

Web Appendix of “Inequality at Work: The Effect of Peer Salaries on Job Satisfaction” by David Card, Alexandre Mas, Enrico Moretti, and Emmanuel Saez

This appendix includes the exact survey questions and a set of supplementary tables A0-A9 that are referred to in the main text. Complete explanations for the supplementary tables are provided in the notes of each table.

Survey Questions

In this appendix, we reproduce the exact wording of the online second stage survey. We show the exact questions in the case of UCLA (UCSC and UCSD surveys had a similar set of questions but did not include as many questions on the detailed use of the Sacramento Bee website).

The survey is divided into 3 parts: A. job satisfaction and pay equity questions, B. Demographic and job characteristics questions, C. Knowledge and use of the SacBee website. Those parts were not be separately flagged to the subjects to avoid influencing the responses.

A. Job Satisfaction and Pay Equity:

1. Please indicate whether you agree or disagree with the following statements:

- (a) “My wage/salary is set fairly in relation to others in my department or unit.”
- (b) “My wage/salary is set fairly in relation to workers in similar jobs on campus.”
- (c) “My wage/salary is set fairly in relation to workers in similar jobs at other UC campuses.”

Strongly Agree/Agree/Disagree/Strongly Disagree

2. Please indicate whether you agree or disagree with the following statement: “Differences in income in America are too large.”

Please pick one of the answers below.

- Strongly agree
- Agree
- Disagree
- Strongly disagree

3. Do you expect to receive a salary increase in the next 3 years over and above the standard cost of living adjustment?

Please pick one of the answers below.

- Yes
- No

4. Please indicate whether you agree or disagree with the following statement: “At UC, individual performance on the job plays an important role in promotions and salary increases.”

Please pick one of the answers below.

- Strongly agree
- Agree
- Disagree
- Strongly disagree

- (a) How satisfied are you with your wage/salary on this job?

Please pick one of the answers below.

- Very satisfied
- Somewhat satisfied
- Not too satisfied
- Not at all satisfied

- (b) All in all, how satisfied are you with your job?

Please pick one of the answers below.

- Very satisfied
- Somewhat satisfied
- Not too satisfied
- Not at all satisfied

5. Taking everything into consideration, how likely is it you will make a genuine effort to find a new job within the next year?

Please pick one of the answers below.

- Very likely
- Somewhat likely
- Not at all likely

B. Demographic and Job Characteristics Questions:

Please tell us a few things about yourself:

1. Are you working full-time or part-time in your job on campus?

Please pick one of the answers below.

- Full-time
- Part-time

- (a) Is your position covered by a collective bargaining agreement?

Please pick one of the answers below.

- Yes
- No

2. Are you female or male?

Please pick one of the answers below.

- Female
- Male

3. What is your current age?

Please pick one of the answers below.

- Under 25
- 25-34
- 35-54
- Over 55

4. How many years have you worked at this university?

Please pick one of the answers below.

- Less than 1 year
- 2 to 5 years
- 6 to 10 yrs
- 11 to 20 years
- More than 20 years

5. How many years have you worked in your current position?

Please pick one of the answers below.

- Less than 1 year
- 2 to 5 years
- 6 to 10 yrs
- 11 to 20 years
- More than 20 years

C. Awareness and use of the Sacramento Bee website:

1. Are you aware of the web site created by the Sacramento Bee newspaper that lists salaries for all State of California employees? (The website is located at www.sacbee.com/statepay, or can be found by entering the following keywords in a search engine: Sacramento Bee salary database).

Please pick one of the answers below.

- Yes

- No

If no, skip 2-4.

2. (a) When did you learn about the salary database posted by the Sacramento Bee?
Please pick one of the answers below.
 - In the last few weeks
 - More than one month ago(b) Please tell us: Have you used the Sacramento Bee salary database?
Please pick one of the answers below.
 - Yes
 - No

If yes, skip 4; If no, skip 3.

3. (a) Which people's salaries were you most interested in? (You may select more than one group.)
 - Colleagues in my department
 - Colleagues in other departments on campus
 - Colleagues at other campuses
 - Highly paid or high profile people(b) Were the salaries you checked higher or lower than you expected?
Please pick one of the answers below.
 - Higher
 - About what I expected
 - Lower

4. Why didn't you use SacBee website? (Select all the options that apply.)
 - I already know enough about salaries of University employees
 - Learning about colleagues' pay could make me feel underpaid
 - Learning about colleagues' pay could make me feel overpaid
 - I want to respect the privacy of my colleagues on campus
 - Information about salaries of University employees is of no interest to me
5. Do you think that making available public information on individual salaries is
 - Helpful for people who are paid less than average
 - Harmful for people who are paid less than average
 - Helpful for morale in your department
 - Harmful for morale in your department
 - Likely to lead to salary increases for some people
 - Likely to lead some people to look for other jobs

If you have any additional comments please feel free to enter them here before you submit the questionnaire. Please write your answer in the space below.

Appendix Table A0: Design of the Information Experiment

Campus	Information Treatment Assignment	Placebo Assignment	Response Incentive Assignment
<u>UC Santa Cruz</u> N=3,606 in 223 departments or administrative units	66.7% of departments assigned 60% of individuals in treated department assigned target = 40% of individuals actual = 42.0%	none	33% of departments assigned to 100% incentive (all receive incentive) 33% of departments assigned to 50% incentive (one-half receive incentive) 33% of departments assigned to no incentive (none receive incentive) target = 50% of individuals actual = 49.3%
<u>UC San Diego</u> N=17,857 in 410 departments or administrative units	50% of departments assigned 50% of individuals in treated department assigned target = 25% of individuals actual = 23.9%	none	33% of departments assigned to 100% incentive (all receive incentive) 33% of departments assigned to 50% incentive (one-half receive incentive) 33% of departments assigned to no incentive (none receive incentive) target = 50% of individuals actual = 55.0%
<u>UCLA</u> N=20,512 in 445 departments or administrative units	50% of departments assigned 75% of individuals in treated department assigned target = 37.5% of individuals actual = 36.4%	25% of departments assigned 75% of individuals in placebo department assigned target = 18.8% of individuals actual = 21.9%	All individuals receive incentive
<u>All Three campuses</u> N=41,975 in 1,078 departments or administrative units	target = 32.4% of individuals actual = 31.6%	target = 9.2% of individuals actual = 10.7%	target = 74.4% of individuals actual = 76.5%

Notes: Assignment was based on name/email and department information contained in online directories. Sample sizes reflect number of valid email addresses extracted from directories. See text for procedures used to define departments/administrative units. The response incentive explicitly offered the opportunity to win \$1000 (from a random lottery with 3 winners for each campus) for survey respondents. The information treatment assignment and the response incentive assignment were orthogonal. Placebo treatment departments were randomly selected from among control departments which did not receive the information treatment.

Appendix Table A1: Matching and Response Rates

	Number in Online Directory	Percent Matched to Earnings Data	Percent Responded to Survey	Percent Responded Conditional on Earnings Data	Percent With Earnings and non-missing Survey Data	Sample Size in Analysis File
	(1)	(2)	(3)	(4)	(5)	(6)
<u>UC Santa Cruz</u>						
Staff	2,797	70.3	14.7	16.8	10.9	306
Faculty	809	73.6	18.9	21.2	14.7	119
All	3,606	71.1	15.6	17.8	11.8	425
<u>UC San Diego</u>						
Staff	15,782	81.1	24.0	24.0	17.9	2,830
Faculty	2,075	78.8	21.7	23.8	17.5	363
All	17,857	80.8	23.7	23.9	17.9	3,193
<u>UCLA</u>						
Staff	16,227	73.8	19.0	19.8	14.1	2,283
Faculty	4,285	68.1	16.3	19.1	12.5	536
All	20,512	72.6	18.4	19.6	13.7	2,819
<u>All Three campuses</u>						
Staff	34,806	76.8	20.9	21.6	15.6	5,419
Faculty	7,169	71.8	18.2	20.8	14.1	1,018
All	41,975	76.0	20.4	21.4	15.3	6,437

Notes: Sample sizes in column (1) reflect number of valid email addresses extracted from directories. Earnings data were matched to directory data by campus and name. Entries in columns 5 and 6 are based on individuals in the online directory who can be matched to earnings data, responded to the survey, and provided non-missing responses for 8 key questions.

Appendix Table A2: Treatment Effects on Use of Sacramento Bee Website for Different Types of Salary Information

	Used Sacramento Bee Website and Looked at Salary Information for:					
	Use Sacramento Bee website	Colleagues in own department	Colleagues in other departments, own campus	Colleagues at other UC campuses	"High-profile" UC employees	Any of those in cols. 2-5
	(1)	(2)	(3)	(4)	(5)	(6)
Mean rate of use for control group (percent)	24.3	15.2	10.1	6.4	13.2	23.9
<i>Estimated treatment effect from model with basic controls:</i>						
Treated individual (coefficient × 100)	27.8 (2.4)	24.1 (2.2)	15.0 (1.7)	7.5 (1.4)	9.5 (2.0)	27.6 (2.4)
<i>Estimated treatment effect from interacted model with basic controls:</i>						
Treated individual with earnings less than median in pay unit (coefficient × 100)	29.5 (3.5)	25.4 (3.3)	14.5 (2.3)	7.6 (2.0)	10.6 (2.9)	29.4 (3.5)
Treated individual with earnings greater than median in pay unit (coefficient × 100)	26.3 (2.8)	23.0 (2.7)	15.6 (2.1)	7.4 (1.7)	8.7 (2.4)	26.1 (2.8)
P-value for equality of treatment effects ^a	0.45	0.54	0.72	0.92	0.56	0.41

Notes: Estimated on sample of 2,806 survey respondents from UCLA (1,880 controls, including those assigned placebo treatment, and 926 treated individuals). Estimated treatment effects are from OLS models that control for faculty status and cubic in wage. Interacted model also includes dummy indicating whether individual pay is below median for pay unit. Standard errors, clustered by department, are in parentheses (358 clusters for all models). Earnings refer to total UC payments in 2007. Pay unit refers to faculty or staff members in an individual's department.

^at-test for equality of treatment effects for people with earnings below median in pay unit and those with earnings above median in pay unit.

Appendix Table A3: Means of Outcome Measures by Treatment Status

		Not At All	Not Too	Somewhat	Very							
		Satisfied	Satisfied	Satisfied	Satisfied							
"How satisfied are you with your wage/salary on this job?"	Overall Sample (N=6411)	16.3	31.9	40.1	11.7							
	Control Group (N=4635)	15.9	32.5	39.5	12.1							
	Controls Reweighted ^a	15.6	32.9	39.6	11.8							
	Treatment Group (N=1776)	17.3	30.4	41.8	10.6							
"How satisfied are you with your job?"	Overall Sample (N=6411)	3.3	12.1	47.3	37.3							
	Control Group (N=4635)	3.3	12.2	47.4	37.2							
	Controls Reweighted ^a	3.0	12.1	47.1	37.8							
	Treatment Group (N=776)	3.3	12.0	47.1	37.6							
		Not At All	Somewhat									
		Likely	Likely	Very Likely								
"How likely is it you will make a genuine effort to find a new job within the next year?"	Overall Sample (N=6411)	47.0	30.8	22.2								
	Control Group (N=4635)	47.2	30.7	21.9								
	Controls Reweighted ^a	47.5	30.5	22.1								
	Treatment Group (N=1776)	45.8	31.1	23.1								
		Strongly			Strongly							
		Disagree	Disagree	Agree	Agree							
"Do you agree or disagree that your wage is set fairly in relation to others in your department/unit?"	Overall Sample (N=6411)	11.7	31.1	47.5	9.8							
	Control Group (N=4635)	11.4	31.0	47.8	9.9							
	Controls Reweighted ^a	11.3	31.4	47.5	9.8							
	Treatment Group (N=1766)	12.6	31.1	46.9	9.4							
"Do you agree or disagree that differences in income in America are too large?"	Overall Sample (N=6397)	1.9	11.4	38.1	48.5							
	Control Group (N=4625)	2.1	11.6	38.8	47.6							
	Controls Reweighted ^a	2.2	11.4	38.5	48.0							
	Treatment Group (N=1772)	1.6	11.0	36.5	51.0							
Satisfaction Index (10 point scale)	Overall Sample (N=6411)	1	4/3	5/3	2	7/3	8/3	9	10/3	11/3	4	
	Control Group (N=4635)	1.3	2.7	5.8	9.8	14.7	18.3	20.4	15.4	7.4	4.2	
	Controls Reweighted ^a	1.3	2.7	5.6	9.6	14.9	18.5	20.5	15.2	7.3	4.5	
	Treatment Group (N=1766)	1.2	2.5	5.7	9.4	15.1	19.0	20.5	15.2	7.0	4.6	
Dissatisfied and likely to make an effort to find a job	Overall Sample (N=6411)	1.4	2.7	6.2	10.3	14.3	17.9	20.2	16.1	7.6	3.4	
	Control Group (N=4635)	86.6	13.4									
	Controls Reweighted ^a	87.1	12.9									
	Treatment Group (N=1766)	87.2	12.8									
		No	Yes									
		85.1	14.9									

Notes: Entries are tabulations of responses for analysis sample (or subset of analysis sample with non-missing responses).

^aMeans for control group are reweighted across campuses to reflect unequal probability of treatment at different campuses. Reweighted controls are then directly comparable to Treatment.

Appendix Table A4: Ordered Probit Models for Effect of Information Treatment on Measures of Job Satisfaction

	Wage is fair (1-4 scale) (1)	Satisfied with Wage on Job (1-4 scale) (2)	Satisfied with Job (1-4 scale) (3)	Likely to Look for New Job (1-3 scale) (4)
I. Treated individual with earnings \leq than median in pay unit (coefficient \times 100)	-10.1 (4.9)	-6.3 (4.5)	-8.5 (4.9)	11.6 (4.5)
II. Treated individual with earnings $>$ than median in pay unit (coefficient \times 100)	2.5 (4.5)	-0.5 (4.5)	6.3 (4.4)	-3.3 (4.9)
II-I	12.6 (6.0)	5.8 (5.7)	14.8 (6.5)	-14.9 (6.6)
Controls for campus \times (staff/faculty) and cubic in earnings?	Yes	Yes	Yes	Yes
P-value for exclusion of treatment effects	0.08	0.38	0.07	0.03

Notes: Specifications are ordered probit models. Standard errors, clustered by campus/department, are in parentheses (818 clusters for all models). "Earnings" refers to total UC payments in 2007. Pay unit refers to faculty or staff members in an individual's department. See Appendix Table A3 and text for description and means of the dependent variables. For columns 1-3 responses are ordered so that higher values indicate greater satisfaction. Models are based on specification 2 of Table 4. In addition to the explanatory variables presented in the table, all models include an indicator for whether the respondent is paid at least the median in his/her pay unit.

Appendix Table A5: Effect of Information Treatment -- by Subgroup

Panel A:	Females	Males	Staff	Faculty	Low	High
	(1)	(2)	(3)	(4)	Tenure	Tenure
Satisfaction Index					(5)	(6)
I. Treated individual with earnings \leq than median in pay unit (coefficient \times 100)	-5.9 (3.5)	-6.7 (4.6)	-7.0 (3.5)	-3.1 (6.3)	-3.0 (3.8)	-9.5 (4.2)
II. Treated individual with earnings $>$ than median in pay unit (coefficient \times 100)	3.8 (3.5)	-0.3 (4.0)	1.6 (2.9)	4.5 (5.8)	-2.7 (4.6)	3.3 (3.0)
II-I	9.7 (4.7)	6.3 (5.7)	8.6 (4.1)	7.6 (8.6)	0.3 (5.6)	12.8 (4.8)
P-value for exln. of treatment effects	0.11	0.35	0.09	0.66	0.64	0.03
Observations	3908	2503	5396	1015	2558	3853
Panel B:	Females	Males	Staff	Faculty	Low	High
	(1)	(2)	(3)	(4)	(5)	(6)
Very Likely to Look for New Job (Yes = 1)						
I. Treated individual with earnings \leq than median in pay unit (coefficient \times 100)	5.5 (2.2)	2.2 (3.3)	5.2 (2.0)	0.1 (3.6)	7.3 (2.6)	1.2 (2.5)
II. Treated individual with earnings $>$ than median in pay unit (coefficient \times 100)	-3.8 (2.0)	0.4 (2.4)	-2.8 (1.8)	2.1 (3.4)	-1.4 (3.3)	-2.1 (1.7)
II-I	-9.2 (2.8)	-1.8 (4.5)	-8.0 (2.7)	2.1 (5.0)	-8.7 (4.0)	-3.3 (3.0)
P-value for exclusion of treatment effects	0.01	0.77	0.01	0.82	0.02	0.42
Panel C:	Females	Males	Staff	Faculty	Low	High
	(1)	(2)	(3)	(4)	(5)	(6)
Dissatisfied and Likely Looking for a New Job (Yes = 1)						
I. Treated individual with earnings \leq than median in pay unit (coefficient \times 100)	5.4 (2.1)	4.8 (2.9)	5.8 (2.0)	2.5 (3.0)	5.8 (2.4)	4.8 (2.4)
II. Treated individual with earnings $>$ than median in pay unit (coefficient \times 100)	-1.4 (1.7)	-0.2 (1.8)	-1.2 (1.5)	0.7 (2.3)	0.5 (2.5)	-1.4 (1.4)
II-I	-6.8 (2.5)	-5.1 (3.6)	-7.1 (2.4)	-1.8 (3.7)	-5.3 (3.3)	-6.1 (2.8)
P-value for exclusion of treatment effects	0.02	0.26	0.01	0.68	0.05	0.09

Notes: All models estimated by OLS. Standard errors, clustered by campus/department, are in parentheses. "Earnings" refers to total UC payments in 2007. Pay unit refers to faculty or staff members in an individual's department. Models are based on specifications 2, 5, and 8 of Table 4. For additional details see notes to Table 4 and text.

Appendix Table A6: Effect of Predicted Mobility on Search and Satisfaction Treatment Effects

	Likely to Look for New Job (Yes = 1)		Satisfaction Index (10 point scale)	
	(1)	(2)	(3)	(4)
Panel A: Workers with earnings ≤ median				
Treated individual (coefficient × 100)	4.0 (1.8)	-8.6 (4.8)	-5.9 (2.9)	-6.8 (9.1)
Treated individual × Predicted probability of search (coefficient × 100)	--	0.5 (0.2)	--	0.0 (0.4)
Predicted probability of search	--	0.9 (0.1)	--	0.0 (0.2)
Controls for campus × (staff/faculty) and cubic in earnings?	Yes	Yes	Yes	Yes
Panel B: Workers with earnings > median				
Treated individual (coefficient × 100)	-1.8 (1.6)	-2.0 (3.1)	2.4 (2.5)	12.7 (6.4)
Treated individual × Predicted probability of search (coefficient × 100)	--	0.5 (0.2)	--	-0.5 (0.3)
Predicted probability of search	--	0.8 (0.1)	--	0.1 (0.2)
Controls for campus × (staff/faculty) and cubic in earnings?	Yes	Yes	Yes	Yes

Notes: All models estimated by OLS. Standard errors, clustered by campus/department, are in parentheses. "Earnings" refers to total UC payments in 2007. Pay unit refers to faculty or staff members in an individual's department. The predicted probability of search is the predicted value from a probit model estimated over the control group where the dependent variable is 1 if the respondent reports being "very likely" to be searching for a new job, with age, gender, tenure, faculty/staff, campus, and time in position dummy controls. See note to Table 4 for definitions of the dependent variables.

Appendix Table A7: Effect of Information Treatment on Job Satisfaction by Pay Relative to Campus/Occupation Median

	Satisfaction Index (10 point scale)		Reports Very likely to Look for New Job (Yes = 1)		Dissatisfied and Likely Looking for a New Job (Yes=1)	
	Faculty	Staff	Faculty	Staff	Faculty	Staff
	(1)	(2)	(3)	(4)	(5)	(6)
I. Treated individual with earnings \leq than campus median	-16.9 (6.6)	-5.6 (3.5)	3.4 (3.7)	4.6 (2.1)	4.6 (3.3)	5.1 (2.0)
II. Treated individual with earnings $>$ than campus median	16.7 (5.3)	0.0 (2.8)	-0.8 (3.2)	-2.0 (1.8)	-1.1 (2.1)	-0.3 (1.6)
II-I	33.5 (8.6)	5.6 (3.9)	-4.1 (4.9)	-6.6 (2.7)	-5.8 (3.9)	-5.4 (2.4)
Controls for campus and cubic in earnings?	Yes	Yes	Yes	Yes	Yes	Yes
P-value for exclusion of treatment effects	0.00	0.25	0.64	0.05	0.32	0.03

Notes: This table reports the same specification as columns 2,5, and 8 of Table 4 but instead of computing the median earnings of the reference group at the the department/administrative unit-level, we compute the median at the campus-level, seperately for faculty and staff. All models are estimated by OLS. All coefficients and means are multiplied by one hundred. Standard errors, clustered by campus/department, are in parentheses. The sample size is 6,411.

Appendix Table A8: Estimates of the Effect of "Placebo" Treatment with and Without Top Administrators

	Satisfaction Index (10 point scale)		Very likely to Look for New Job (Yes = 1)		Dissatisfied and Likely Looking for New Job (Yes = 1)	
	Placebo all (1)	Placebo - Exclude Dept's with Any Top Admininstrators (2)	Placebo all (3)	Placebo - Exclude Dept's with Any Top Admininstrators (4)	Placebo all (5)	Placebo - Exclude Dept's with Any Top Admininstrators (6)
Treated individual earning less than median in pay unit	1.7 (4.5)	3.1 (4.6)	-3.3 (3.7)	-4.6 (3.7)	-4.0 (3.2)	-5.0 (3.2)
Treated individual earning more than median in pay unit	-1.4 (3.7)	-2.5 (4.0)	-1.9 (2.9)	-0.4 (3.1)	1.4 (2.1)	2.1 (2.2)
Controls for staff/faculty status and cubic in wage?	yes	yes	yes	yes	yes	yes
Observations	1880	1669	1880	1669	1880	1669

Notes: All models are estimated by OLS. All coefficients are multiplied by 100. Standard errors, clustered by campus/department, are in parentheses. "Placebo" refers to the placebo information treatment. Sample includes UCLA employees who received either the placebo information treatment or no treatment. In columns 2, 4, and 6, individuals in any department or administrative unit that is home to a Dean, Associate Dean, or Provost is excluded. Standard errors, clustered by campus/department, are in parentheses. "Earnings" refers to total UC payments in 2007. Pay unit refers to faculty or staff members in an individual's department. Models are based on specifications 2, 5, and 8 of Table 4. For additional details see notes to Table 4 and text.

Appendix Table A9: Effect of Information Treatment on Presence of Overtime Earnings in 2010

<i>All coefficients are in percent</i>	(2)	(3)	(3)	(4)	(5)	(6)
Treated individual with earnings > median pay in unit (coefficient × 100)	-1.64 (.73)	-2.14 (.74)	-0.13 (1.29)	--	--	--
Treated × earnings in first quartile in pay unit (coefficient × 100)	.54 (1.34)	.73 (1.49)	-.15 (2.31)	--	--	--
Treated × earnings in second quartile in pay unit (coefficient × 100)	.28 (1.23)	-.13 (1.27)	1.64 (2.12)	--	--	--
Treated individual × deviation of rank from 0.5 if deviation negative (coefficient × 10)	--	--	--	-1.78 (3.93)	-1.93 (4.20)	-1.09 (6.53)
Treated individual × deviation of rank from 0.5 if deviation positive (coefficient × 10)	--	--	--	-3.74 (1.96)	-4.51 (2.05)	-2.13 (3.43)
Controls for campus × (staff/faculty) and cubic in earnings, and presence of overtime in 2007?	Yes	Yes	Yes	Yes	Yes	Yes
Sample	All	Non-responders	Responders	All	Non-responders	Responders
Observations	25,135	19,319	5,816	25,135	19,319	5,816

Notes: All models are estimated by OLS. Dependant variable is 100 if employee had positive overtime earnings in 2010 (and zero if not). The sample is all employees still present in 2010 earnings data. The table is built following the same specifications as Table 7, columns 2 and 4. We do not include department fixed effects. The mean of the dependent variable for the full sample is 24.8%. In addition to the standard controls (campus × (staff/faculty)) and cubic in 2007 earnings, we added an indicator for having overtime earnings in 2007. Responders is the set of employees who responded to our survey (and hence learned about the Sacramento Bee website even if they were in the control group). Non-responders is the set of employees who did not respond to our survey (and for whom the treatment vs. control first stage effects is still potentially relevant). All coefficients are in percent.