statistics

	Mean
N employees (Top coded 1%)	19.35
Mentions any constraint to growth	0.75
Mentions labor-related issues as constraint [†]	0.69
Mentions other non-labor issues as constraint [†]	0.34
Mentions trust-related recruitment issues [*]	0.53
Has dedicated HR staff	0.31
Reports using security equipment or personnel	0.59
Fraction of employees hired via networks	0.56
Pursuing network-based hiring for sample vacancy	0.84
Reports learning worker quality within 2 months	0.83
Reason for valuing ID verification: To build trust	0.81

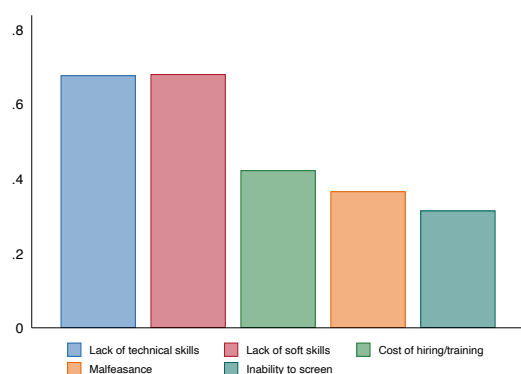
Notes: This table shows summary statistics on hiring frictions using data from baseline surveys with 915 firms.

[†] Labor-related issues include difficulty finding workers with technical or soft skills, concerns about employee behavior, screening difficulties, and cost of hiring and training new employees. Non-labor issues include lack of access to finance, low consumer demand, legal regulations, and economic policy uncertainty.

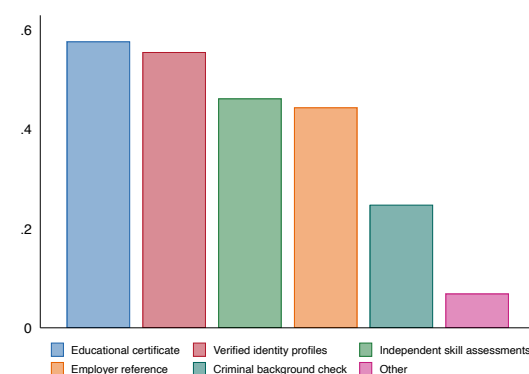
^{*} Trust-related issues include concerns about employee behavior and difficulty finding workers with required soft skills such as good behavior and communication.

Figure A3: Labor-related Constraints and Information Desired by Employers

(a) Breakdown of Labor-related Constraints



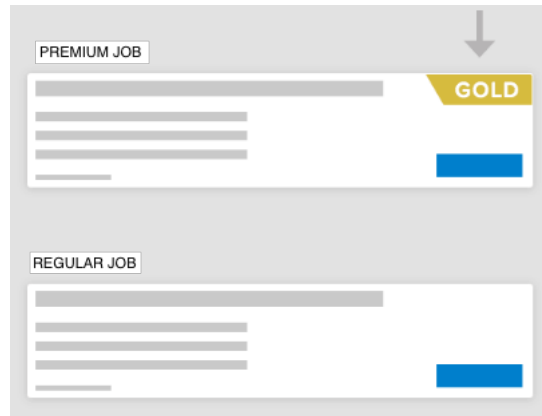
(b) Types of Job seeker Information Desired by Employers



Notes: Figure A3(a) reports labor-related issues shared by sample employers. The sample is restricted to only those employers (69%) who report any labor-related constraints. Soft skills are defined as skills relating to good behavior, communication, etc. Malfeasance is related to concerns about employee behavior, such as theft or crime. Figure A3(b) reports the types of additional job seeker information that employers would like to access on the portal. 98% of employers report wanting additional information. Data are from baseline surveys.

Appendix A.4 Treatment Visuals

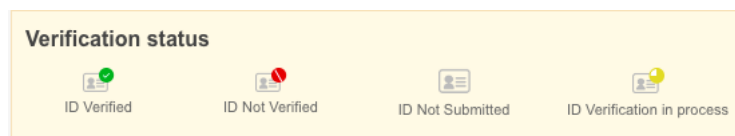
Figure A4.1: Comparison of vacancy with premium advertising services to a regular vacancy



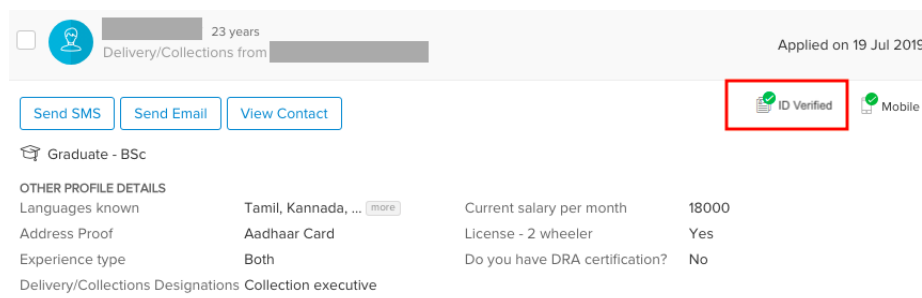
Notes: This figure depicts the visual difference between vacancies that receive premium advertising in the *Scale* and *Joint* treatments and those that do not in the control and *Verification* groups.

Figure A4.2: Verification Badges and Sample Applicant Profiles

Panel A: Verification Badges



Panel B: Sample of an Applicant Profile



Notes: Panel A shows the badges an employer receiving access to identity verification information may see on the profiles of their applicants. Panel B shows a sample application sent to an employer on the portal. The application includes an “ID verified” badge, which indicates that the applicant successfully passed the verification request and applied to vacancy where the employer received access to identity verification information. To access an applicant’s contact details, the employer must click on the blue buttons in the profile and the portal records these click actions.

Appendix B Additional Results

Appendix B.1 Applicant Attributes for Skill Index at the Vacancy-Level

	Any applicants reporting X		Number of applicants reporting X		Fraction of applicants reporting X	
	(1) Control Mean	(2) Scale-C	(3) Control Mean	(4) Scale-C	(5) Control Mean	(6) Scale-C
Education: \geq Bachelors	0.851	0.123 (0.020)	8.990	9.885 (1.141)	0.331	0.030 (0.013)
Language: English	0.959	0.032 (0.010)	19.267	20.145 (2.059)	0.731	0.009 (0.013)
Report Skills	0.829	0.068 (0.016)	12.316	13.077 (1.539)	0.478	-0.018 (0.014)
Report Certifications	0.545	0.098 (0.019)	8.704	6.951 (1.309)	0.225	-0.000 (0.007)
Report Specific Expertise	0.901	0.085 (0.016)	14.896	14.238 (1.754)	0.516	-0.005 (0.014)
Shared CV	0.737	0.161 (0.026)	5.805	6.069 (0.867)	0.210	-0.009 (0.011)
Submitted ID information	0.629	0.200 (0.030)	3.128	3.174 (0.542)	0.099	0.015 (0.008)

Notes: This table shows how applicant attributes, X , vary between vacancies assigned to the *Control* and *Scale* treatment arms. The sample for these regressions is restricted to these *Control* and *Scale* vacancies. Attributes are self-reported on the portal by job seekers. Columns 1–2 focus on whether any applicant to a vacancy reports attribute X . Columns 3–4 show the number of applicants in a vacancy reporting attribute X , while columns 5–6 show the fraction of applicants in a vacancy doing the same. Columns 1, 3, and 5 reports the control mean at the vacancy level. Columns 2, 4, and 6 report coefficients from separate regressions of the attribute X on the indicator for the *Scale* treatment. Regressions include strata fixed effects. We report robust standard errors in parentheses.

Appendix B.2 Distribution of Skills Index and Applications by Skills Index

	Within-vacancy Rank			Number of applications	
	(1) Top 5	(2) Minimum	(3) Bottom 5	(4) Below Median	(5) Above Median
Verification	0.029 (0.032)	-0.075 (0.067)	0.037 (0.063)	0.731 (1.070)	1.243 (1.193)
Scale	0.341 (0.035)	-0.338 (0.074)	-0.263 (0.065)	12.969 (1.257)	12.656 (1.403)
Joint	0.362 (0.031)	-0.250 (0.055)	-0.247 (0.065)	14.620 (1.240)	14.483 (1.487)
N Vacancies	1685	1682	1685	1719	1719
Control Mean	0.539	-0.834	-0.597	12.694	12.446

Notes: This table shows additional measures of the skills index and how the number of applications vary by the skill index. The dependent variables in columns 1–3 are constructed by ranking each applicant, based on the skill index, for a given vacancy. Column 1 shows the mean of the skill index for the top 5 ranked applicants for each vacancy. Columns 2–3 examine the bottom of the distribution. Column 2 shows the index score of the lowest-ranked applicant, i.e., the minimum, while column 3 shows the mean of the index for the bottom 5 ranked applicants for each vacancy. Columns 4–5 show the number of applications by percentile thresholds (above/below median) of the skills index. The median is calculated using the applicant-level skills index for control vacancies. The dependent variables are then generated by counting the number of applications in a vacancy that fall below or above this median. Regressions include strata fixed effects. We report robust standard errors in parentheses.

Appendix B.3 Investments in Alternate Recruitment Methods for Vacancy

	Applications		Interviews	
	(1) Any	(2) Number	(3) Any	(4) Number
Verification	0.054 (0.051)	2.104 (3.707)	0.041 (0.054)	1.051 (1.443)
Scale	0.007 (0.055)	-1.334 (2.926)	-0.017 (0.059)	-0.076 (1.298)
Joint	0.017 (0.051)	1.002 (3.452)	0.023 (0.054)	1.760 (1.637)
N Firms	589	589	589	589
Control Mean	0.778	14.957	0.735	7.414

Notes: This table reports the effects on applications and interviews for the sample vacancy from alternative recruitment methods (i.e., excluding the portal in the experiment, but including networks, job fairs, employment agencies, other job portals, etc.). Data are from the long version of the follow-up survey. The dependent variables are as follows: whether any application was received (column 1); the number of applications received, top coded at the 99th percentile (column 2); whether any interview was conducted (column 3); and the number of interviews, top coded at 99th percentile (column 4). Regressions include strata fixed effects and controls for survey version (long or short), survey method (in person or phone), or if surveyed after March 2020 Covid lockdown. We report robust standard errors in parentheses.

Appendix B.4 Employer Clicks by Skill Index of Applicants

	Number of Application Clicks by Percentile of Skills Index			
	(1) Up to 25th	(2) 25th to 50th	(3) 50th to 75th	(4) 75th to 100th
Verification	-0.197 (0.185)	-0.128 (0.230)	-0.014 (0.208)	0.248 (0.237)
Scale	0.345 (0.196)	0.279 (0.228)	0.530 (0.234)	0.534 (0.218)
Joint	1.132 (0.316)	0.823 (0.259)	1.010 (0.305)	0.720 (0.207)
N Vacancies	1719	1719	1719	1719
Control Mean	0.622	0.699	0.663	0.516

Notes: This table disaggregates the number of clicks employers made to obtain contact details for unique applications by percentiles of the skills index. The percentile thresholds are calculated using the applicant-level skills index for control vacancies and split the distribution into 4 bins. The dependent variables are then generated by counting the number of employer clicks based on the value of the skills index for each applicant and the associated percentile bin. Column 1 focuses on applicants up to the 25th percentile; column 2 on applicants between the 25th and 50th percentiles; column 3 on applicants between the 50th and 75th percentiles; and finally, column 4 on applicants between the 75th and 100th percentiles. Regressions include strata fixed effects. We report robust standard errors in parentheses.

Appendix B.5 Descriptive Statistics of New Hires

	Hires via. Portal		Hires via. Networks	
	(1) Mean	(2) N	(3) Mean	(4) N
Female	0.44	101	0.30	317
Muslim	0.09	101	0.03	317
Permanent contract	0.82	88	0.86	295
Monthly salary	15932.05	78	15469.37	252

Notes: This table reports the characteristics of new hires made by all study firms after their vacancy was posted on QuikrJobs. Columns 1 & 2 restrict attention to new hires made through the QuikrJobs portal, while columns 3 & 4 refer to hires made through traditional networks. Whether or not an applicant is Muslim was coded using their given names. Where names are missing it was coded as a zero. The data used is at the worker-level and the sample sizes vary owing to non-response and whether it was collected in the short or long version of the follow-up survey.

Appendix B.6 Treatment Effects on the Composition of Hired Workers

	All Hires			Portal Hires		
	(1) % Female	(2) % Muslim	(3) % Permanent	(4) % Female	(5) % Muslim	(6) % Permanent
Verification (V)	-0.024 (0.043)	0.006 (0.019)	0.029 (0.060)	0.113 (0.182)	-0.117 (0.108)	-0.014 (0.202)
Scale (S)	0.052 (0.047)	0.004 (0.022)	-0.062 (0.060)	0.064 (0.181)	-0.132 (0.092)	-0.216 (0.200)
Joint (J)	0.004 (0.043)	0.005 (0.021)	0.053 (0.058)	-0.037 (0.153)	-0.085 (0.129)	-0.139 (0.152)
N Firms	589	589	589	64	64	64
Control Mean	0.207	0.033	0.491	0.433	0.167	0.867
Test p-val: V=J	0.492	0.971	0.681	0.332	0.677	0.532
Test p-val: S=J	0.303	0.983	0.053	0.525	0.533	0.721

Notes: This table estimates treatment effects on the composition of hired workers at the firm-level. We collected information on up to 10 new hires in the long version of the follow-up survey. The dependent variables report the share of new hires that are female (columns 1 & 4), Muslim as coded by an employee's names where available (columns 2 & 5) and whether or not an employee is on a permanent contract (columns 3 & 6). If a firm did not hire a worker since vacancy posting or did not report a worker in the roster, the dependent variable is coded as 0 in columns 1-3. The estimates in columns 4-6 report restrict the sample to firms report any new hire via the portal. Regressions include strata fixed effects. We report robust standard errors in parentheses.

Appendix C Robustness Tests

Appendix C.1 Summary Statistics and Balance for Vacancies

	Control Mean (1)	V-C (2)	S-C (3)	Joint-C (4)	N Vacancies (5)	Test: V=S (6)	Test: V=Joint (7)	Test: S=Joint (8)
Included company name	0.901	0.026 (0.019)	-0.001 (0.022)	0.023 (0.020)	1,719	0.182	0.891	0.220
Salary posted, minimum (Rs)	12,846.506	-342.389 (428.502)	-300.982 (518.218)	34.156 (477.589)	1,719	0.925	0.346	0.491
Salary posted, maximum (Rs)	18,577.947	-280.639 (738.425)	-593.296 (819.525)	-33.708 (780.437)	1,719	0.689	0.738	0.490
Experience required, minimum (years)	0.868	-0.000 (0.079)	-0.017 (0.088)	-0.130 (0.077)	1,719	0.848	0.083	0.171
Experience required, maximum (years)	3.229	0.112 (0.234)	-0.096 (0.233)	-0.262 (0.219)	1,719	0.367	0.084	0.432
Is a full-time vacancy	0.906	0.033 (0.019)	0.018 (0.020)	0.028 (0.019)	1,719	0.464	0.774	0.628
Character length of job posting	336.340	-11.072 (28.773)	16.697 (30.298)	-19.732 (28.223)	1,719	0.339	0.745	0.198
F-test p-value		0.533	0.987	0.408		0.624	0.150	0.297

Notes: This table describes the sample vacancies and shows balance tests across the experimental groups. Each row is a separate regression of a pre-treatment covariate on indicators for *Verification* (*V*), *Scale* (*S*), and *Joint*. Column 1 shows the control mean. Columns 2–4 show regression coefficients and standard errors in parentheses for differences between *Verification*, *Scale*, and *Joint* vacancies to control vacancies, respectively. Column 5 shows the number of vacancies in the regression. Columns 6–8 show *p*-values from tests of equality between treatment groups. All regressions include strata fixed effects. The last row shows *F*-test *p*-values from a joint test that the listed covariates jointly predict treatment status. To compute these joint tests, we restrict the regression to only the experimental groups under consideration.

Appendix C.2 Balance on Firm Variables

	Control Mean (1)	V-C (2)	S-C (3)	Joint-C (4)	N Firms (5)	Test: V=S (6)	Test: V=Joint (7)	Test: S=Joint (8)
Sector: Retail trade, transport, food, & accommodation	0.328	-0.023 (0.041)	-0.033 (0.043)	-0.055 (0.042)	1,001	0.809	0.411	0.591
Sector: Information & communication	0.109	0.006 (0.029)	0.033 (0.032)	0.009 (0.029)	1,001	0.380	0.918	0.435
Sector: Professional, technical, & administrative	0.158	-0.015 (0.031)	-0.023 (0.034)	-0.013 (0.033)	1,001	0.793	0.952	0.759
Sector: Education, health, & social work	0.126	-0.013 (0.027)	-0.045 (0.027)	-0.004 (0.027)	1,001	0.205	0.738	0.095
Firm age (years)	6.522	0.211 (0.714)	0.159 (0.857)	0.141 (0.757)	1,001	0.948	0.923	0.983
Has single establishment	0.671	-0.010 (0.044)	0.015 (0.047)	-0.042 (0.045)	914	0.584	0.452	0.215
Located on rented, outside HH premises	0.809	0.045 (0.036)	0.023 (0.040)	0.057 (0.037)	901	0.563	0.714	0.361
Firm type: Private Limited Company	0.394	-0.005 (0.043)	0.064 (0.045)	0.016 (0.043)	997	0.122	0.615	0.287
F-test p-value		0.811	0.409	0.549		0.553	0.932	0.637

Notes: This table shows balance tests for firm-level variables across the experimental groups. Column 1 shows the control mean. Columns 2-4 show regression coefficients and standard errors in parentheses for differences between *Verification* (*V*), *Scale* (*S*), and *Joint* vacancies to control vacancies, respectively. Column 5 shows the number of firms in the regression. Columns 6-8 show *p*-values from tests of equality between treatment groups. Data come from baseline and follow-up surveys and variables are basic firm attributes that are unlikely to change due to treatment. Regressions include strata fixed effects. The last row shows *F*-test *p*-values from the joint test of orthogonality, which is computed by regressing the treatment variable on all covariates and strata fixed effects and testing whether they jointly predict treatment status. To compute these joint tests, we restrict the regression to only the experimental groups under consideration.

Appendix C.3 Attrition

Of the 1,576 firms posting vacancies in the experiment, 65% were surveyed at least once, either during the baseline or the follow-up survey, and 50% were surveyed in the follow-up survey. We do not find significant differences in completion rates either between the treatment and the control group or between treatment groups across survey rounds. The one exception is the long version of the follow-up survey (column 5), where firms in the *Verification* treatment are 6.1% less likely to complete this survey. However, as our key hiring outcomes are collected in both the long and short versions of the follow-up survey, this difference should not affect our main results.

	(1) Surveyed in any round	(2) Surveyed in both rounds	(3) Baseline	(4) Follow-up	(5) Follow-up (Long Version)
Verification	-0.003 (0.034)	-0.009 (0.036)	0.012 (0.035)	-0.025 (0.036)	-0.062 (0.035)
Scale	-0.008 (0.036)	-0.003 (0.038)	0.008 (0.037)	-0.019 (0.038)	-0.036 (0.037)
Joint	-0.009 (0.035)	-0.022 (0.036)	0.013 (0.036)	-0.044 (0.036)	-0.045 (0.035)
N Firms	1576	1576	1576	1576	1576
Control Mean	0.656	0.449	0.577	0.528	0.415

Notes: This table shows survey completion rates for firms in the experiment. The dependent variables are all indicators and measure whether a firm has completed: either the baseline or follow-up survey (column 1); both the baseline *and* follow-up surveys (column 2); the baseline (column 3); the follow-up (column 4); and only the long version of the follow-up survey (column 5). Regressions include strata fixed effects. We report robust standard errors in parentheses.

Appendix C.4 Vacancy Characteristics of Attritees in Follow-up Survey

	Control Mean (1)	V-C (2)	S-C (3)	Joint-C (4)	N Firms (5)	Test: V=S (6)	Test: V=Joint (7)	Test: S=Joint (8)
Included company name	0.826	0.067 (0.035)	0.055 (0.038)	0.051 (0.036)	782	0.716	0.592	0.918
Salary posted, min (Rs)	13,304.620	-386.876 (772.456)	-690.240 (940.014)	101.176 (855.784)	782	0.680	0.454	0.351
Salary posted, max (Rs)	19,106.511	520.258 (1338.425)	-545.197 (1404.646)	387.356 (1302.638)	782	0.436	0.914	0.490
Experience posted, min (years)	0.846	0.142 (0.131)	0.097 (0.137)	0.006 (0.121)	782	0.747	0.272	0.487
Experience posted, max (years)	2.973	0.743 (0.347)	0.421 (0.329)	0.081 (0.298)	782	0.397	0.060	0.303
Is a full-time vacancy	0.908	0.007 (0.031)	0.020 (0.031)	0.008 (0.030)	782	0.684	0.983	0.689
Character length of job description	335.989	-16.478 (45.188)	78.541 (51.164)	6.376 (46.892)	782	0.039	0.566	0.127
F-test p-value		0.163	0.373	0.993		0.403	0.234	0.463

Notes: This table considers whether vacancy characteristics are systematically different across experimental groups for the sample of firms not surveyed in follow-up. Column 1 shows the control mean. Columns 2–4 show how attritees vary between treatment groups relative to control for each covariate. Columns 6–8 report *p*-values from tests of equality of coefficients comparing treatment groups to each other. Regressions use robust standard errors and include strata fixed effects. The last row shows *F*-test *p*-values from the joint test of orthogonality, which is computed by regressing the treatment variable on all covariates and testing whether they jointly predict status. To compute these joint tests, we restrict the regression to only the experimental groups under consideration. Only the first vacancy posted by the firm in the sample is considered in this analysis.

Appendix C.5 Hiring Outcomes including Double-LASSO Controls

	Any Hire for Posted Vacancy?		Employee Composition at Follow-Up
	(1) via Portal	(2) All Methods	(3) via Portal
Verification (V)	0.009 (0.034)	0.044 (0.041)	0.030 (0.036)
Scale (S)	0.012 (0.037)	0.026 (0.045)	0.005 (0.039)
Joint (J)	0.082 (0.038)	0.082 (0.041)	0.114 (0.040)
N Firms	794	794	794
Control Mean	0.121	0.767	0.150
Test p-val: V=J	0.042	0.327	0.033
Test p-val: S=J	0.064	0.181	0.008

Notes: This table shows robustness for our hiring and retention outcomes. We shows effects after adding controls using the post double selection LASSO technique (?). The dependent variables in columns 1-2 report whether any hires were made since vacancy posting. Column 1 only looks at hires via the portal; and column 2 reports any hires overall through all recruitment methods. The dependent variable in column 3 instead reports whether there was an employee working at the firm in the month prior to the survey who was hired via the portal. If a firm has multiple vacancies in the experiment, we use the treatment status assigned to the first vacancy in this table. Regressions include strata fixed effects and controls for survey version (long or short), survey method (in person or phone), or if surveyed after March 2020 Covid lockdown. We report robust standard errors in parentheses.

Appendix C.6 Spillover Impacts of Increased Scale Exposure on Applications

The assignment of vacancies to the *Scale* and *Joint* treatments may influence vacancies—within and outside the experimental sample— by lowering their search rankings. At the outset, experimental vacancies account for under 1% of all vacancies, suggesting that spillover effects are unlikely to be a major concern. However, to test for such spillovers, we leverage administrative data on *all* vacancies posted in Bengaluru during the experiment and assess how daily variation in exposure to vacancies assigned premium advertising services impacts the number of applications received by other vacancies. We define exposure as the percentage of new vacancies on a given day for a given job category that experimentally receive access to advertising services. We do not find that an increase in exposure leads to a statistically significant difference in the number of applications received by other vacancies both within or outside the sample.

	# Applications (Sample vacancies)		# Applications (All vacancies)	
	(1)	(2)	(3)	(4)
Scale Exposure	-0.254 (0.177)	-0.305 (0.319)	0.033 (0.040)	-0.018 (0.045)
Sample Vacancy			1.311 (1.568)	0.995 (1.563)
Sample Vacancy * Scale Exposure			-0.277 (0.173)	-0.249 (0.174)
R-Squared	0.21	0.55	0.17	0.19
N Vacancies	882	882	31763	31763
Depvar Mean	24.385	24.385	29.975	29.975
Posting Date FE	N	Y	N	Y

Notes: This table shows the effects of increased exposure to premium advertising on the number of applications received by regular vacancies. “Scale Exposure” is defined as the fraction of new vacancies that received access to the *Scale* and *Joint* treatments, i.e., premium advertising services, due to the experiment on the day of posting. The fraction is calculated separately for each day and job category. Columns 1–2 consider how this increased exposure affected the number of applications to regular vacancies within the experimental sample. Columns 3–4 expand the sample to include regular vacancies outside the experiment. Data outside the experiment does not track whether an employer purchased premium services on their own for a given vacancy. To overcome this issue, we code any vacancy with applications below the 90th percentile of the job-category specific distribution of applications received by *Scale* and *Joint* vacancies in the experiment as a “regular” vacancy. Column 2 and 4 include posting date fixed effects. All regressions include job-category fixed effects and use robust standard errors.

Appendix C.7 Effects on Main Outcomes by Revelation Saturation

	Applications	Application Clicks	Any Hire	Employee Composition
	(1)	(2)	(3)	(4)
	Number	Number	via Portal	Any hired via Portal
50% Verification	1.165 (2.423)	0.650 (1.303)	0.054 (0.045)	0.065 (0.047)
100% Verification	3.055 (2.662)	-0.841 (0.759)	-0.042 (0.038)	-0.010 (0.044)
Scale	25.865 (2.462)	1.681 (0.777)	0.012 (0.038)	0.005 (0.040)
Joint, 50% Verification	27.962 (3.296)	4.283 (1.141)	0.093 (0.051)	0.104 (0.055)
Joint, 100% Verification	31.212 (3.254)	3.201 (1.375)	0.073 (0.046)	0.122 (0.050)
N Vacancies	1719	1719	-	-
N Firms	-	-	794	794
Control Mean	25.058	2.499	0.121	0.150

Notes: This table reports treatment effects for the main outcomes separately by the 50% and 100% revelation saturation groups. Columns 1 and 2 rely on administrative data from the portal for the posted vacancy, whereas columns 3–4 use data from the follow-up survey. The dependent variables are as follows: the number of applications to the posted vacancy, top coded at the 99th percentile (column 1); the number of employer clicks on unique applications (column 2); whether any hire via the portal occurred since vacancy posting (column 3); and whether any employee working at the firm in the month prior to the survey was hired through the portal (column 4). Regressions include strata fixed effects and controls for survey version (long or short), survey method (in person or phone), or if surveyed after March 2020 Covid lockdown. We report robust standard errors in parentheses.

Appendix C.8 Robustness Tests for Effects on Applications and Employer Engagement

	Applications	Skills Index		Application Clicks		
	(1) Number	(2) Mean	(3) Maximum	(4) Minimum	(5) Any	(6) Number
<i>Panel A: Standard errors clustered at the firm level</i>						
Verification (V)	2.101 (2.129)	0.022 (0.019)	-0.011 (0.040)	-0.075 (0.067)	0.027 (0.032)	-0.090 (0.766)
Scale (S)	25.852 (2.462)	-0.010 (0.021)	0.314 (0.038)	-0.338 (0.074)	0.067 (0.035)	1.688 (0.776)
Joint (J)	29.756 (2.614)	-0.006 (0.017)	0.332 (0.036)	-0.250 (0.055)	0.126 (0.033)	3.685 (0.995)
N Vacancies	1719	1682	1685	1682	1719	1719
Control Mean	25.058	-0.037	0.994	-0.834	0.349	2.499
Test p-val: V=J	0.000	0.106	0.000	0.029	0.002	0.001
Test p-val: S=J	0.159	0.836	0.605	0.330	0.090	0.048
<i>Panel B: Sample restricted to the first vacancy</i>						
Verification (V)	2.207 (2.222)	0.013 (0.020)	-0.024 (0.042)	-0.085 (0.073)	0.030 (0.035)	0.090 (0.839)
Scale (S)	25.448 (2.556)	-0.012 (0.022)	0.309 (0.039)	-0.353 (0.079)	0.053 (0.037)	1.074 (0.742)
Joint (J)	29.200 (2.743)	-0.006 (0.017)	0.320 (0.037)	-0.263 (0.062)	0.121 (0.035)	3.563 (1.070)
N Vacancies/Firms	1576	1544	1547	1544	1576	1576
Control Mean	25.405	-0.037	0.995	-0.834	0.354	2.521
Test p-val: V=J	0.000	0.296	0.000	0.043	0.009	0.003
Test p-val: S=J	0.197	0.771	0.752	0.364	0.066	0.016

Notes: This table reports tests probing the robustness of our main results to when multiple vacancies are assigned to experimental conditions for a single firm. For administrative outcomes related to applications and employer engagement shown in Table ??, Panel A shows estimates after clustering standard errors at the firm level. Panel B restricts the sample to the first vacancy posted by all firms. The dependent variables are: number of applications, top coded at 99th percentile (column 1); the mean, maximum and minimum of the skills index (column 2-4); whether the employer clicked on any application to access contact details (column 5); and the number of unique applications the employer clicked on for contact details (column 6). The sample in columns 2-4 restricts to only those vacancies that receive at least 1 application; columns 2 and 4 have fewer observations due to some outlier corrections. Regressions include strata fixed effects. We report robust standard errors in parentheses.