

Strategies for recruiting more qualified civil servants

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Two papers

- Ernesto Dal Bó, Fred Finan, and Martín Rossi (2013). **“Strengthening State Capabilities: The Role of Financial Incentives in the Call to Public Service”**. Quarterly Journal of Economics 128 (3), 1169-1218.
- Ernesto Dal Bó, Fred Finan, and Martín Rossi (2016). **“Talent vs. Motivation? Why higher wages may attract candidates with more smarts and public service motivation.”** Working paper.

Motivation

- Improving state capacity requires attracting the resources the state needs to function well
- Human capital is a key resource of the state enterprise
- Two crucial dimensions of human capital: talent and motivation to work in the public sector
- How do states go about hiring people with these two features?

Research questions

- We explore various questions with respect to selection
 - Do higher wages attract individuals of higher quality?
 - Do higher wages help the state to recruit more candidates?
 - What are the effects on recruitment of job location disadvantages?
 - Can higher wages help the state fill positions in less attractive locations?
 - Do higher wages crowd out publicly-motivated individuals?

Research framework

- Our research exploits data from an experiment with public sector recruitment in the Mexican federal government
- In 2011, the Mexican government conducted a recruitment drive to fill 350 positions of community development agents
- These agents would work in marginalized areas for an official program called the Regional Development Program
 - The program main objective was to bring the state to marginalized areas of the country, by building a network of agents on the ground that could identify and prioritize population needs, and then work jointly with local authorities to enable improvements
- The positions were advertised, candidates were screened, and jobs were offered to selected candidates
- This process involved a random assignment of wage offers across recruitment sites
- And later a random assignment of job offers to candidates

Screening exam

- We conducted a 3 hour exam to all candidates
- In particular, we measured
 - IQ - Raven Progressive Matrices Set I
 - Opportunity cost – previous wages
 - Big 5 Personality
 - Conscientiousness - tendency to be organized and hardworking
 - Extraversion - tendency to be outgoing and sociable
 - Neuroticism -tendency to have mood swings and emotional instability
 - Openness - tendency to be open to new experiences and ideas
 - Agreeableness - tendency to be cooperative
 - Integrity - both direct and indirect measures
 - Public sector motivation – the Perry Index
 - Pro-social behavior (e.g., volunteer work)

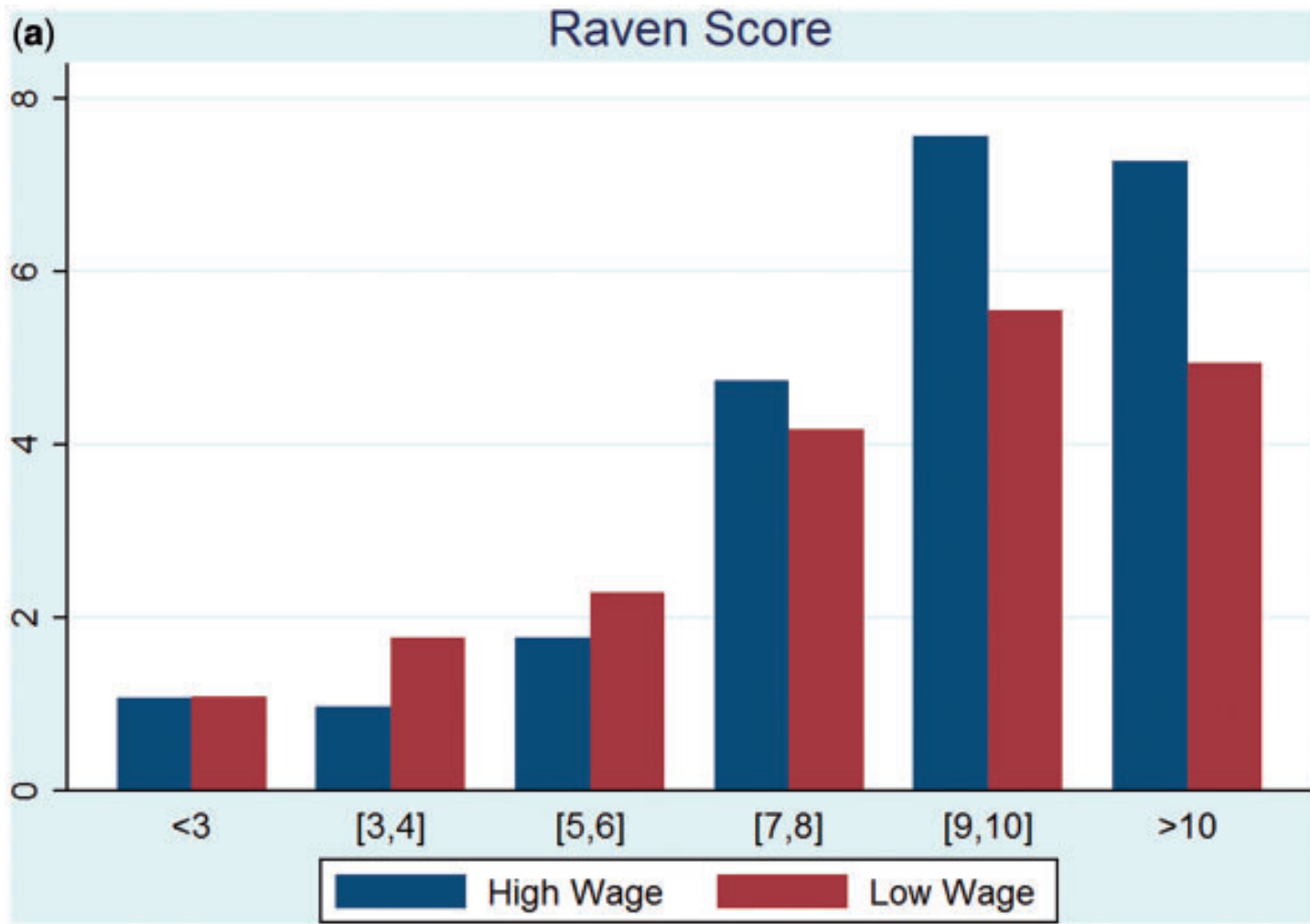
The Correlates of Previous Earnings

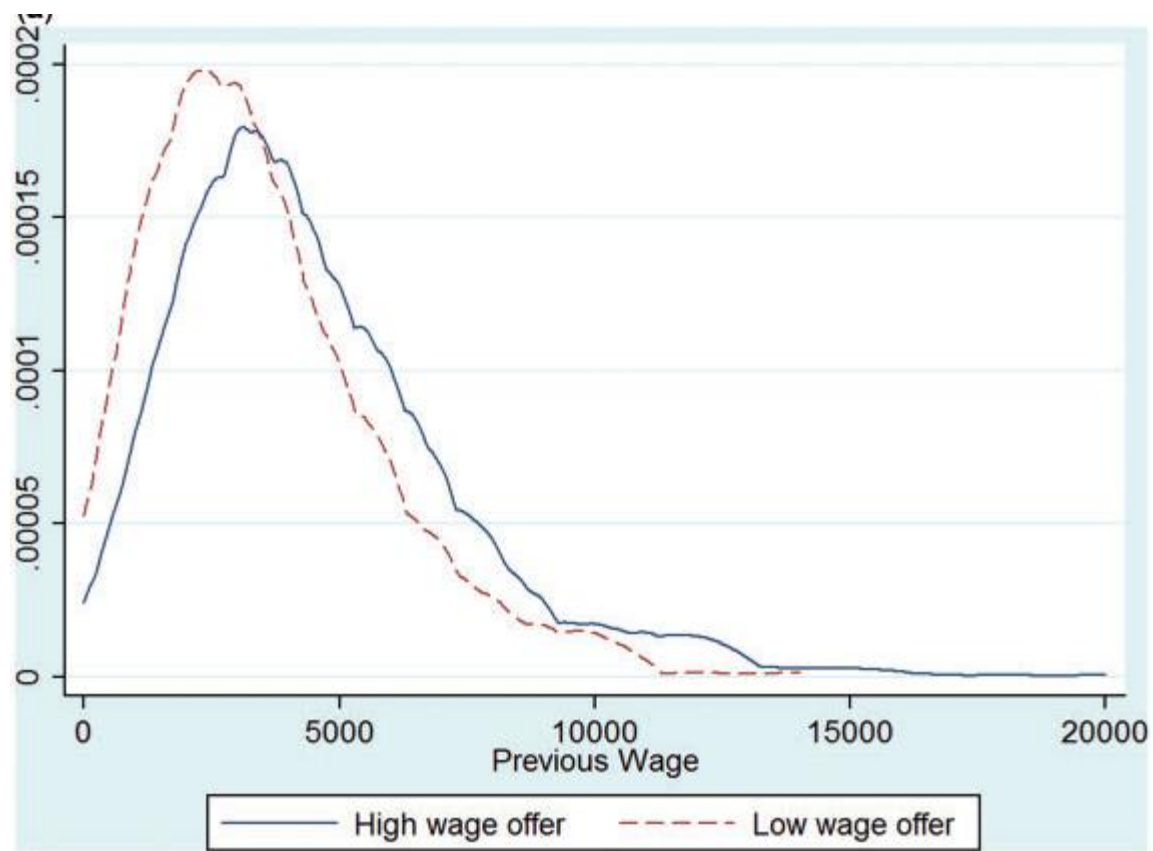
Dependent variable	Log wages							Wages
	Data source	Applicants' data			MxFLS	Applicants' data		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Male	0.193 [0.040]***	0.141 [0.049]***	0.174 [0.050]***	0.181 [0.050]***	0.132 [0.066]**	0.178 [0.041]***	0.188 [0.041]***	585.822 [135.633]***
Experience	0.047 [0.008]***	0.047 [0.008]***	0.048 [0.008]***	0.050 [0.008]***	0.077 [0.010]***	0.048 [0.008]***	0.045 [0.008]***	296.641 [29.821]***
Experience^2	-0.001 [0.000]***	-0.001 [0.000]***	-0.001 [0.000]***	-0.001 [0.000]***	-0.001 [0.000]***	-0.001 [0.000]***	-0.001 [0.000]***	-5.419 [1.139]***
Education	0.078 [0.009]***	0.078 [0.009]***	0.078 [0.009]***	0.073 [0.009]***	0.082 [0.011]***	0.071 [0.010]***	0.072 [0.010]***	287.282 [32.790]***
Height		0.390 [0.209]*	0.168 [0.219]	0.071 [0.221]	0.561 [0.311]*			
Indigenous			-0.134 [0.041]***	-0.120 [0.041]***	-0.119 [0.114]	-0.115 [0.040]***	-0.106 [0.041]**	-645.339 [132.242]***
IQ				0.025 [0.008]***	0.055 [0.011]***	0.022 [0.008]***	0.022 [0.008]***	93.558 [26.201]***
Number of observation	1433	1433	1433	1433	1569	1433	1433	2006
R-squared	0.11	0.11	0.12	0.13	0.13	0.13	0.16	0.18
Region intercepts	N	N	N	N	N	N	Y	N

- We first ran standard Mincerian regressions and found that the coefficients we recover are similar to those in the labor literature (including a confirmation of the fact that IQ and Big 5 characteristics predict earnings)

Effects of financial incentives on the applicant pool

- Question 1: Do higher wage offers attract more able applicants?
 - Two wage offers (\$3,750, \$5,000) were randomly assigned across recruitment sites
 - \$3,750 is the control group, \$5,000 is the treated group
 - When applicants called in they were told a wage depending on where they saw the posting





Effects on Financial Incentives on Applicant Pool - Productive Attributes			
	Obs	Control	Treatment Effect
	(1)	(2)	(3)
Number of applicants	106	18.093	4.714 [4.430]
Wage in previous job	1572	3479.667	819.154 [174.703]***
Previous job was white collar	1170	0.243	0.069 [0.029]***
Currently employed	2225	0.104	0.053 [0.019]***
Work experience	2212	0.459	0.167 [0.048]***
Years of experience in past 3 spells	2212	1.185	0.284 [0.171]
IQ (Raven test)	2229	8.488	0.506 [0.223]**
Raven score >=9	2229	0.572	0.091 [0.039]**
Years of schooling	2198	14.552	0.091 [0.308]
Big 5 index	2099	0.000	0.087 [0.049]*
Integrity - direct	2223	0.067	-0.009 [0.013]
Integrity - indirect	2099	44.424	0.602 [1.232]

- In the places that announced a higher salary the average applicant was smarter, had better personality traits, had higher earnings, and a better occupational profile

Effects of financial incentives on recruitment

- Question 2: Do higher wages help the state to recruit more candidates? (in the sense that they accept a job offer by the state)
- Theory: higher wages raise the probability that any given quality type will accept a job if offered, but higher wages also attract higher quality types on the margin who are less likely to accept a job
- Not clear the effect on the probability of acceptance

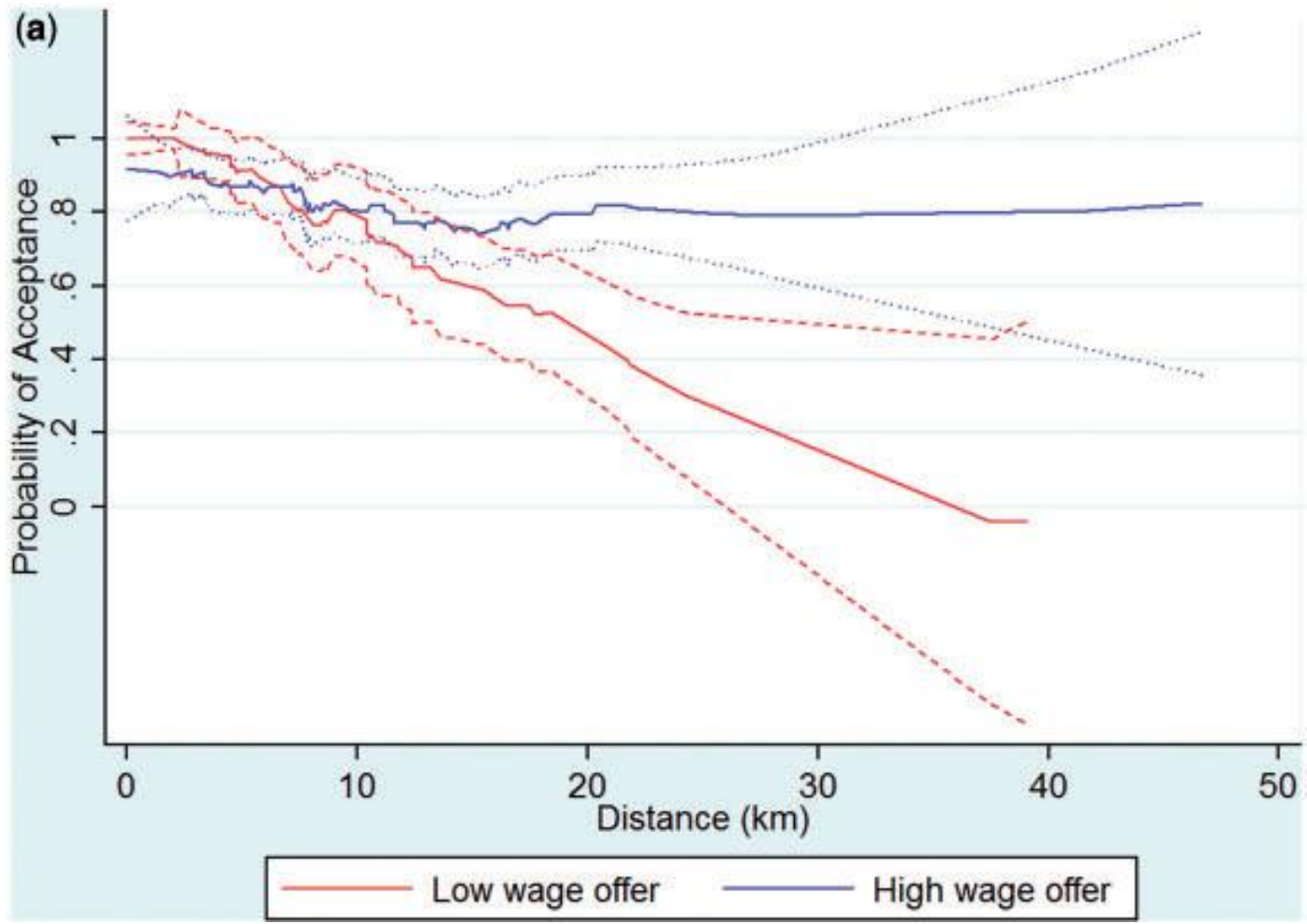
The Effects of Financial Incentives on Recruitment

	Accepted
High wage offer	0.151 [0.054]***
Mean of dependent variable	0.55
Observations	350
R-squared	0.10

- Our empirical findings suggest that the infra-marginal effects dominate, and therefore higher wages help recruitment, which is arguably the relevant policy issue

Effects of job attributes on acceptance decisions

- Question 3: Are individuals less likely to accept the position in disadvantaged (distant, poor, with drug violence) municipalities?
- Question 4: Can higher wages help the state fill positions in less attractive locations?
- Randomly assign job offers and locations among the candidate pool



Effects of Municipal Characteristics on Acceptance Decisions					
Dependent variable	Acceptance				
	(1)	(2)	(3)	(4)	(5)
High wage offer	0.047	0.066	0.075	0.056	0.147
	[0.037]	[0.047]	[0.053]	[0.041]	[0.047]***
High wage offer × Distance	0.026			0.028	0.010
	[0.005]***			[0.007]***	[0.007]
Distance	-0.027			-0.028	-0.017
	[0.004]***			[0.007]***	[0.005]***
High wage offer × Drug-related deaths/1000		0.078		-0.033	-0.025
		[0.039]*		[0.037]	[0.040]
Drug-related deaths per 1000 inhabitants		-0.107		0.000	-0.022
		[0.044]**		[0.045]	[0.040]
High wage offer × Human development index			-1.482	-0.913	-1.368
			[0.738]**	[0.645]	[0.589]**
Human development index			1.526	1.044	1.002
			[0.673]**	[0.598]*	[0.521]*
Observations	238	238	238	238	348
R-squared	0.25	0.21	0.2	0.26	0.18

- This table provides causal estimates of the effects of the work environment on the ability to recruit
- In addition, the interaction effects show that the wage increase from \$3,750 to \$5,000 largely compensated for the less desirable job conditions

Talent vs. Motivation

- Question 5: Do higher wages crowd out publicly-motivated individuals?
- A literature in economics has been concerned that higher wages may improve worker quality at the cost of attracting candidates with weaker public service motivation
- Is this danger real? Or can bureaucracies trust that more aggressive bidding in the labor market will unambiguously improve their recruitment?

Talent vs. Motivation: theoretical concerns

- A first, naive, step in investigating whether higher wages can attract both talent and motivation is to check whether these traits are positively correlated in the applicant pool
- But a positive correlation between talent and public sector motivation in the applicant pool could be the result of selection, even in a world where those traits are independently distributed
- This is because, at a given wage, the more talented candidates will only apply to the public sector job if they also have a high level of public service motivation
- As a result, finding a positive correlation between talent and motivation in the applicant pool is not sufficient evidence for those traits being positively correlated in the population

Talent vs. Motivation: empirical investigation

- The natural step to overcome the selection problem would be to gain access to data that are representative of the population at large
- Unfortunately, such data do not exist
- However, there exists a nationally representative database of the Mexican population, the MxFLS, that contains information on several individuals dimensions that overlap with those measured in the recruitment process
- Crucially, the MxFLS did not measure PSM; however, given the overlap on several dimensions, we can reweight our observations to “undo” the selection effects, and study the correlations among talent and PSM in our candidates as if selection had not occurred

Correlation between talent and PSM

	Raven
Perry	0.1626*
Perry attraction	0.0404
Perry commitment	0.1656*
Perry social justice	0.1676*
Perry civic duty	0.061
Perry compassion	0.1531*
Perry self sacrifice	0.1179*

- This table reports how Public Sector Motivation correlates with other traits in a population at large, that is, one that is not shaped by selection effects
- Our results indicate that talent and motivation are indeed positively correlated in the population

Concluding remarks

- We study the anatomy of the candidate pool, with a particular emphasis on the potential trade-offs facing the employer
- We show that offering higher wages attracts individuals with higher previous earnings, and who have both higher IQ and more desirable personality traits
- Our results suggest there is no trade-off between cognitive skills and public service motivation
- This finding suggests the possibility that recruiters may face no trade-off between talent and Public Sector Motivation, releasing them to offer higher wages in an attempt at improving both dimensions in their candidate pool