

Obtaining a Driving License in India: An Experimental Approach to Studying Corruption

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Introduction

- Provision of public services in many developing countries rife with corruption
 - Numerous anecdotal evidence
 - Newspaper articles/exposes
 - Simplest observation
 - Aggregate indicators of corruption
 - Micro-level indicators through subjective reports

Inefficiency of Corruption

- Traditional Social Inefficiency View
 - Bureaucrat is agent. Government/Society is principal.
 - Corruption is a moral hazard problem
 - As such it is socially inefficient relative the government's objectives
 - Note: Corruption may be a second-best.

Efficiency of Corruption

- Traditional Social *Efficiency* View
 - Many government policies are either misguided or too rigid
 - Corruption allows socially efficient circumvention of rules
- Examples:
 - Excessive red tape and delays
 - Regulations deterring entry

More nuanced views

- Red tape may itself be created by bureaucrats (Banerjee)
- Inefficiencies in bargaining may create deadweight loss

Simple setup

- Bureaucrat involved in screening
 - Good types and bad types apply
 - Good and bad are social definition
- Bureaucrat screens for type
 - Assume perfect screening technology available.
 - Easy to extend to noisy screening
- Should give permit to only good type

Taxonomy of Efficiency

- ***Social Efficiency***
Do only good types get license?
 - Example: I want to circumvent background checks that prevent false passports. Can I pay more to do this?
- ***Individual Efficiency***
Do bureaucrats respond to individual needs?
 - Example: I have a need to get a passport faster than the typical rules. Can I pay more to get it?
- ***Bargaining Efficiency***
Is the bargaining process efficient?
 - Example: I spend 1 hour bargaining on the bribe.
- ***Redtape Creation***
Are bureaucrats creating red tape to extract surplus?
 - Example: Does a bureaucrat invent a rule that you need to pay to circumvent? All passport applications must be printed on a particular (hard to find) size of paper?

Existing Empirical Work

- How do we go about testing these views?
- Traditional tests: Correlate aggregate measures of corruption with aggregate measures of growth (Ex: Mauro QJE)
- Problems:
 - Assumes system-wide differences in corruption
 - Example: Why is there far less corruption in mail delivery in India?
 - Clear omitted variables and reverse causality questions

Different Approach

- Focus on specific license/screening
 - In our case, getting a driving license
- Survey experience of actual process
 - Number of trips, number of bureaucrats spoke to, time spent filling in paper work, etc
 - Payments made through the process
- Experimental design to test for efficiencies
 - Vary individual's private needs for license
 - Vary individual's deservingness of license
- Create a “portable” research design
 - Easy to apply in other places and contexts

Plan of Talk

- World Bank Project Research Design
- Obtaining a drivers license *de jure*
- Project Implementation Details:
 - Sample, experimental design, surveys, attrition
- Overview of Process
 - Pre-experiment characteristics
 - Obtaining a driving license: *de facto*
- Efficiency Results

World Bank Project Research Design

- Choice of service to study. Would like:
 - Process to be short and discrete enough that people can be tracked
 - Variation in individual needs
 - Large numbers of people regularly going through process for sample size purposes
 - An easy measure of social efficiency, whether someone should get the license or not
 - Portable. Would like it to exist in many places

Choice of Driving License

- Short, discrete process
 - Three to six month process
- Variation in individual needs
 - Some people need a license faster than others.
 - Time cost differences. Going off to school, etc.
- Large numbers of people
 - In any town or city, large numbers apply
- Easy measure of social efficiency
 - Can give driving exam
- Portable
 - Driving licenses are very common nearly everywhere in the world

The Official Licensing Process

Temp Licenses

- *Cost: Rs360
- *18 years of age
- *Proof of age
- *Proof of residence
- *Medical certificate (Rs40)
- *Three photos
- *Test on road signs, traffic rules and traffic regulation
- *7-day waiting period if fail test

After 30 days
and within 6
months



Perm Licenses

- * Cost: Rs 90
- * Practical driving test as per Rule 15 of the Motor Vehicle Rules and Forms, 1989
- * 7-day waiting period if fail test

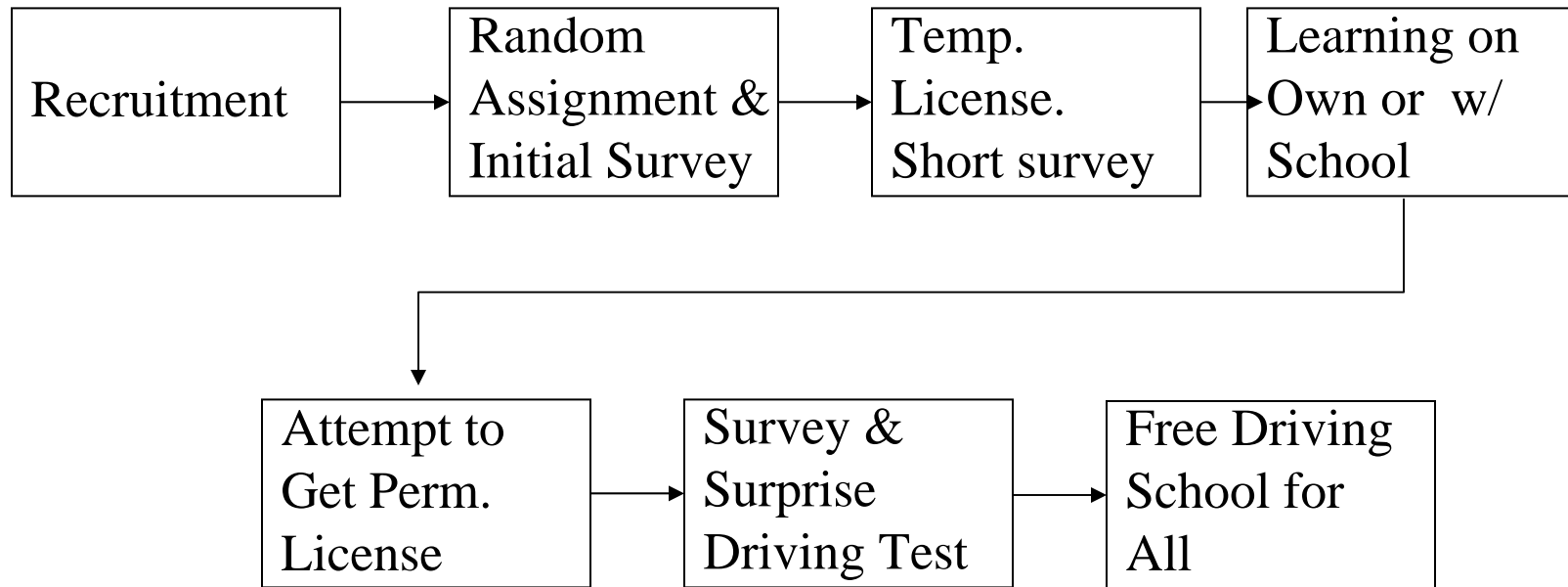
World Bank Project Overview

- Conceptualized as “pilot” to be replicated in other places and with other services
- Follow roughly 800 people through process of getting driving licenses in New Delhi
- Detailed surveys prior and post license
 - Number of trips, number of bureaucrats spoke to, time spent filling in paper work, etc
 - Payments made through the process
 - Independent driving test after completion of surveys

Project Overview

- Experimental design
 - Additional reward for getting license “quicker”
 - Couple of days above official minimum
 - *Bonus Group*
 - Offer free driving lessons *upfront*
 - *Lesson group*
- Surprise test of driving skills at end
- Compensation
 - Money for time
 - Surprise offer of free lessons to *all* at end
 - Guarantees no ex post bad drivers on road as result

Timeline



Recruitment

- June 2004 – November 2004
 - Continuous recruitment
 - Recruiters intercepted individuals who were entering one of the following four Regional Transport Offices (RTOs): Southwest, Northwest, South or New Delhi
- Recruitment rules:
 - Only men (100% attrition among women in pilot)
 - Only over 18
 - Currently without a permanent or temporary license but wanting to get one

Initial Session

- Sessions on a two week cycle.
- Required to bring formal identification, verify phone number
- Introduction survey:
 - Demographics, attitudes and beliefs towards public services, knowledge about driving and driving license process
- Data given to us stripped of all individual identifiers.
 - Coded with numbers, not names.

Initial session

- Random assignment done
- One of 3 groups
 - Control
 - Bonus
 - Lessons
- Participants told about all three groups
- People who come in pairs assigned together

Group	Upfront	Final	Total
Control	Rs 200	Rs 800	Rs 1000
“Bonus”	Rs 200	Rs 800 + Rs 2000 if got license within 31 days	*Rs 1000 if days > 31 *Rs 3000 if days =< 31
“Lesson”	Rs 200 + Offer of free driving lessons	Rs 800	Rs 1000 (+ lessons worth roughly Rs 1100)

**(Everyone given (unexpected) free driving lessons
upon completion of surveys)**

Initial Session

- Bonus Treatment
 - Fairly large bonus
 - 40% of monthly salary
 - Key confound to worry about: effort.
 - Do those in bonus group just try harder?
- Lesson Group
 - Cover cost. Voluntary. Cannot mandate
 - 64% take-up license.
- 23 initial sessions, 822 participants in total

Follow-up Survey

- Short phone survey upon obtaining the temporary license:
 - Experiences through bureaucratic process, payments
- In-person survey upon obtaining the permanent license:
 - Experiences, payments
 - “Surprise” driving exam (conducted by accredited school in New Delhi)
 - Oral exam: can the subject safely operate a car? (accelerator versus brake, etc...)
 - If no automatic failure on oral exam, physical road test
- Drop-out surveys upon completion of project
 - Those without temporary license
 - Those with temporary license but without permanent license (survey+ “surprise” driving exam)
 - Data still in the process of being coded

Disposition of Initial Sample

	Percentages of Group Total			
	Total	Gr 1	Gr 2	Gr 3
<i>B. Obtained Final Licence</i>				
Within 3 months of First Session	44%	30%	59%	38%
After 3 months	6%	6%	5%	6%
Did not complete survey	2%	2%	1%	3%
<i>C. Only Got Temp License</i>				
Completed Final Survey	3%	2%	0%	6%
Did not Complete Final Survey	6%	7%	4%	7%
<i>D. Did not Get Temp License</i>				
Tried to Get Temp License, but failed	13%	14%	15%	10%
Did not Try	16%	24%	12%	15%
Unable to Track	11%	13%	4%	15%

Observations

- Roughly 16% did not even try to get the temporary license
 - Would have been nice to assign treatment group after this but administratively difficult
 - Not sig. different between lesson and bonus group
- 11% not trackable
- Bonus Group more likely to get license
- As a result able to track Bonus Group more easily
- No significant difference between attritors and non-attritors across groups

Pre-Experiment Characteristics

- Table 3: Socio-economic and past driving experiences

Table 3: Socioeconomic Characteristics and Past Driving Experiences

	Total (1)	Gr 1 (2)	Gr 2 (3)	Gr 3 (4)	Difference From Gr 1	
					Gr 2 (5)	Gr 3 (6)
<i>A. Socioeconomic Characteristics</i>						
Age	24.23	23.57	24.61	24.31	0.96 [0.49]**	0.75 [0.55]
Married	0.25	0.18	0.27	0.28	0.09 [0.04]**	0.1 [0.04]***
Students	0.48	0.50	0.46	0.49	-0.05 [0.05]	-0.02 [0.04]
Employed	0.47	0.44	0.50	0.47	0.06 [0.05]	0.03 [0.04]
Less than Primary Education	0.08	0.07	0.07	0.09	0 [0.02]	0.02 [0.03]
No Items owned by household	3.31	3.19	3.44	3.27	0.26 [0.16]	0.07 [0.16]
Minority	0.36	0.44	0.32	0.34	-0.12 [0.04]***	-0.08 [0.04]*
Hindu Religion	0.79	0.85	0.78	0.77	-0.07 [0.03]**	-0.06 [0.03]*
Muslim Religion	0.18	0.15	0.19	0.20	0.04 [0.03]	0.04 [0.03]
Christian Religion	0.01	0.00	0.01	0.01	0.01 [0.01]	0.01 [0.01]
Sikh Religion	0.02	0.00	0.02	0.02	0.02 [0.01]	0.01 [0.01]
Salary if Employed	5447	5643	5601	5184	-87.46 [475.65]	-551.83 [467.18]
Know someone in Government (inc self)	0.41	0.39	0.44	0.41	0.04 [0.04]	0.01 [0.04]
<i>B. Driving Experiences</i>						
Have 2 wheeler license	0.03	0.03	0.03	0.02	0 [0.02]	-0.01 [0.01]
Have driven a two wheeler	0.88	0.86	0.92	0.86	0.06 [0.03]**	0.01 [0.03]
Months known how to drive a 2 wheeler (Given Drive)	5.07	4.78	5.22	5.11	0.33 [0.38]	0.3 [0.43]
Have driven a 4 wheeler	0.23	0.25	0.35	0.11	0.1 [0.04]**	-0.13 [0.03]***
Months known how to drive a 4 wheeler (Given Drive)	3.56	3.36	3.88	2.94	0.49 [0.68]	-0.41 [0.61]

Pre-Experiment Characteristics

- Table 3: Socio-economic and past driving experiences
 - Trying to get data on license getters in Delhi
 - Could be oversampling some groups (e.g. young and student) but unsure
 - Note random assignment guarantees no bias. Treatment effect estimated on specific group.
 - Some small differences due to chance?
 - Note: correlation across variables
- Table 4: Attitudes and beliefs about public services

Table 4: Pre-Experiment Attitudes Regarding Public Services

	Total	Gr 1	Gr 2	Gr 3	Difference From Group 1			
					Gr 2	Gr 3	Gr 2	Gr 3
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>A. Beliefs about Services (5-Strongly Disagree, 1-Strongly Agree)</i>								
Govt provides services fairly	3.07	3.12	3.13	2.98	0.03	-0.14	0.03	-0.16
					[0.11]	[0.10]	[0.11]	[0.10]
Govt Workers are corrupt	2.35	2.41	2.30	2.36	-0.11	-0.04	-0.12	-0.08
					[0.10]	[0.09]	[0.10]	[0.09]
Poor People have harder time obtaining services	2.05	2.04	2.02	2.08	-0.03	0.05	-0.07	-0.01
					[0.10]	[0.10]	[0.10]	[0.10]
Caste and religion matter	2.38	2.27	2.37	2.45	0.1	0.17	0.08	0.12
					[0.10]	[0.10]	[0.10]	[0.10]
Paying Bribes makes it easier	2.49	2.38	2.56	2.48	0.18	0.1	0.15	0.09
					[0.11]*	[0.11]	[0.11]	[0.11]
Knowing People Makes it easier	1.92	1.83	1.87	2.02	0.04	0.19	0.03	0.16
					[0.09]	[0.09]**	[0.09]	[0.09]*
<i>B. Have you complained about public service provision in the past?</i>								
% Ever Called Hotline to Complain	0.10	0.10	0.09	0.10	0	0.01	-0.01	0
					[0.03]	[0.03]	[0.03]	[0.03]
% Nothing Happened when called	0.32	0.35	0.35	0.28	0.11	-0.08	0.08	-0.07
					[0.14]	[0.14]	[0.15]	[0.15]
<i>C. You are caught driving without a license. Would you bribe.....</i>								
if fine is 500 and bribe is 300?	0.61	0.63	0.61	0.60	-0.02	-0.03	-0.01	-0.01
					[0.04]	[0.04]	[0.05]	[0.04]
if fine is 3000 and bribe is 300?	0.83	0.86	0.81	0.82	-0.04	-0.04	-0.04	-0.04
					[0.03]	[0.03]	[0.04]	[0.03]
RTO Fixed Effect					X	X	X	X
Age							X	X
Religion Fixed Effects							X	X
Minority Fixed Effect							X	X

Notes: (1) Sample includes all 822 individuals present at Introduction Session.

Pre-Experiment Characteristics

- Table 3: Socio-economic and past driving experiences
- Table 4: Attitudes and beliefs about public services
 - Strong belief in existence of corruption and inability to do much about it
 - Willing to report hypothetical bribes. Most would.
- Table 5: Knowledge and beliefs about the licensing process

Table 5: Pre-Experiment Knowledge and Beliefs About the Licensing Process

	Total	Gr 1	Gr 2	Gr 3	Difference From Gr 1	
					Gr 2	Gr 3
	(1)	(2)	(3)	(4)	(5)	(6)
<i>A. Ability to Correctly Answer Questions About Procedures</i>						
Actual Cost of Temporary License	0.42	0.41	0.48	0.38	0.07	-0.02
					[0.05]	[0.04]
Min Wait Time Between Temp and Perm License	0.52	0.51	0.57	0.47	0.06	-0.03
					[0.05]	[0.05]
Actual Cost of Permanent License	0.17	0.11	0.21	0.18	0.11	0.08
					[0.03]***	[0.03]**
Min Wait Time to Retake Driving Exam	0.33	0.27	0.39	0.32	0.13	0.04
					[0.04]***	[0.04]
<i>B. Ability to Correctly Answer Practical Driving Questions</i>						
Score on Driving Questions	1.03	0.99	1.02	1.06	0.01	0.06
					[0.08]	[0.08]
Score on Signs Test	2.08	1.94	2.20	2.06	0.22	0.08
					[0.12]*	[0.12]
<i>C. Beliefs Regarding Procedures</i>						
Need to take time off to get license	0.78	0.76	0.77	0.79	-0.01	0.02
					[0.06]	[0.06]
Trips To Obtain Temporary License	3.72	3.90	3.80	3.52	-0.13	-0.33
					[0.41]	[0.40]
Time for Each Trip for Temporary License	212	266	163	228	-96.14	-17.07
					[92.34]	[130.35]
Trips To Obtain Permanent License	3.04	3.15	2.92	3.08	-0.23	-0.04
					[0.30]	[0.33]
Time for Each Trip for Permanent License	170	163	173	170	13.9	11.48
					[9.88]	[10.68]
<i>D. Difficulty of Obtaining License</i>						
How difficult to get license (5-vey difficult)	3.55	3.82	3.46	3.48	-0.34	-0.31
					[0.11]***	[0.10]***
Do you think driving test will be difficult (% yes)	0.41	0.43	0.36	0.43	-0.05	0
					[0.05]	[0.05]
RTO Fixed Effect					X	X
Age					X	X
Religion Fixed Effects					X	X
Minority Fixed Effect					X	X

Pre-Experiment Characteristics

- Table 3: Socio-economic and past driving experiences
- Table 4: Attitudes and beliefs about public services
- Table 5: Knowledge and beliefs about the licensing process
 - Lot of ignorance about process
 - Believed process would be time consuming and potentially very difficult.

The Licensing Process in Practice

- Table 6:

Table 6: Summary Statistics on the Bureaucratic Process

Variable	Mean
<i>A. Final License Status</i>	
Obtained Final License (3 Month Cutoff)	0.44
No. days between Temporary and Final License (3 Month Cutoff)	38
Tried to obtain a temporary or permanent license (3 Month Cutoff)	0.73
Obtained a permanent license/tried to obtain a license (3 Month Cutoff)	0.60
Obtained a permanent license by the end of project period (Feb 2005)	0.50
No. days between Temporary and Final License (Feb 2005)	42
<i>B. The Process</i>	
Was clear at RTO which forms to fill out	29%
No of Trips	2.49
No Officials Spoke With	4.85
Lines waited (Only for Perm License)	2.43
Total Minutes Spent	203.36
<i>C. Taking the RTO Exam</i>	
Took Driving Test for Perm License	0.43
Average No of Times Took Driving Test	0.46
<i>D. Total Cost and Mechanisms for Obtaining a License</i>	
Total Money Spent	1079
<i>E. Independent Exam Score</i>	
Automatic Failure	0.46
Score (Standard Deviations from the Control Group)	0.33

The Licensing Process in Practice

- License Acquisition:
 - Only 44% managed to obtain license in the 3 month window. 60% amongst those who tried
- Process
 - Confusion even at the RTO
 - Complicated procedure. But less than expected
 - Rules not followed
 - Less than ½ actually took the test
 - Much more than *de jure* amount paid.
- Allocation: Very few know how to drive

The New Delhi RTO

- Relocated to a new building surrounded by federal government buildings
- Agent more actively banned at the New Delhi RTO...
- New Delhi versus other RTOs: What if agents were banned?
- Obvious caveats:
 - Short-run partial equilibrium
 - Omitted variables

Table 7:
Impact of Bonus on Process

Table 7: The Payment Group

	Gr 1 (1)	Gr 2 (2)	Difference From Gr 1	
			(3)	Excl New Delhi (4)
<i>A. Final License Status</i>				
Obtained Final License (3 Month Cutoff)	0.30	0.59	0.3 [0.04]***	0.3 [0.05]***
No. days between Temporary and Final License (3 Month Cutoff)	41	32	-8.85 [1.50]***	-9.12 [1.62]***
Tried to obtain a temporary or permanent license (3 Month Cutoff)	0.63	0.84	0.22 [0.04]***	0.24 [0.04]***
Obtained a permanent license/tried to obtain a license (3 Month Cutoff)	0.48	0.70	0.23 [0.05]***	0.19 [0.06]***
Obtained a permanent license (Feb 2005)	0.37	0.64	0.28 [0.04]***	0.28 [0.05]***
No. days between Temporary and Final License (Feb 2005)	48	32	-17.04 [2.40]***	-12.96 [2.00]***
Obtained Temp License (3 Month Cutoff)	0.42	0.64	0.24 [0.05]***	0.26 [0.05]***

Impact of Bonus on Process

- Much more likely to get license
 - Could this be effort?
 - Much higher even amongst those with self-reported “trying to get a license”

Table 7: The Payment Group

	Gr 1	Gr 2	Difference From Gr 1	
			(3)	Excl New Delhi (4)
(1)	(2)	(3)	(4)	
<i>B. Navigating the Bureaucracy</i>				
Thought RTO was unhelpful	59%	48%	-0.13 [0.08]	-0.16 [0.08]**
Was clear at RTO which forms to fill out	25%	28%	-0.04 [0.07]	-0.07 [0.07]
No of Trips	2.51	2.47	-0.15 [0.12]	-0.19 [0.12]
No Officials Spoke With	4.77	4.34	-0.66 [0.44]	-0.72 [0.46]
Lines waited (Only for Perm License)	2.48	2.29	-0.23 [0.23]	-0.36 [0.24]
Minutes: In Total	210.75	195.93	-27.03 [16.55]	-31.86 [17.23]*
Minutes: Waiting in Line	98.03	91.46	-14.84 [11.69]	-18.21 [12.17]
Minutes: Figuring out whom to talk with	21.36	17.71	-4.23 [2.36]*	-4.58 [2.39]*
Minutes: Filling out forms	17.90	15.69	-3.59 [2.92]	-4.14 [3.02]
Minutes: Learning about procedures and prices	29.93	28.32	-0.5 [3.79]	-0.58 [3.97]
Minutes: Picking up forms	6.28	4.71	-1.59 [1.35]	-1.51 [1.40]
Minutes: Talking with RTO staff	8.15	9.26	0.49 [1.39]	0.75 [1.42]
Minutes: Taking Exam	29.10	28.78	-2.77 [2.54]	-3.58 [2.50]
<i>C. Total Cost and Mechanisms for Obtaining a License</i>				
Total Money Spent	1114	1136	74.83 [61.57]	85.95 [64.44]

Impact of Bonus on Process

- Spent less time
- Less likely to think RTO was unhelpful
- Process as a whole easier, though several components insignificant
- Slightly higher money spent but insignificant

Appendix Table 1: Simple Correlations Regarding Payments

	Payment Above Actual	
	Gr 1 (3)	All Groups (4)
<i>A. Measures of Red Tape</i>		
No of Days to Get License	0.12 [0.59]	-0.24 [0.19]
Time Spent to Get License	-22.56 [3.39]***	-14.5 [1.14]***

Cross Sectional Relationship

- In data as a whole, relationship between time to get license and payment.

Table 7: The Payment Group, cont

	(1)	(2)	Difference From Gr 1	
			(3)	Excl New Delhi (4)
<i>D. Learning to Drive</i>				
Driving School taught me	0.05	0.05	0.02 [0.03]	0.02 [0.04]
Relatives, Friends, Family Driver Taught me	0.21	0.06	-0.16 [0.05]***	-0.16 [0.04]***
No one Taught me	0.49	0.72	0.24 [0.07]***	0.22 [0.07]***
Took time off from work/school to practice	0.11	0.12	0 [0.05]	0.01 [0.05]
No confident with driving skills	0.20	0.34	0.2 [0.07]***	0.2 [0.07]***
<i>E. Taking the RTO Exam</i>				
Took Driving Test for Perm License	0.30	0.39	0.05 [0.07]	0.03 [0.07]
Average No of Times Took Driving Test	0.33	0.41	0.03 [0.08]	-0.01 [0.08]
Average Length of Exam	2.20	2.37	-0.22 [0.57]	-0.52 [0.52]
Find Exam Hard	0.13	0.07	-0.06 [0.05]	-0.05 [0.05]
Exam Tested Ability (% yes)	0.30	0.30	-0.04 [0.07]	-0.08 [0.07]
Number of Skills Tested	2.62	3.40	0.24 [0.68]	-0.07 [0.69]

Table 7: The Payment Group, cont

	(1)	(2)	Difference From Gr 1	
			(3)	Excl New Delhi (4)
<i>G. Post Experiment Driving Test (Test Scores in Standard Deviations from Control Group)</i>				
Automatic Failure	0.57	0.64	0.12 [0.06]*	0.1 [0.07]
Score	0.00	-0.08	-0.2 [0.13]	-0.21 [0.14]
Score (given did not auto fail)	0.00	0.17	0.02 [0.28]	-0.13 [0.29]
Score: Starting	0.00	-0.12	-0.24 [0.13]*	-0.24 [0.13]*
Score: Changing Gears	0.00	-0.13	-0.23 [0.13]*	-0.26 [0.13]*
Score: Steering Control	0.00	-0.02	-0.13 [0.14]	-0.16 [0.15]
Score: Driving Score	0.00	-0.05	-0.16 [0.14]	-0.2 [0.14]
Score: Parking Score	0.00	0.08	-0.04 [0.16]	-0.09 [0.16]
Score: Absense of Bad Habits	0.00	-0.11	-0.23 [0.13]*	-0.22 [0.14]

Impact of Bonus on Efficiency

- Much more likely to say “no one taught me”
- Much less confidence in own driving skills
- No difference in skills tested
- Much higher rates of automatic failures on independent test
- Much lower scores on test

Main Findings

- Private efficiency (“grease-the-wheels”/speed money):
 - Higher willingness to pay associated with:
 - Higher likelihood to get the license
 - Shorter bureaucratic process
 - See also cross-sectional relationship: Appendix Table 1
- Social inefficiency:
 - Higher willingness to pay associated with:
 - Lower likelihood to prepare for the test
 - Lower ability to drive
- Return to other two forms of efficiency (endogenous red tape, bargaining efficiency) later

Table 8:
Lesson group versus control group

Table 8: The Lesson Group

	Gr 1 (1)	Gr 3 (2)	Difference From Gr 1	
			(3)	Excl New Delhi (4)
<i>A. Final License Status</i>				
Obtained Final License (3 Month Cutoff)	0.30	0.38	0.1 [0.04]**	0.08 [0.05]
No. days between Temporary and Final License (3 Month Cutoff)	41	46	4.82 [2.95]	3.35 [3.15]
Tried to obtain a temporary or permanent license (3 Month Cutoff)	0.63	0.70	0.07 [0.04]	0.05 [0.05]
Obtained a permanent license/tried to obtain a license (3 Month Cutoff)	0.48	0.55	0.10 [0.05]*	0.09 [0.06]
Obtained a permanent license (Feb 2005)	0.37	0.45	0.07 [0.04]	0.06 [0.05]
No. days between Temporary and Final License (Feb 2005)	48	53	4.86 [4.04]	6.54 [3.85]*
Obtained Temp License (3 Month Cutoff)	0.42	0.58	0.17 [0.04]***	0.17 [0.05]***

Impact of Lessons on Process

- Small difference in probability of getting license
- But many who know how to drive still fail
- Very suggestive of “red tape”. Arbitrary failing of those who actually should pass.

Table 8: The Lesson Group

<i>B. Navigating the Bureaucracy</i>					
Thought RTO was unhelpful	59%	56%	-0.06	-0.09	
			[0.08]	[0.08]	
Was clear at RTO which forms to fill out	25%	33%	0.08	0.06	
			[0.08]	[0.08]	
No of Trips	2.51	2.50	-0.02	-0.03	
			[0.12]	[0.12]	
No Officials Spoke With	4.77	5.61	1.06	1.08	
			[0.49]**	[0.52]**	
Lines waited (Only for Perm License)	2.48	2.62	0.22	0.17	
			[0.25]	[0.25]	
Minutes: In Total	210.75	210.10	3.11	2.81	
			[16.14]	[16.69]	
Minutes: Waiting in Line	98.03	83.83	-13.3	-14.44	
			[11.16]	[11.47]	
Minutes: Figuring out whom to talk with	21.36	21.50	0.95	0.74	
			[2.58]	[2.70]	
Minutes: Filling out forms	17.90	17.82	0.41	0.58	
			[3.23]	[3.43]	
Minutes: Learning about procedures and prices	29.93	28.49	0.11	0.23	
			[3.49]	[3.69]	
Minutes: Picking up forms	6.28	8.48	2.38	2.21	
			[1.14]**	[1.18]*	
Minutes: Talking with RTO staff	8.15	13.57	6.21	6.97	
			[1.77]***	[1.82]***	
Minutes: Taking Exam	29.10	36.41	6.36	6.53	
			[3.48]*	[3.50]*	
<i>C. Total Cost and Mechanisms for Obtaining a License</i>					
Total Money Spent	1114	980	-136.19	-150.12	
			[59.05]**	[61.39]**	

Impact of Lessons on Process

- Process actually appears slightly more lengthy
- Process costs less

Table 8: The Lesson Group, cont

	(1)	(2)	Difference From Gr 1	
			(3)	Excl New Delhi (4)
<i>D. Learning to Drive</i>				
Driving School taught me	0.05	0.64	0.6 [0.07]***	0.6 [0.07]***
Relatives, Friends, Family Driver Taught me	0.21	0.10	-0.13 [0.06]**	-0.11 [0.06]*
No one Taught me	0.49	0.16	-0.33 [0.07]***	-0.36 [0.07]***
Took time off from work/school to practice	0.11	0.14	0.02 [0.06]	0.03 [0.06]
No confident with driving skills	0.20	0.23	0.04 [0.07]	0.05 [0.07]
<i>E. Taking the RTO Exam</i>				
Took Driving Test for Perm License	0.30	0.54	0.21 [0.08]***	0.22 [0.08]***
Average No of Times Took Driving Test	0.33	0.61	0.27 [0.10]***	0.27 [0.11]**
Average Length of Exam	2.20	3.76	1.64 [0.76]**	1.81 [0.80]**
Find Exam Hard	0.13	0.19	0.07 [0.07]	0.08 [0.08]
Exam Tested Ability (% yes)	0.30	0.46	0.2 [0.10]**	0.2 [0.10]**
Number of Skills Tested	2.62	4.94	2.19 [0.82]***	2.1 [0.85]**

Impact of Lessons on Process

- More likely to be asked to take driving test
- Put through longer exam, tested more skills
- Bureaucrats seem sensitive to actually test those who know

Table 8: The Lesson Group, cont

			Difference From Gr 1	
	(1)	(2)	(3)	Excl New Delhi
				(4)
<i>G. Post Experiment Driving Test (Test Scores in Standard Deviations from Control Group)</i>				
Automatic Failure	0.57	0.15	-0.43	-0.45
			[0.06]***	[0.07]***
Score	0.00	1.06	1.04	1.05
			[0.14]***	[0.15]***
Score (given did not auto fail)	0.00	0.56	0.51	0.37
			[0.23]**	[0.24]
Score: Starting	0.00	0.98	0.96	0.99
			[0.14]***	[0.15]***
Score: Changing Gears	0.00	0.82	0.78	0.76
			[0.16]***	[0.16]***
Score: Steering Control	0.00	1.05	1.03	1.02
			[0.16]***	[0.17]***
Score: Driving Score	0.00	0.98	0.97	0.96
			[0.17]***	[0.17]***
Score: Parking Score	0.00	1.31	1.25	1.24
			[0.21]***	[0.22]***
Score: Absense of Bad Habits	0.00	0.90	0.88	0.91
			[0.14]***	[0.15]***

Impact of Lessons on Process

- Much more likely to know actually how to drive

Table 8: Main Findings

- Discretionary bureaucrats appear non-responsive to social returns
 - Higher ability to drive associated with:
 - At most only slightly higher likelihood of obtaining license
 - More rigid/longer bureaucratic process
 - However, lower average cost of license for those with higher ability to drive
- Red tape inefficiency: Failing those who actually know how to drive

Table 9:
The Nature of the “Excess”
Payments

Table 9: Expenditures for the Permanent License

	Gr 1	Gr 2	Gr 3	Difference from Gr 1			
				Gr 2	Gr 3	Excluding New Delhi	
						Gr 2	Gr 3
(2)	(3)	(4)	(5)	(6)	(7)	(8)	
<i>A. Total Cost and Mechanisms for Obtaining a License</i>							
Total Money Spent	1114	1136	980	74.83	-136.19	85.95	-150.12
				[61.57]	[59.05]**	[64.44]	[61.39]**
Hired Agent	0.79	0.77	0.59	0.02	-0.18	0.01	-0.2
				[0.06]	[0.08]**	[0.06]	[0.08]***
Paid Bribe	0.02	0.02	0.02	0	0	0	-0.01
				[0.02]	[0.02]	[0.02]	[0.02]
<i>B. Breakdown of Costs</i>							
Learner's License Fees + Med Certificate	378	375	377	-0.4	4.09	0.76	2.65
				[15.23]	[14.74]	[15.89]	[14.97]
Pictures for Perm License	84	90	84	6.05	-0.01	6.4	0.91
				[2.02]***	[3.95]	[2.11]***	[4.06]
Payment to agent above official fees	641	600	435	13.45	-198.61	21.6	-212.17
				[70.61]	[67.49]***	[73.98]	[70.50]***
Payment to DS above official fees	0	47	64	55.78	52.51	58.02	54.93
				[34.03]	[30.95]*	[35.67]	[31.64]*
Bribe	2	14	1	12.98	-0.57	14.14	-1.08
				[13.36]	[1.75]	[14.01]	[1.74]

Nature of Excess Payments

- Interestingly, no direct bribing.
- Suggests little room for bargaining inefficiency

Could it be misreporting?

Appendix Table 3: Pre-Experiment Use of Bribes and Agents

	Ration			Building			Voter's	
	Card	Passport	Land Title	Permit	Electricity	Water	Card	Pan
Number who got service	155	104	47	15	16	23	385	58
% of Total	0.19 (0.39)	0.13 (0.33)	0.06 (0.23)	0.02 (0.13)	0.02 (0.14)	0.03 (0.17)	0.47 (0.50)	0.07 (0.26)
Average Difficulty to obtain	3.06 (1.36)	2.19 (1.31)	2.09 (1.25)	2.00 (1.07)	2.07 (1.33)	2.30 (1.59)	2.20 (1.42)	1.73 (1.12)
Average amount of time (years)	3.43 (1.45)	3.02 (1.43)	3.09 (1.59)	3.40 (1.55)	3.00 (1.61)	3.39 (1.88)	2.72 (1.05)	1.97 (1.06)
% of those who got it who paid bribe	0.42 (0.49)	0.16 (0.36)	0.39 (0.49)	0.36 (0.50)	0.20 (0.41)	0.30 (0.47)	0.06 (0.23)	0.17 (0.38)
% of those who got it who hired agent	0.46 (0.50)	0.15 (0.35)	0.45 (0.50)	0.14 (0.36)	0.13 (0.35)	0.20 (0.41)	0.05 (0.21)	0.20 (0.41)
% of those who got it had family help	0.50 (0.50)	0.17 (0.38)	0.77 (0.42)	0.50 (0.52)	0.13 (0.35)	0.15 (0.37)	0.13 (0.34)	0.19 (0.39)

Agents (I)

- Agents (a.k.a. “facilitators,” “consultants”) help obtain services
- Personal connections with the government bureaucracy & knowledge of procedures
- India: illegal, yet established institution for obtaining license, passports, and other services





M.M. DARVEH

Micro Consultant & Insurance Agent

GOOD DARY
CONSULTANT & INSURANCE AGENT

लस्सी , 5
लस्सी हाफ . 3
धास , 2

लस्सी , 5
लस्सी हाफ . 3
धास , 2

धास

लस्सी 3
लस्सी 4

Agents (II)

- Many questions:
 - Why agents versus direct bribing?
 - How frequent are interactions between agents and bureaucrats?
 - What fraction of agent's payment do the bureaucrats get?
 - What does it “take” to become an agent?
- No answers provided here:
 - Future work...
- But can look at how agents interact with the licensing process in more details

Table 10: The Agents

	Total (1)	Gr 1 (2)	Gr 2 (3)	Gr 3 (4)	Difference from Gr 1			
					Gr 2 (5)	Gr 3 (6)	Excluding New Delhi	
					Gr 2 (7)	Gr 3 (8)	Gr 2 (9)	Gr 3 (10)
<i>A. Who did the agents approached?</i>								
Agents tried to get you to hire them? (%)	0.86	0.84	0.88	0.85	0.06	0	0.07	-0.03
					[0.05]	[0.06]	[0.05]	[0.06]
No of Agents?	2.69	2.55	2.81	2.58	0.34	0.02	0.32	0.02
					[0.21]	[0.20]	[0.21]	[0.21]
<i>B. Who used an agent?</i>								
Got License and Used Agent/ Said would not	0.26	0.17	0.41	0.19	0.23	-0.08	0.26	-0.09
					[0.07]***	[0.07]	[0.08]***	[0.08]
<i>C. What did the agent do for you?</i>								
Paperwork	0.86	0.94	0.82	0.88	-0.09	-0.02	-0.09	-0.01
					[0.06]	[0.06]	[0.06]	[0.06]
Agent Present during road test	0.15	0.06	0.18	0.15	0.12	0.04	0.12	0.05
					[0.06]*	[0.07]	[0.06]*	[0.07]
<i>D. Would use use agent in Future?</i>								
Everyone	0.58	0.56	0.59	0.58	0.02	-0.02	0.03	-0.05
					[0.08]	[0.08]	[0.08]	[0.09]
Those who used agent for license	0.66	0.63	0.64	0.73	-0.02	0.06	-0.02	0.06
					[0.09]	[0.09]	[0.09]	[0.09]

Table 12: Key Variables, By Agent Status

	No Agent				Tried Without Agent				Used Agent From Start			
	Total	Gr 1	Gr 2	Gr 3	Total	Gr 1	Gr 2	Gr 3	Total	Gr 1	Gr 2	Gr 3
Percentage of Group	0.29	0.21	0.23	0.43	0.32	0.44	0.26	0.36	0.38	0.34	0.51	0.22
<i>A. Days</i>												
Days	42	40	34	48	37	41	29	42	37	42	32	47
<i>B. Independent Exam</i>												
Automatic Failures	0.27	0.31	0.43	0.14	0.46	0.63	0.69	0.12	0.60	0.67	0.69	0.23
Score	0.79	0.58	0.46	1.12	0.29	-0.06	-0.22	1.04	-0.03	-0.28	-0.24	0.87
<i>C. The Process</i>												
Total Trips	2.72	3.31	2.75	2.55	2.48	2.26	2.49	2.60	2.32	2.33	2.34	2.23
Total Officials	6.22	7.77	5.48	6.41	4.30	3.52	4.09	5.00	4.29	4.52	3.97	5.19
Total Time	254	307	262	234	178	181	164	192	185	189	183	190
Lines	3.03	2.77	3.18	2.98	2.33	2.44	2.20	2.40	2.10	2.33	1.93	2.46
<i>D. RTO Exam</i>												
Took Test	0.88	0.92	0.85	0.90	0.23	0.15	0.24	0.28	0.24	0.10	0.26	0.27
No Times Took Test	0.99	1.08	0.95	1.00	0.26	0.15	0.24	0.35	0.24	0.10	0.25	0.31
<i>E. Expenses</i>												
Total Expenses	645	584	698	620	1284	1329	1333	1205	1214	1167	1228	1204
Total Expense to Agent	0	0	0	0	1037	1073	1097	950	974	941	984	966

Notes: (1) Sample only includes individuals who obtained license

Agent

- Eased process
 - Fewer officials to see
 - Much less time
 - Didn't have to take test

Table 11: Trying without an Agent

	Difference from Gr 1							
	Total	Gr 1	Gr 2	Gr 3	Excluding New Delhi			
					Gr 2	Gr 3	Gr 2	Gr 3
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Of those who hired agent: tried without the agent	0.46	0.56	0.35	0.61	-0.18 [0.09]**	0.09 [0.10]	-0.18 [0.09]**	0.1 [0.10]
<i>Reasons Why Ended up Using an Agent</i>								
-Agent Faster	0.09	0.21	0.06	0.05	-0.2 [0.05]***	-0.19 [0.06]***	-0.2 [0.05]***	-0.19 [0.07]***
-Confused	0.21	0.29	0.10	0.38	-0.18 [0.06]***	0.12 [0.10]	-0.18 [0.06]***	0.12 [0.10]
-Friends and Family Said to	0.12	0.21	0.05	0.18	-0.13 [0.05]***	0 [0.08]	-0.13 [0.05]***	0.01 [0.08]
-Failed Test	0.18	0.17	0.12	0.29	-0.02 [0.06]	0.12 [0.09]	-0.02 [0.06]	0.11 [0.09]
-No Car	0.01	0.00	0.00	0.03	0 [0.00]	0.02 [0.03]	0 [0.00]	0.02 [0.03]

Table 13: Simple Correlations Regarding Agent Use

	Coefficient on Agent Use		Coefficient on Agent Payment	
	Gr 1 (1)	All Groups (2)	Gr 1 (3)	All Groups (4)
No of Days to Get License	1.88 [4.51]	-4.66 [1.78]***	-0.22 [0.59]	-0.26 [0.19]
Time Spent to Get License	-121.82 [32.98]***	-70.84 [11.29]***	-13.54 [3.61]***	-12.53 [1.03]***
Took Exam	-0.8 [0.10]***	-0.65 [0.05]***	0.01 [0.01]	0 [0.01]
Spent Getting License	674.07 [72.01]***	577.87 [38.92]***		
Automatic Failure on Road Test	0.34 [0.15]**	0.26 [0.06]***	-0.02 [0.02]	-0.01 [0.01]**
Independent Road Test Score	-7.81 [3.20]**	-7.07 [1.32]***	0.42 [0.38]	0.28 [0.14]**

Notes: (1) In Column 1 and 2, sample is restricted to those that got license within 3 months. (2) In Columns 3 and 4, sample is restricted to those who used an agent (3) All regressions have RTO fixed effects, and Column 2 and 4 have Group Fixed Effects

The New Delhi RTO

- Relocated to a new building surrounded by federal government buildings
- Agent more actively banned at the New Delhi RTO...
- New Delhi versus other RTOs: What if agents were banned?
- Obvious caveats:
 - Short-run partial equilibrium
 - Omitted variables

Table 14: The New Delhi RTO

	New Delhi RTO	All other RTOs	Difference	
	(1)	(2)	(3)	(4)
<i>A. Sample includes all 822 recruits</i>				
Obtained License	0.08	0.53	-0.44 [0.04]***	-0.43 [0.04]***
-Group 1	0.05	0.36	-0.31 [0.08]***	
-Group 2	0.13	0.69	-0.55 [0.07]***	
-Group 3	0.07	0.48	-0.41 [0.06]***	
<i>B. Sample includes those who got a license within 3 months</i>				
Approached By Agent	0.59	0.88	-0.29 [0.07]***	-0.29 [0.07]***
Used Agent	0.17	0.75	-0.57 [0.09]***	-0.54 [0.09]***
Time Spent to Get License	205.91	203.18	2.73 [22.04]	1.41 [22.16]
Took Exam	0.87	0.39	0.47 [0.10]***	0.44 [0.10]***
Spent Getting License	648.70	1108.56	-459.87 [87.58]***	-436.84 [87.26]***
Automatic Failure on Road Test	0.04	0.48	-0.44 [0.11]***	-0.36 [0.09]***
Independent Road Test Score	24.13	11.65	12.48 [2.44]***	10.39 [2.16]***
Group Fixed Effects				X

Conclusion (I)

- Individual efficiency. Bureaucrats are responsive to private costs and benefits:
 - Higher willingness to pay for license associated with less red tape, higher likelihood to obtain license
- Social inefficiency. Corrupt bureaucrats pass many who they shouldn't
- Red tape creation. Fail many who should get license
 - Generates demand for agents
- No bargaining inefficiency found.
 - Agents do bargain for them. Could be bargaining for agents but there is competition here.

Conclusion (II)

- Is “driving” unrepresentative?
 - Social externalities exist in the provision of many other public services (education, health, regulation of pollution, etc)
- Future work:
 - Currently developing surveys to better understand nature of the trade-off between direct bribing and agent usage
 - Across different kinds of public services
 - Across different geographic areas