

Delhi's Slum- Dwellers

Deprivation, Preferences and Political Engagement among the Urban Poor

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(based on joint work with Diva Dhar, Rohini Pande, Yashas Vaidya, Michael Walton
and
Jeff Weaver)

The question

- Urban slums in most poor countries offer living conditions that seem unacceptable
- Why doesn't the political system face a strong pressure to improve them?
- Alternative hypotheses
 - People are not unhappy with their living conditions
 - Heterogeneity of needs within the same constituency
 - Politicians have limited influence on the problems
 - Slum dwellers don't vote/ don't vote on performance
 - These are not politically salient issues
 - Voters lack information

What we do?

- Provide descriptive data that we hopes informs our understanding of these issues
- Collected as a prelude to an intervention described at the end
- Three data sets:
 - A household survey of about 5500 households.
 - A random sample of 102 of 272 wards in municipality
 - In each ward about 50 households were sampled at random from the slum areas
 - Audit of toilets and garbage collection in these slums
 - A survey of 250 heads of Resident Welfare Associations in these wards

The population of Delhi slum-Dwellers: Poor but Settled

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Table 1A

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
<i>Panel A: Identity Group</i>						
Muslim	21%	25%	20%	19%	19%	17%
SC	39%	37%	41%	41%	38%	37%
ST	7%	9%	7%	7%	6%	4%
OBC	14%	15%	14%	15%	14%	13%
GC	20%	14%	18%	18%	23%	29%

Table 1B: Descriptive Statistics

	Full Sample	By Private Asset Quintile				
<i>Migration into Slum and Identification</i>						
Years lived in current residence	17 [12]	14	16	18	19	19
Arrived in slum in the last year	6% [.23]	11%	6%	3%	4%	3%
Any identification card	90% [.30]	77%	89%	93%	96%	97%
Ration card	63% [.48]	42%	57%	69%	74%	77%
Voter registration	86%	75%	86%	89%	93%	94%
<i>Education status</i>						
6-10 year olds in school	81% [.39]	61%	82%	87%	90%	89%
11-14 year olds in school	80% [.40]	61%	77%	83%	87%	91%
Adults with no schooling	41% [.49]	58%	48%	43%	35%	25%

Living conditions in the slums: Infrastructure

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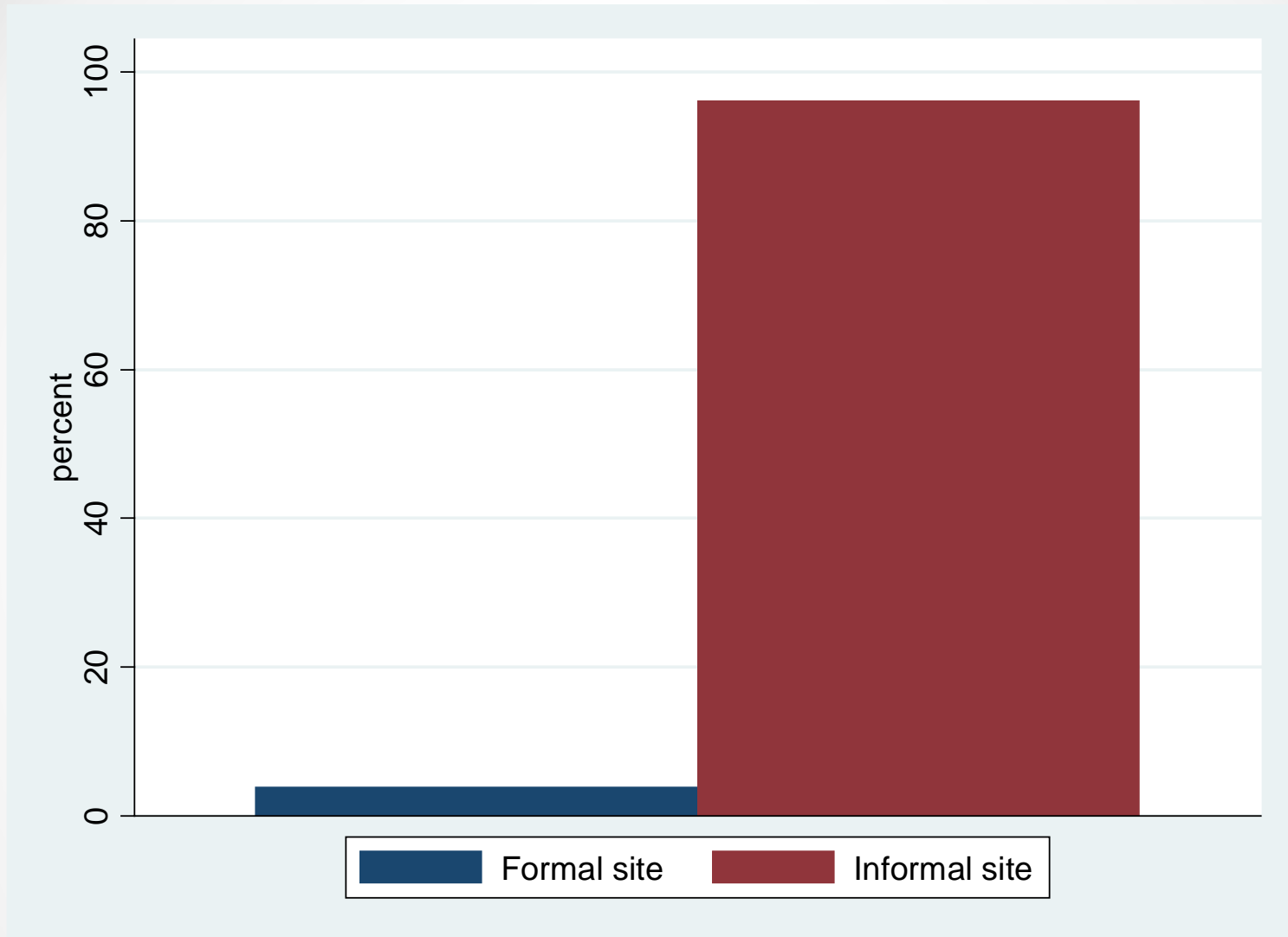
Table 2A: Access to Public Facilities and Quality of Access

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
<i>Water</i>						
Indoor household tap	25% [0.43]	13%	21%	23%	32%	43%
Outdoor or shared tap from well	36% [0.48]	40%	38%	33%	35%	33%
Outdoor or shared tap from municipal supply	57% [0.49]	66%	63%	60%	51%	40%
No municipal supply or well	3% [.166]	5%	2%	3%	2%	2%

Table 2B: Access to Public Facilities and Quality of Access

	Full Sample	By Private Asset Quintile				
<i>Sanitation</i>		1	2	3	4	5
In house latrine	36% [0.47]	15%	26%	32%	47%	69%
Public toilet	56% [0.49]	56%	61%	64%	56%	40%
Drain in the floor/toilet	19% [0.38]	11%	15%	20%	23%	29%
No specific outlet for drainage	47% [0.49]	66%	53%	49%	37%	25%
Taking garbage to a collection point	38% [0.48]	35%	39%	41%	42%	34%
Dumping in open land	42% [0.49]	54%	45%	40%	35%	33%
Faced non availability of water	44% [0.49]	37%	41%	46%	51%	47%
Cleanliness is bad	16% [0.37]	19%	20%	18%	15%	8%
Drain is smelly or overflowing	90% [0.30]	92%	90%	88%	89%	88%
Nearest dumpster emptied less than once a month	1% [0.10]	1%	2%	1%	1%	1%

Chart 1: Location of Trash Piles



Formal sites: Dalaos, Garbage Collection Points, Garbage Bins

Informal sites: Open plots of land, Along the railroad tracks,
Any other places where garbage is dumped regularly

Chart 2: Trash Removal

Who takes the trash away?

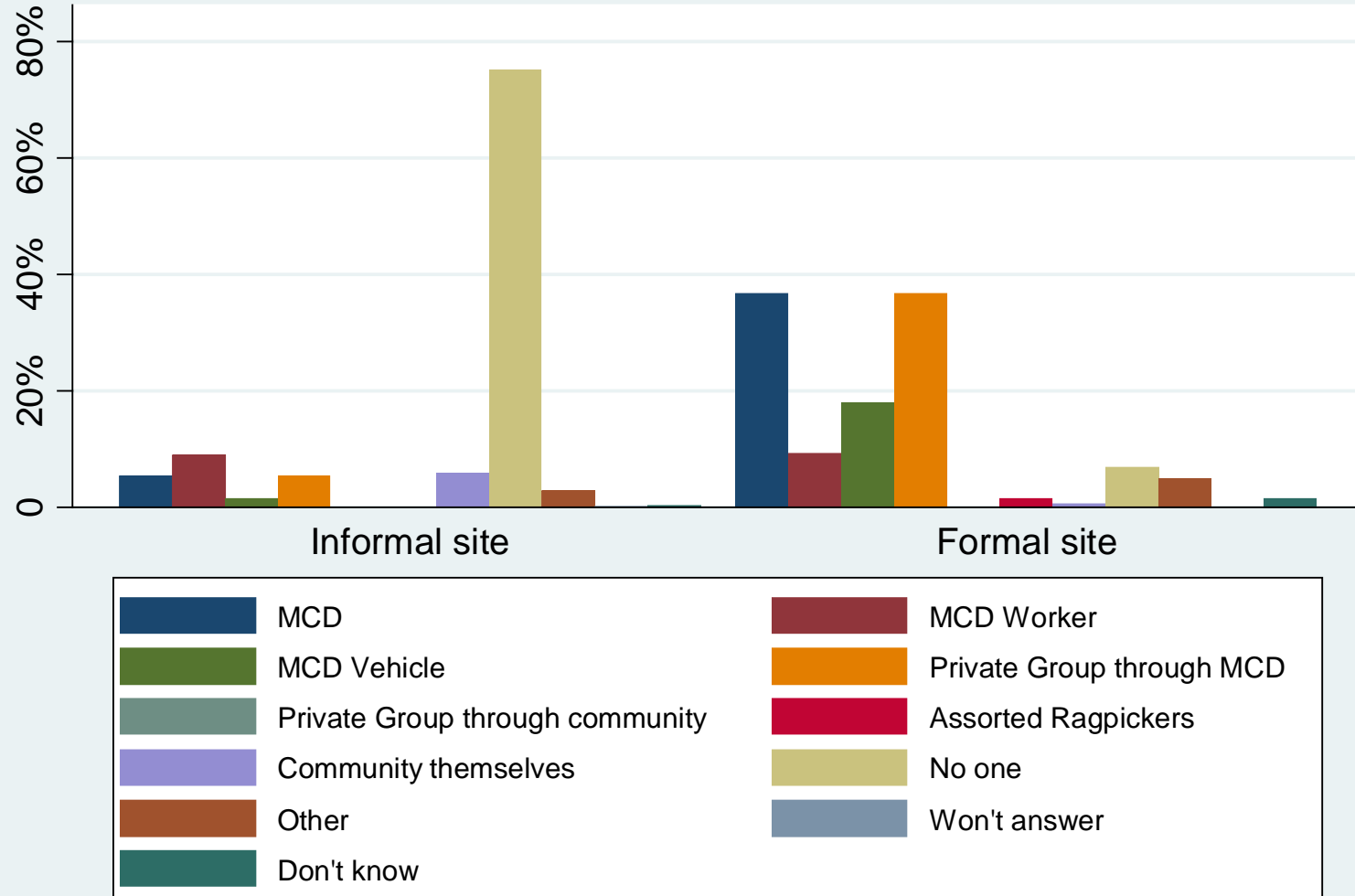


Chart 3: Frequency of Trash Removal

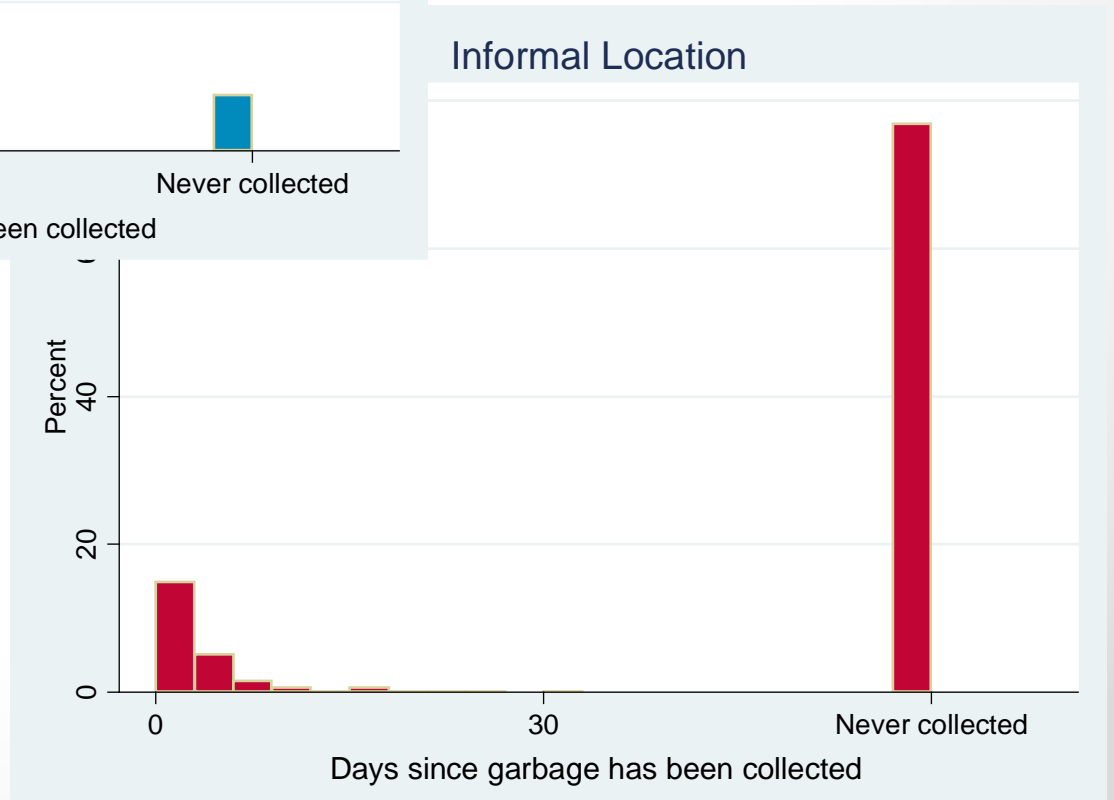
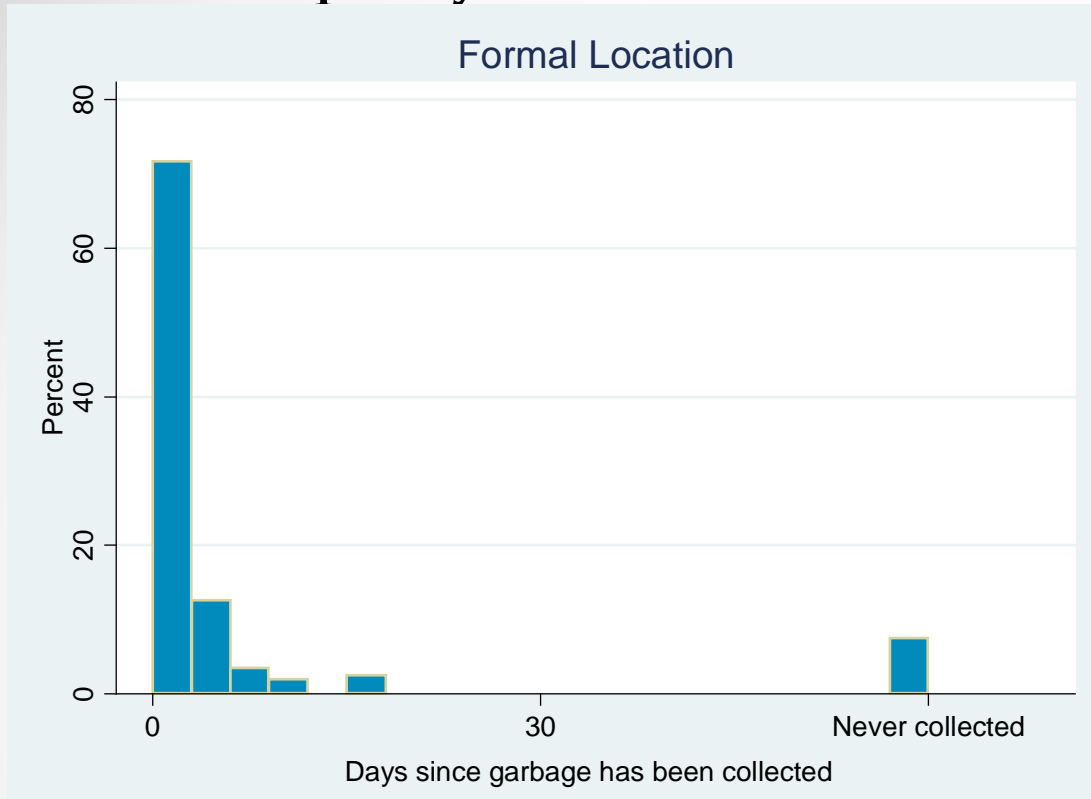


Table 9: Do the households' responses from the household survey match the data from the audit survey?

	Dumpster Present
Number of Dalaos	0.701*** (38.97)
Number of Bins	0.502*** (10.26)
N	5202
R-sq	0.247

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2C: Access to Public Facilities and Quality of Access

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
<i>Roads and Electricity</i>						
Nothing larger than a motorcycle possible on road outside	64% [0.47]	69%	69%	71%	63%	49%
Electricity	99% [0.00]	96%	99%	99%	100%	100%
At least 3 hours of power cuts in June	65% [0.47]	69%	67%	61%	63%	63%
"Very high bill" is a problem	17% [.37]	11%	17%	19%	19%	17%
Illegal electrical connections (determined from mode of payment)	4% [0.20]	10%	4%	4%	2%	1%

Living conditions: Access to
education and healthcare

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Table 2D: Access to Public Facilities and Quality of Access

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
<i>Panel D: Education</i>						
HHs with children in government school	54% [0.49]	44%	57%	61%	49%	49%
HHs with children in private school	17% [0.37]	7%	12%	14%	22%	34%
HHs with child in gov school who say teaching quality is bad	7% [0.25]	7%	5%	7%	6%	7%
HHs with child in priv school who say teaching quality is bad	2% [0.13]	0%	1%	4%	3%	0%

Table 2E: Access to Public Facilities and Quality of Access

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
<i>Panel E: Health</i>						
During Last Minor Health Problem						
Visited government facilities	29% [0.45]	32%	33%	29%	25%	22%
Visited private facilities	70% [0.45]	67%	66%	69%	74%	77%
During Last Major Health Problem						
Visited government facilities	41% [0.49]	42%	42%	40%	40%	39%
Visited private facilities	59% [0.49]	58%	58%	60%	60%	61%
Problem at nearest gov't health center	61% [0.48]	54%	61%	62%	64%	66%
Problem at a government hospital*	57% [.49]	52%	58%	58%	58%	58%

*Percentage of those who have received care there for their last major health problem

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Living conditions: Security

Table 2F: Access to Public Facilities and Quality of Access

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
Panel F: Security						
Any problem of law and order	74% [0.44]	73%	76%	74%	75%	70%
<i>Of those reporting problems:</i>						
Theft	93% [0.26]	93%	93%	92%	93%	92%
Gambling	65% [0.48]	71%	68%	67%	61%	57%
Alcoholism/drunkenness	65% [0.48]	66%	65%	66%	66%	61%
Assault/violent crime	43% [0.50]	43%	43%	41%	43%	46%
<i>Of those who went to police:</i>						
Police report and active investigation	34% [0.47]	33%	29%	26%	43%	35%
The problem improved	37% [0.48]	39%	30%	26%	42%	42%

Access to entitlements:

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Table 3A: Fulfillment of Ration Card Benefits: Wheat

Wheat*	By Ration Card Type			
	Any	Red	Yellow	White stamped
Percentage of official amount received**	78%	86%	83%	69%
	[.20]	[.15]	[.17]	[.20]
Ratio Price Paid to official price	1.15	1.35	1.11	1.04
	[.49]	[.86]	[.25]	[.16]

*Ration was not limited to wheat but included any good (rice, flour, dal, salt, sugar, edible oil, wheat and kerosene oil) from the ration store.

** Conditional on receiving any benefits

(1) Red cards target the poorest of the poor--covering destitute households of widows, single and destitute women, disabled, infirmed or aged persons with no assured means of subsistence.

(2) Yellow ration cards cover households with annual family income below Rs 24,200.

(3) White Stamped Cards (Above Poverty Line) are given to households with family income between Rs 24,200 and Rs. 1,00,000.

(4) White Unstamped Cards (Above Poverty Line) are given to households with annual family income above Rs. 1,00,000. These cardholders are not entitled to rations.

Table 3B: Pension Receipt as a Percent of Eligibility

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
Any Pensions	38% [.48]	36%	32%	36%	45%	40%
Old Age Pension	32% [.46]	36%	24%	29%	36%	33%
Widow Pension	46% [.50]	34%	50%	47%	55%	45%
Disabled Pension	16% [.37]	15%	19%	9%	20%	15%

(1) To be eligible for the old age, widow, or disabled pension, an individual must have an income of less than Rs.48,400 per year and have lived in Delhi at least five years, in addition to being over 60, a widow, or a disabled person. We used years in current residence as a proxy for the residency requirement.

Table 3C: School Scholarships and Other Non-cash Transfers

	Full Sample	By Private Asset Quintile				
		1	2	3	4	5
Children (6-14) in government schools						
Receiving a scholarship	54% [.50]	57%	58%	48%	53%	54%
Receiving free uniform from school	78% [.41]	77%	78%	83%	76%	76%
Receiving any non-cash school transfer	92% [.27]	95%	93%	93%	90%	89%
Children (6-14) in private schools						
Receiving a scholarship	3% [.18]	10%	7%	4%	1%	1%
Receiving free uniform from school	5% [.22]	14%	7%	4%	4%	2%
Receiving any non-cash school transfer	6% [.24]	21%	11%	5%	4%	2%

Table 3D: Use of Schemes

	Full Sample	By Asset Private Quintile				
		1	2	3	4	5
EWS education scheme	0.4% [.06]	0.3%	0.4%	0.5%	0.2%	0.7%
Hospital scheme	1.3% [.11]	1.2%	1.0%	1.4%	1.5%	1.1%

How much heterogeneity?

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Table 4A: Explanatory Power of Ward-Level Fixed Effects

	Municipal water supply		Flush toilet to piped sewer		Has electrical connection		Trash disposed of in dumpster	
Public Goods	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ward FEs	x	x	x	x	x	x	x	x
Asset Index		0.060*** (0.005)		0.092*** (0.006)		0.026*** (0.002)		0.017** (0.007)
N	5,481	4,918	5,481	4,918	5,365	4,918	5,477	4,914
R-squared	0.459	0.489	0.344	0.382	0.045	0.080	0.329	0.325
F-stat (Ward FEs)	44.774	42.541	27.597	20.844	2.426	2.448	25.868	22.736
	Receives pension, if eligible		Has voter/ration card		Has Red or Yellow ration card			
Private Goods	(9)	(10)	(11)	(12)	(13)	(14)		
Ward FEs	x	x	x	x	x	x		
Asset Index		0.019 (0.016)		0.054*** (0.005)		0.016** (-0.007)		
N	1,505	1,361	5,470	4,910	5,481	4,918		
R-squared	0.135	0.139	0.132	0.108	0.197	0.202		
F-stat (Ward FEs)	2.139	1.927	7.991	3.978	12.960	11.620		

Table 4B: Additional Explanatory Power of Slum- over Ward-Level Fixed Effects

	Municipal water supply		Flush toilet to piped sewer		Has electrical connection		Trash disposed of in dumpster	
Public Goods	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ward FEs	x	x	x	x	x	x	x	x
Slum FEs	x	x	x	x	x	x	x	x
Asset Index		0.060*** (0.008)		0.057*** (0.008)		0.025*** (0.003)		-0.026*** (0.010)
N	2,924	2,620	2,924	2,620	2,844	2,620	2,920	2,616
R-squared	0.560	0.577	0.478	0.502	0.192	0.221	0.513	0.511
F-stat (Slum FEs)	4.024	3.723	3.527	3.645	3.516	3.155	6.276	5.989
	Receives pension, if eligible		Has voter/ration card		Has Red or Yellow ration card			
Private Goods	(9)	(10)	(11)	(12)	(13)	(14)		
Ward FEs	x	x	x	x	x	x		
Slum FEs	x	x	x	x	x	x		
Asset Index		-0.024 (0.026)		0.053*** (0.008)		0.033*** (0.011)		
N	767	693	2,918	2,616	2,924	2,620		
R-squared	0.282	0.293	0.232	0.185	0.280	0.279		
F-stat (Slum FEs)	1.39	1.39	1.18	1.12	2.42	2.26		

Heterogeneity between slum-dwellers and the rest

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Table 5: Most Problematic Issues in Areas

	According to RWA	According to DUP
Water	33%	50%
Sewage/Drainage	25%	21%
Law and Order	8%	1%
Parks and greenery	6%	0%
Roads	6%	0%
Payment of water/electricity bills	5%	0%
Electricity	4%	2%
Garbage Removal	3%	0%
Education	3%	0%
Encroachment	2%	0%
Stray dogs in colony	2%	0%
Health	1%	1%
Rations	1%	9%
Pension	0%	1%
Street lights	0%	0%

Do politicians have
influence?

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Table 8C: Institutional Arrangement for Service Delivery in Delhi*

Service	Delivery
Water	Delhi Jal board, a corporatized state entity
Sanitation	MCD for toilets and drainage, Delhi Development Authority (central government)
Garbage Removal	Municipal Corporation of Delhi
Electricity	Privatized geographic monopolies
Government Schools	Municipal Corporation of Delhi, State Government of Delhi
Health Clinics and Hospitals	MCD**, Delhi State Government, Government of India
Pensions	Delhi State Government
Rations	Government of India
The Police	Ministry of Home Affairs (central government)

*Excludes NDMC and Delhi Cantonment Board areas

**Main agency involved in preventive and primary health care programmes, dispensaries, clinics and a few hospitals

Councilor spending

- Each councilor gets Rs 20 million per year to spend on whatever their areas priority was
- About 90-95% got spent.
- Plus 5 million to spend on water
- Which got spent
- But they also have influence
 - Can get MCD officials to do things
 - Can influence access to entitlements

Councillor Spending 2008-9

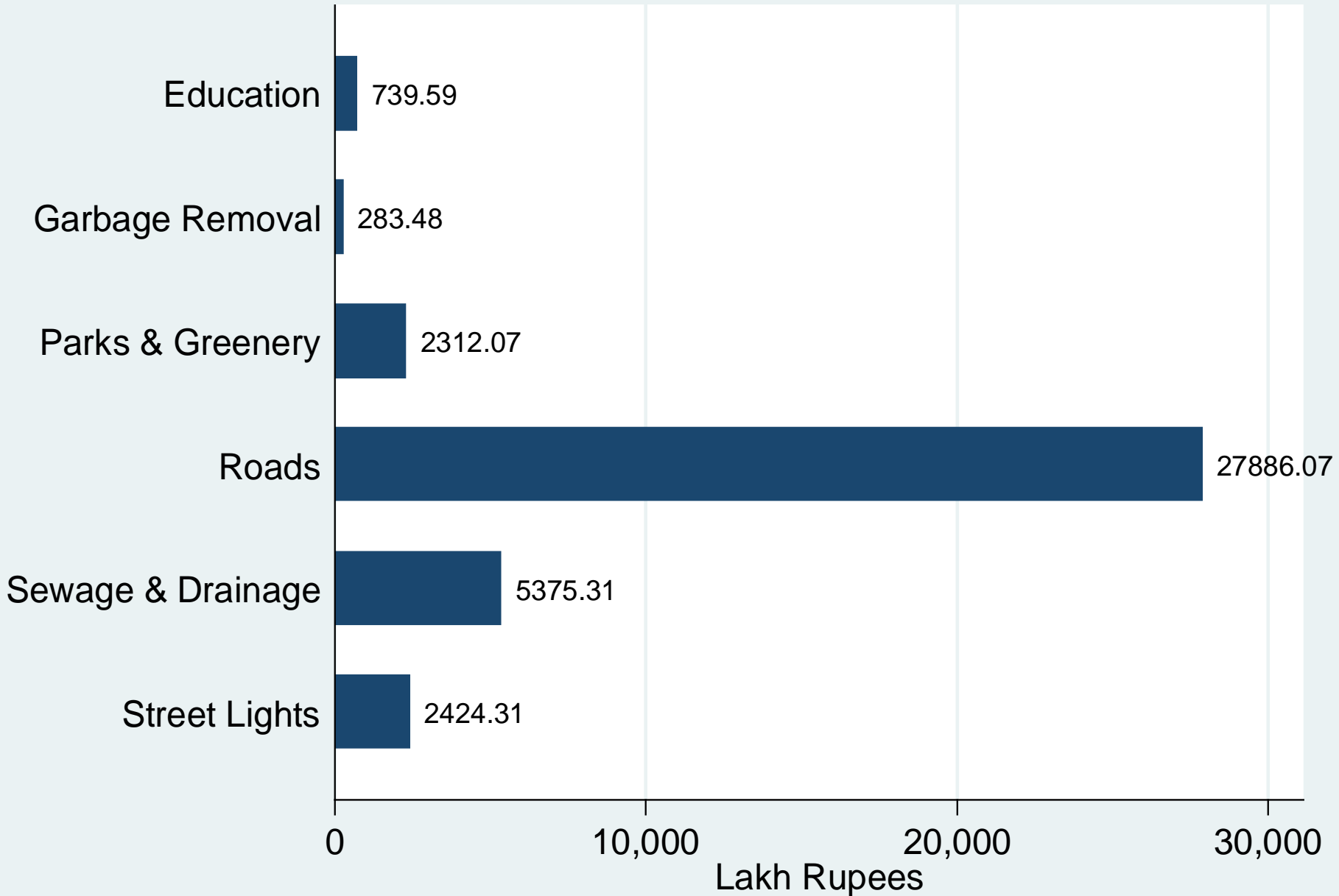


Table 10: Dalaos in slums and trash disposal

	Good Trash Removal ¹			Dalaos Cleaned in Last 3 Days
	(1)	(2)	(3)	(4)
Dalao Dummy	.2558708** (.0179353)	.2512771** (.0176307)	.2564422** (.0179402)	
Registered to Vote	.0125062 (.0168379)	.0095874 (.0161715)	.011636 (.0168515)	.002941 (.0273541)
Know MLA	.0191008** (.0081947)		.0155268* (.0086863)	-.0140508 (.0133346)
Know MCD Councilor		.0161225* (.0084399)	.0115145 (.0092848)	.0327678** (.0143137)
Spoken to Official	-.0170128 (.0184239)	-.0180576 (.0178326)	-.0190754 (.0184978)	-.0212079 (.0267884)
Household Controls	YES	YES	YES	YES
Ward Fixed Effects	YES	YES	YES	YES
N	4821	5345	4821	878
R-sq	0.4460838	0.4283031	0.446265	0.7446931

t statistics in parentheses

* p<0.10, **p<0.05, *** p<0.01

¹ Trash removal is classified as good if the trash is taken to dumpster,
or collected by either an MCD worker or private worker

Are voters passive: Self-described Political activism in the slums

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Table 6A: Political Activism of Delhi Slum Dwellers

	Full Sample	By Asset Private Quintile				
		1	2	3	4	5
Registered households	86% [34.43]	75% [43.58]	86% [34.95]	89% [31.91]	93% [25.57]	94% [24.62]
Voted in the last municipal election	84% [36.71]	76% [42.85]	84% [36.62]	85% [35.27]	87% [33.41]	87% [33.44]

Table 6B: Political Participation of Delhi Slum Dwellers

	Full Sample	By Asset Private Quintile				
		1	2	3	4	5
Attended no event	69% [46.09]	72%	68%	67%	67%	71%
Attended march	23% [41.9]	22%	25%	25%	22%	20%
Received cash	5% [.21]	7%	3%	4%	4%	4%
Received non-cash incentive	23% [.42]	26%	26%	21%	17%	22%
Attended speech/rally	24% [42.5]	19%	25%	26%	26%	22%
Received cash	3% [.17]	3%	3%	3%	2%	3%
Received non-cash incentive	19% [.40]	22%	21%	18%	16%	18%

Table 6C: Voting Lines among Delhi Slum Dwellers

	Full Sample	By Asset Private Quintile				
		1	2	3	4	5
Issues only	63% [.48]	68%	66%	62%	61%	59%
Character & issues	22% [.41]	18%	21%	21%	23%	26%
Local development	98% [.13]	98%	98%	99%	98%	98%
Crime/Law and order	97% [.16]	96%	97%	97%	97%	97%
Price rise	99% [.09]	99%	99%	99%	99%	99%
Government corruption	94% [.23]	93%	94%	95%	94%	94%
Regularization/sealing	81% [.39]	84%	82%	81%	78%	77%
Candidate's past government work	50% [.50]	48%	53%	52%	50%	43%
Candidate's party	37% [.48]	28%	34%	40%	42%	43%
Caste or Religion	1% [.12]	1%	1%	2%	1%	1%

Table 6D: Political Discussion among Delhi Slum Dwellers

	Full Sample	By Asset Private Quintile				
Frequency of Political Discussion		1	2	3	4	5
Rarely or never	58% [.49]	70%	62%	58%	52%	47%
Frequently around elections	29% [.45]	21%	26%	32%	31%	36%
Sometimes or often	13% [.32]	9%	12%	10%	17%	17%

Do voters know enough to
reward/punish politicians

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Table 6E: Political Awareness among Delhi Slum Dwellers

	Full Sample	By Asset Private Quintile				
		1	2	3	4	5
Aware of Councillor name	31% [.46]	21%	26%	32%	37%	45%
MLA name	37% [.48]	28%	36%	40%	40%	46%
Councilor funds	36% [.50]	27%	34%	33%	40%	49%
Approximate amount of funds	3% [.17]	1%	2%	3%	4%	6%
EWS education scheme	4% [.19]	2%	3%	3%	4%	8%
Hospital scheme	6% [.25]	4%	4%	7%	7%	10%

Some questions of interpretation

- Do you need to know the MLA's name?
- Is this a symptom or a cause?
- Have voters given up on politicians?

Responsiveness of the
political system:
Clientelism etc.

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Table 7A: Approaching Public Officials

	Ration Cards	Health Scheme	Education Scheme	Eviction	Sanitation	Water	Electricity	Crime
Approached Public Official	12% [.32]	1% [.09]	1% [.11]	7% [.25]	11% [.31]	15% [.36]	4% [.19]	1% [.11]
<i>Contingent upon approaching a public official</i>								
<i>Official Approached</i>								
Councilor	22%	27%	24%	14%	51%	27%	21%	23%
MLA	74%	62%	67%	77%	46%	70%	76%	69%
MP	2%	10%	9%	9%	2%	3%	3%	8%
<i>Meeting Composition</i>								
Alone	36%	41%	44%	0%	7%	3%	20%	9%
Group	63%	58%	56%	100%	93%	97%	80%	91%

Table 7B: Outcomes from Approaching Public Officials

	Ration Cards	Health Scheme	Education Scheme	Eviction	Sanitation	Water	Electricity	Crime
<i>Outcome of Meeting</i>								
Not in Office	3%	1%	1%	1%	0%	1%	5%	1%
Refused to Speak	1%	0%	1%	1%	2%	1%	-	3%
Could not/did not help	6%	9%	3%	10%	2%	4%	9%	63%
Said would help but nothing happened	41%	18%	22%	-	32%	46%	27%	-
Told someone to help but nothing happened	30%	29%	26%	-	31%	-	34%	-
Problem resolved	17%	18%	29%	89%*	33%	48%	30%	27%
Other	5%	3%	4%	-	-	-	-	3%

*For eviction, problem resolution consisted of 86% slum not cleared, 3% restitution for slum clearing

Table 7C: Help from Public Officials or Others

	Ration Cards	Health Scheme	Education Scheme	Water	EWS Education Scheme	Hospital Scheme
<i>Person who helped obtain services</i>	*			**		
Elected Official	1%	2%	14%	2%	10%	1%
No one/Self	88%	98%	86%	90%	57%	64%
Pradhan	5%	-	-	4%	-	-
Agent	1%	-	-	0%	-	-
Relative/Friend	3%	-	-	2%	-	-

* Who helped obtain a ration card

** Who helped get water restored after it was turned off

Summary

- There are problems galore
- Voters interests seems relatively aligned
- There is a some evidence of political involvement by voters
- They do approach political officials for help
- There is not much delivery.
- Especially the things that seem free to the politician—like entitlements.
- What could be going on?
 - Equilibrium of low expectations?

An intervention

- In the 2008 state elections we worked with an NGO, SNS, to distribute report cards on MLAs in randomly chosen slums
- This led to a large increase in turnout and hurt non-performing (from the point of view of the MLAs)
- In 2010 a fraction of MCDs (chosen at random) were shown their current report cards and told that there will be another one just before elections
- Another group was just told that the report card is coming
- Another group will get report cards without being forewarned
- Compared to a control group, how do they behave and how do their electoral outcomes change?



Can Government Investment in Urban Public Goods Hurt the Poor? Evidence from Beijing

Matthew E. Kahn

UCLA and NBER

Institute of the Environment

Department of Economics and Public
Policy

Introduction

- My work focuses on environmental and urban issues
- Green Cities: Urban Growth and the Environment (Brookings Press, 2006)
- It examines the causes and consequences of urban pollution
- While its evidence is mainly USA based, lessons for LDCs.

An aerial photograph of a city with a prominent green belt. A road leads from the foreground towards the city, passing through a forested area. The city buildings are visible in the background, partially obscured by the green belt.

GREEN CITIES

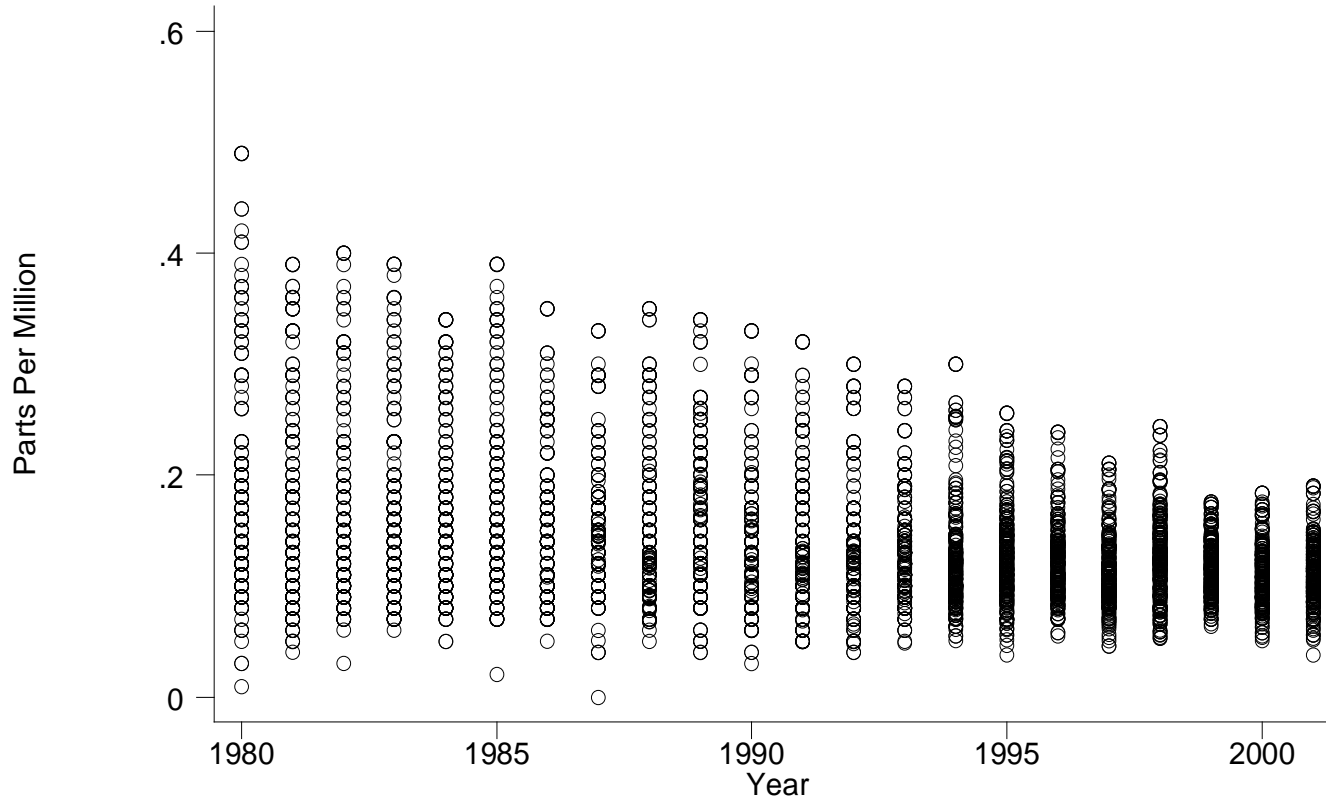
Urban Growth and the Environment

THE UNIVERSITY OF CHICAGO PRESS

MATTHEW J. KAHN

California Pollution Progress During a Time of Growth

California Data on Maximum 1 Hour Reading



The Distribution of Ambient Ozone By Monitoring Station

Government Investment in Public Goods and Economic Incidence

- Vehicle emissions regulations and industrial regulation played a major role in causing this progress during a time of population and income growth
- As smog levels decline in areas where the poor and minorities tend to live, have these groups enjoyed an improvement in their quality of life?

U.S Literature on Gentrification as an Unintended Consequences of Local Amenity Improvements

- Los Angeles Smog Reductions and rental rises in East Los Angeles (Smith et. al. 2004 IER)
- Crime Reductions in Harlem and renters versus owners (Schwartz, A.E., Susin, S. & Voicu, I. 2003, Journal of Housing Research)
- Asset holders who bought before the “new news” is capitalized win and renters lose
- Does this dynamic play out in LDC cities?

China's "Green Cities"

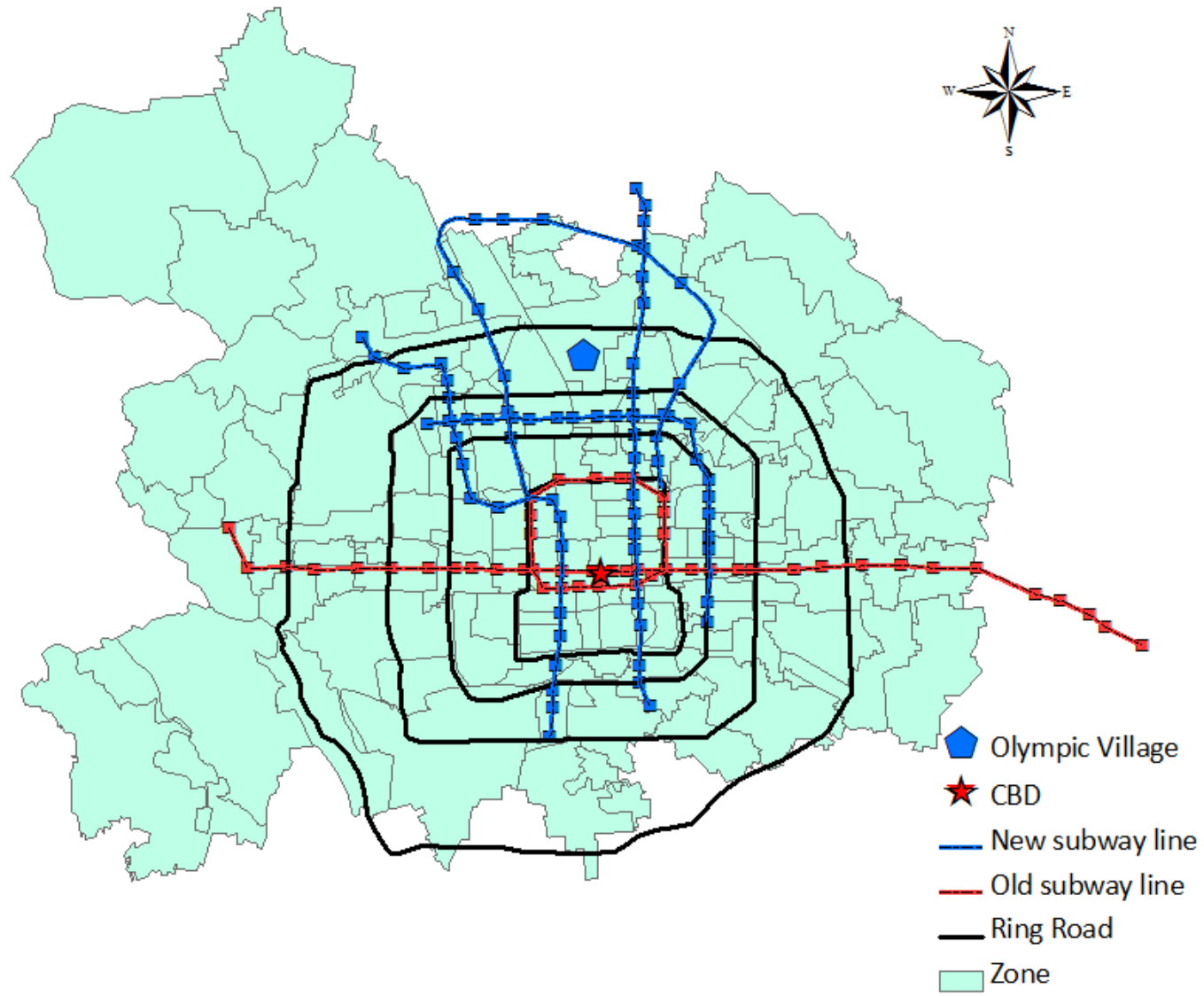
- In recent years, I have been studying quality of life dynamics in China's cities
- This is joint work with Siqi Zheng of Tsinghua University
- Parallels between my U.S and China Work
- As China's cities grow richer and as the powerful government invests in infrastructure and improving non-market local public goods, does this improve the poor's quality of life?

My Questions

- In recent years, Beijing has made major investments in new subway lines and in building the Olympic Village
- How has the private sector responded to these public investments?
- How have equilibrium pricing gradients been affected and what implications has this had for income sorting within the city?
- Could the urban poor lose from these public investments?

Beijing Public Investment

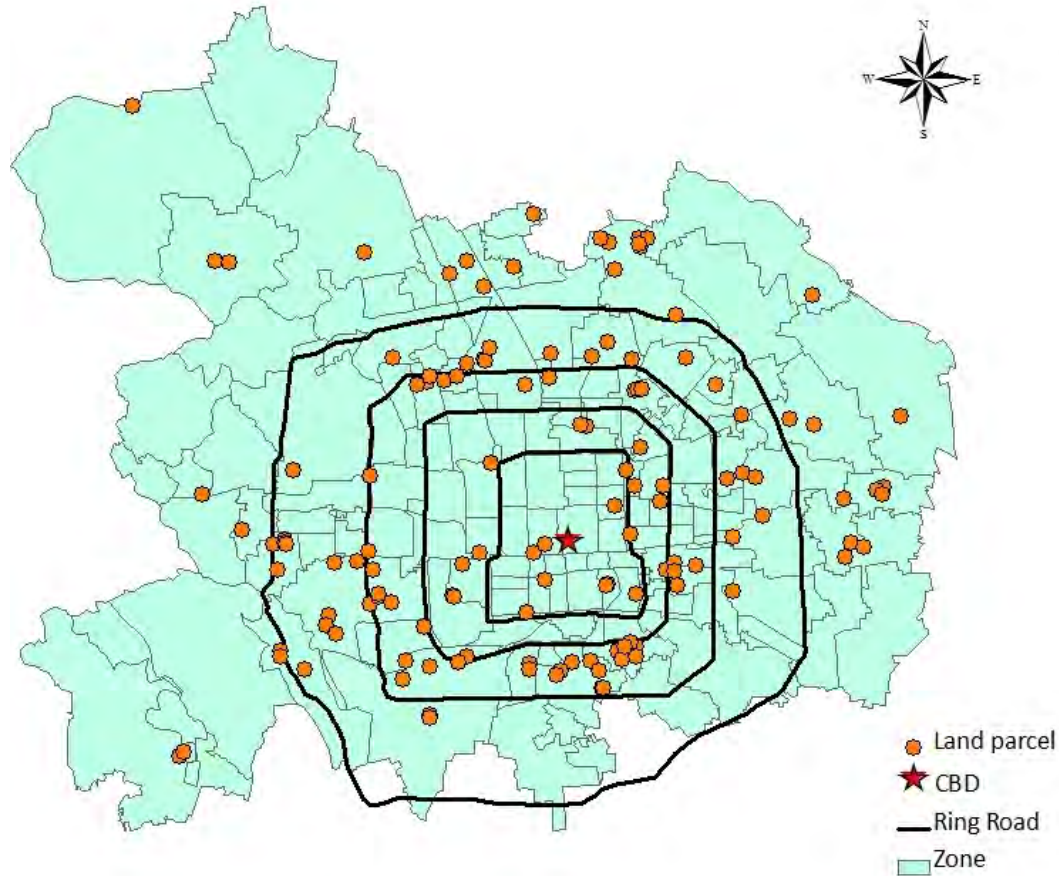
- Four new subway lines were built between the years 2000 to 2009, with the total investment of 50.3 billion RMB.
- 20.5 billion RMB was spent to construct the 2008 Olympic Park between 2003 and 2008
- The official exchange rate is 6.5 RMB per dollar.



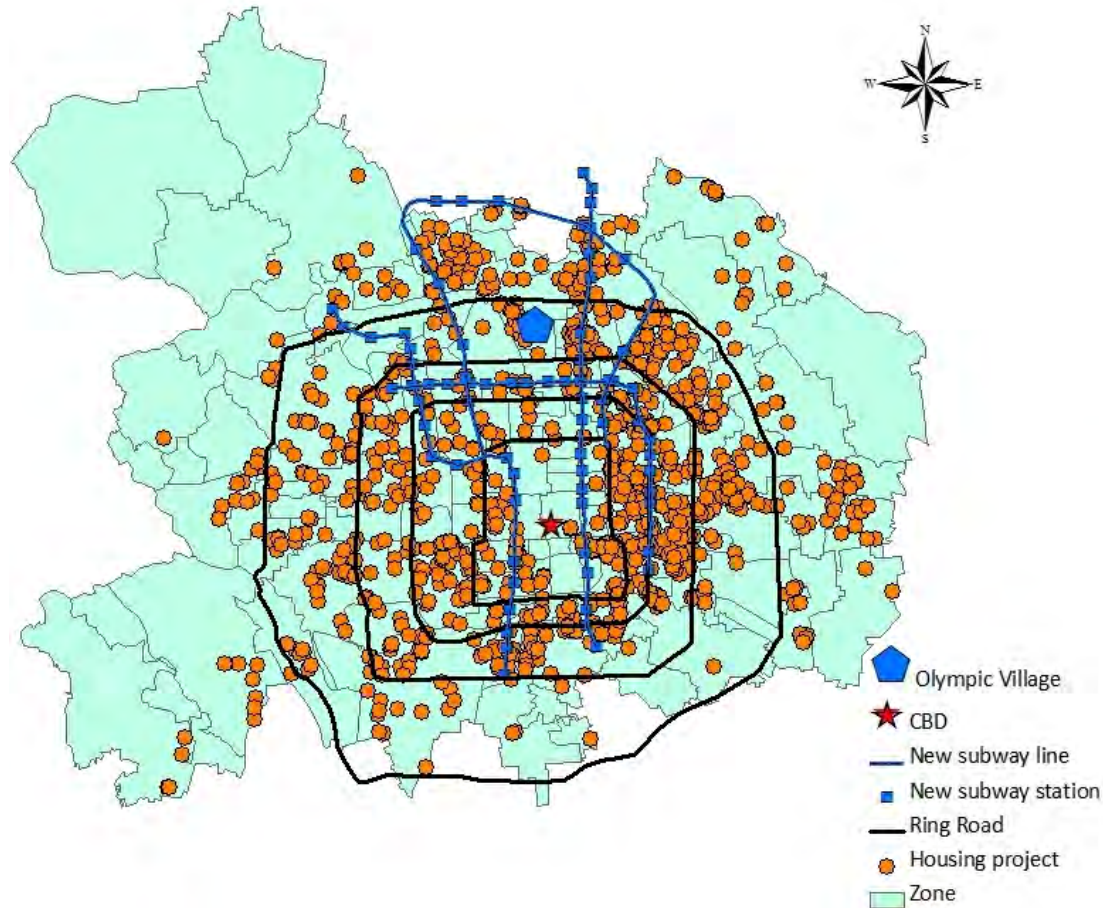
Before and After at the Olympic Village



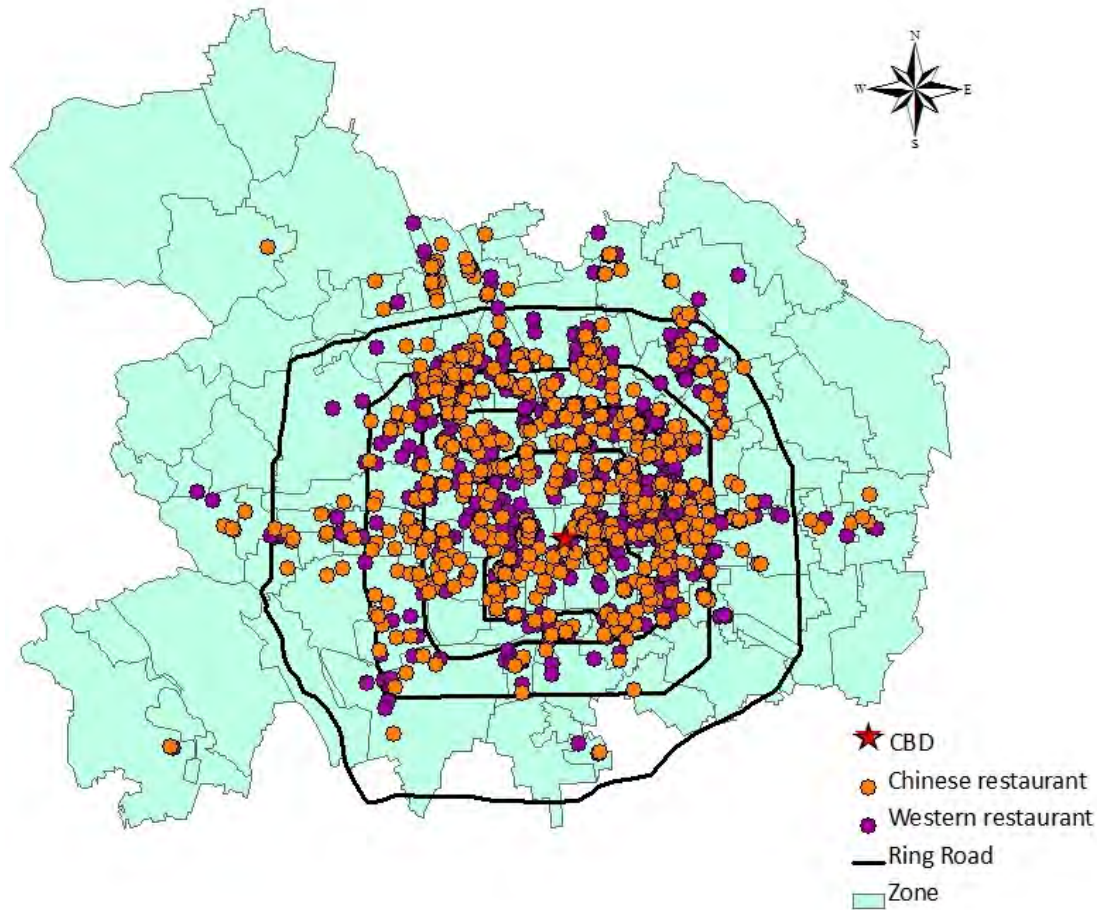
Land Sales Between 2006 and 2008



New Housing Production Between 2006 and 2008



New Restaurants



Restaurants We Count

Western	Chinese	
McDonald	Yang Fang hotpot	Dong Lai Shun
KFC	Tian Wai Tian	Lu Lu restaurant
ORIGUS Pizza	Lao Cheng Yi Guo	Chun Xia Qiu Dong hotpot
Pizza Hut	Qingnian restaurant	Quanjude toast duck
Subway	Ma La Xiang Guo	Wa Ha Ha
Starbucks Coffee	Sanqianli steak	Qiao Jiang Nan
UBC Coffee	Guo Lin restaurant	Wu Ming Ju
Haagen-Dazs	Yonghe Dawang	Wan Long Zhou seafood
TOKUGAWA	Hong Zhuang Yuan	Xiang Lin Tian Xia
Yama Teppanyaki tricks	Xiabu Xiabu	Hei Song Bai Lu
Wang Steak	Xiao Fei Yang	Pingrang Haitanghua

Five Pieces of Evidence

- 1. Hedonic pricing of land parcel auctions
- 2. Hedonic apartment pricing
- 3. Counts of new housing development
- 4. Counts of new restaurants
- 5. Gentrification by zone
- Treatment group: geographical areas near the Olympic Village and New Subway Stops
- Control Group: “Treated Areas” early in the construction process and areas far from the place based new public infrastructure

Major Findings

- All else equal,
- 1. land prices decline with distance from the new subway stops.
- 2. home prices decline with distance from the Olympic Village and the New Subway stops and the Old subway stops.
- 3. Real estate developers are building more housing closer to the Olympic Village and the New Subway stops but not the Old Subway stops

More Findings

- 4. New Restaurants are opening near the two pieces of infrastructure.
- Beijing can be partitioned into 114 zones.
- 5. Average education is rising and per-capita income is rising in zones closer to the Olympic Village and New Subways (controlling for distance to the CBD)

Missing Individual Level Longitudinal Data

- A weakness of our study is “smoking gun” evidence of displacement
- We do not know what happened to the poor who lived in these areas and were displaced

Can This Urban Infrastructure Help the Poor?

- 1. Beijing financed these investments using revenue from land sales. Likely to be a progressive tax.
- 2. Even if the poor are displaced from the “treated area”, improvements to the public transit network are likely to mitigate “Spatial Mismatch”.
- John Kain argued that inner-city black unemployment was high in the United States because of commute costs to suburban jobs

My Questions

- This work has only focused on China
- In India and other LDC cities with booming cities, do real estate prices rise as local amenities improve?
- Does this capitalization take place immediately as frictionless models would predict?
- If new investments do cause LDC urban gentrification, what is the government's best response if it cares about equity? Set asides?

Future Work: China's Bullet Trains

- Connecting 2nd tier cities with the Superstar Cities of Beijing, Guangzhou, and Shanghai
- Such Trains help to solve an important externality issue:
- Achieve Benefits of agglomeration
- Without the costs of urban agglomeration (extra pollution and congestion in the mega-city).
- Likely to increase human capital in 2nd tier cities and bid up real estate prices there