Aspiration Adaptation in Resource-constrained Environments

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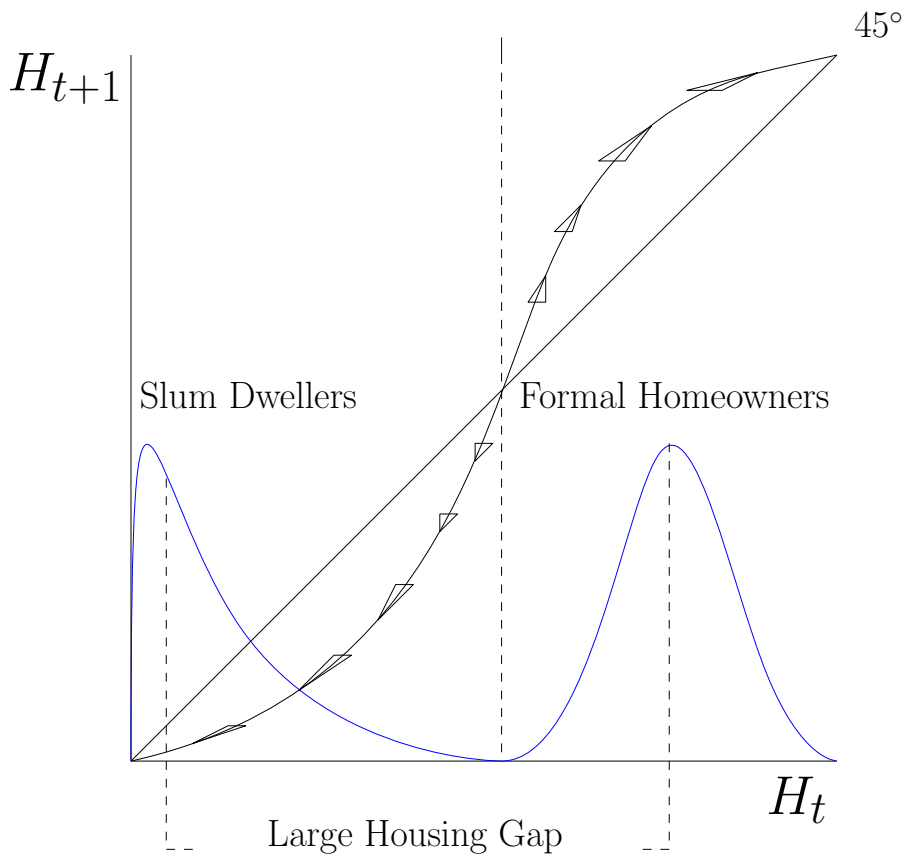
Urban Poverty and Housing Aspirations Trap

Aspiration: "A strong hope or wish for achievement orsuccess" (Oxford Dictionary)

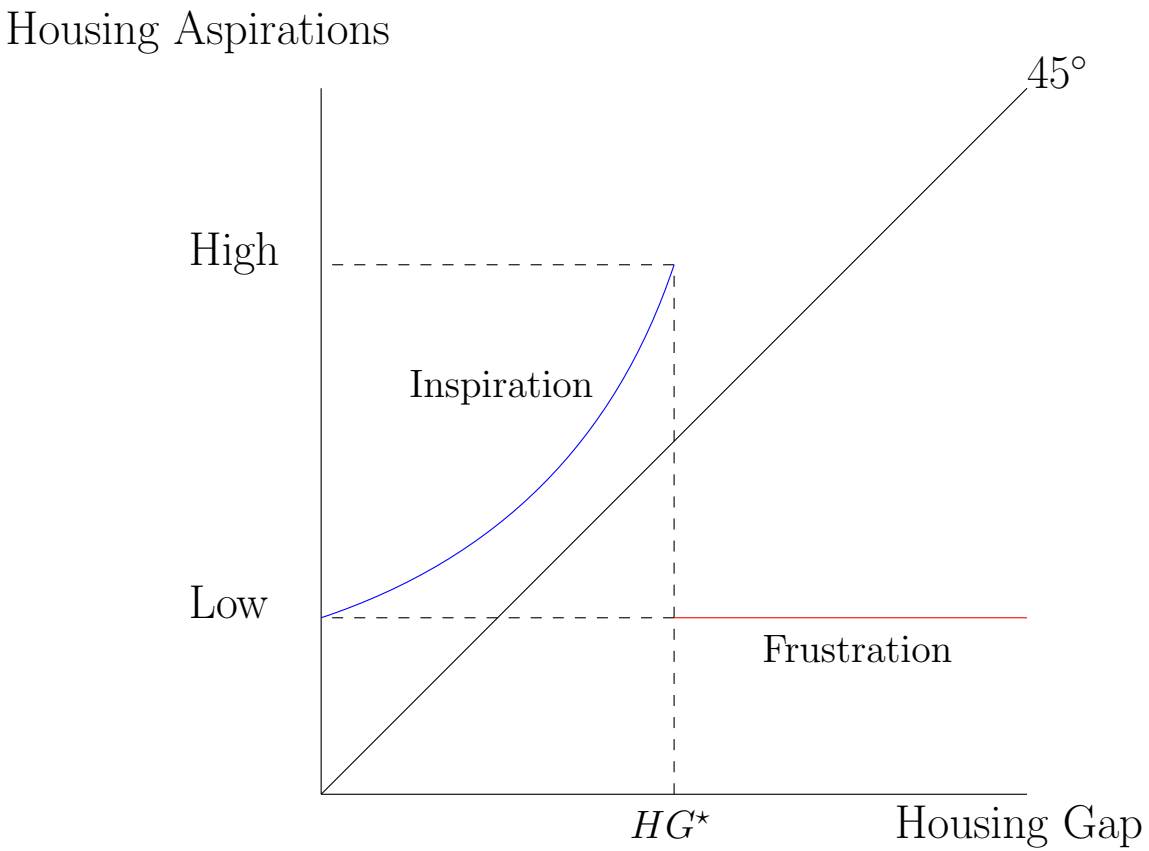


Housing Aspiration Failure

Housing Aspiration Trap

Housing Aspirations Trap

Ray 2006; Genicot and Ray 2017



Potential solutions

1. Aspirational Devices: “Yes, you can" (Bernard, Dercon, Orkin, Taffesse 2014; Lybbert and Wydick 2016)
   - Past-dependent utility models: Dalton, Ghosal, and Mani 2016
   - Only personal experiences determine future goals, $a_t = \Psi(y_t, a_{t-1})$
   - The sole rise of aspirations would increase effort and outcomes, creating a virtuous cycle around higher aspirations.

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2. Increase social norms and trigger conformity behavior (Bernheim 1994; Akerlof 1997; Patacchini and Zenou 2011)

→ akin to induce Housing Externalities

✓Rossi-Hansberg, Sartre, and Owens III 2010;
✓ Helms 2012;
✓ Guerrieri, Dan, and Hurst 2013;
✓ Autor, Palmer, and Pathak 2014;
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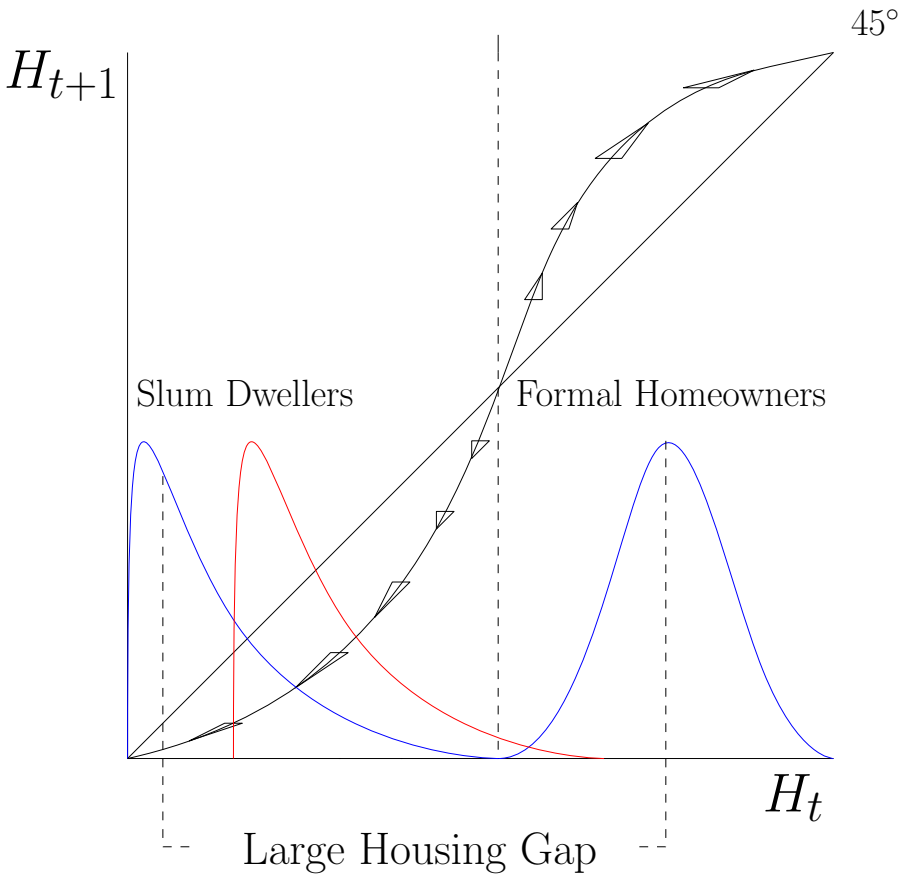
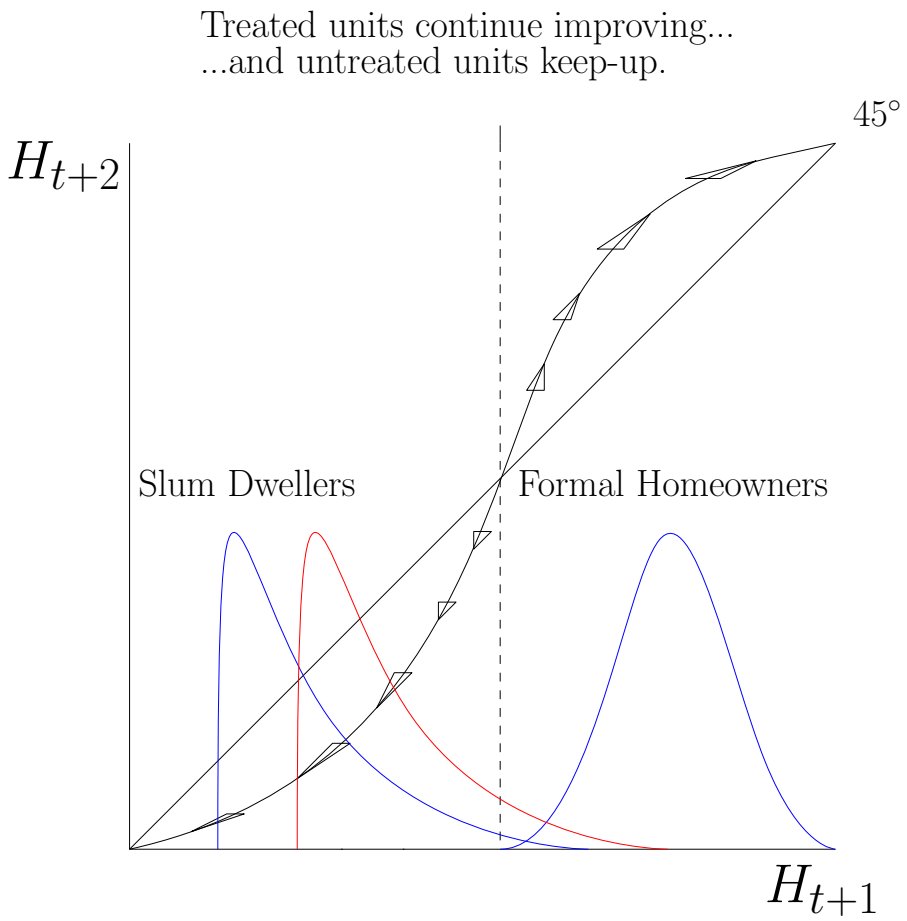
Housing Norms and Housing Externalities-1

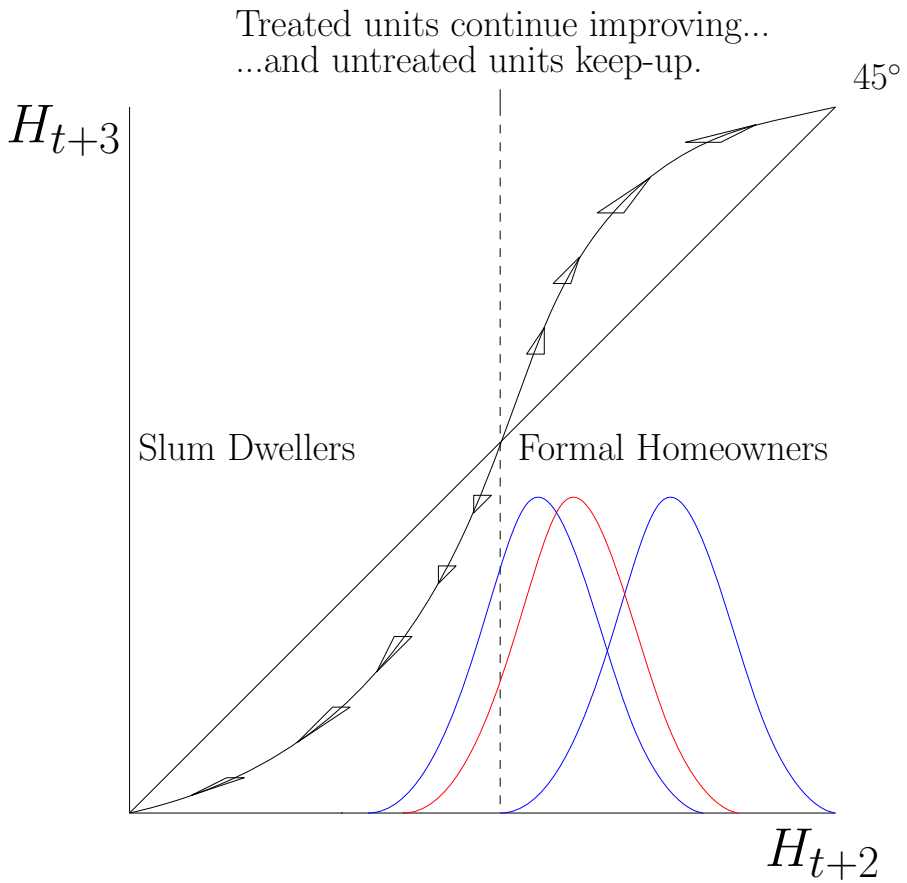
Treat a portion of slum dwellers...



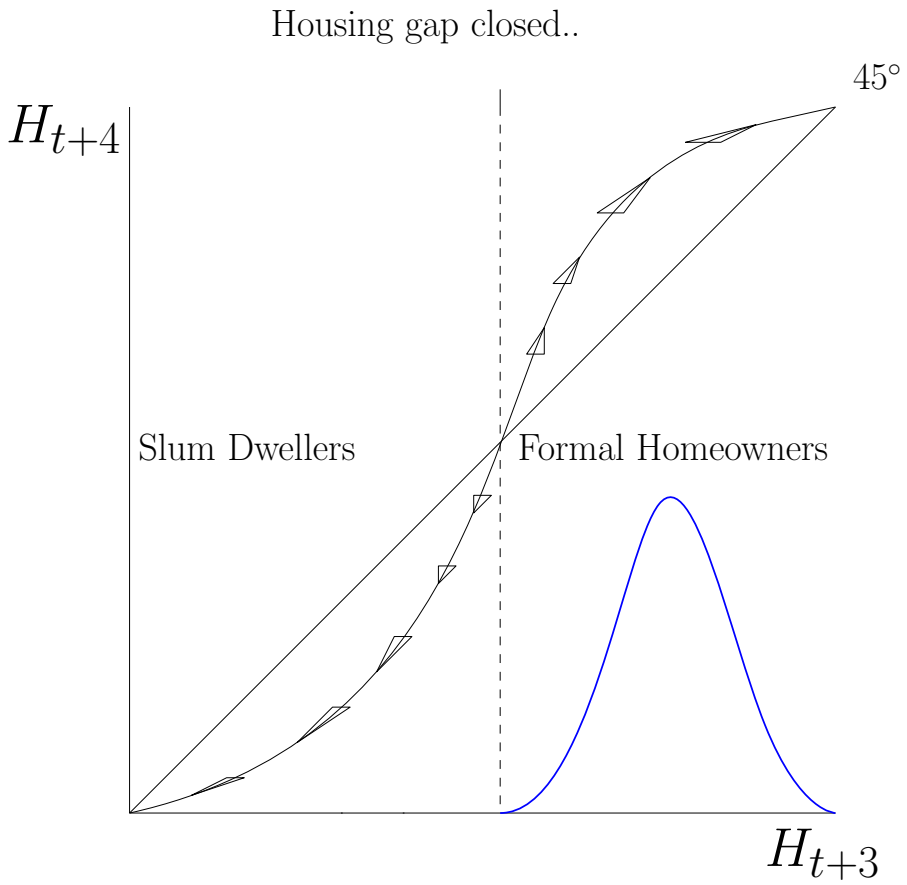
Housing Norms and Housing Externalities-2 (Monotonic Response)



Housing Norms and Housing Externalities-3 (Monotonic Response)



Housing Norms and Housing Externalities-4 (Monotonic Response)



Housing Norms and Housing Externalities

- **Caveat**: Aspirations are not fixed but adapt to the situation. $\rightarrow$ Higher aspirations can **adapt backward** if people realize that are not capable to reach reference group's standard (Karandhikar, Mookherjee, Ray, Vega-Redondo 1998; Selten 2001).

Housing Norms and Housing Externalities-1

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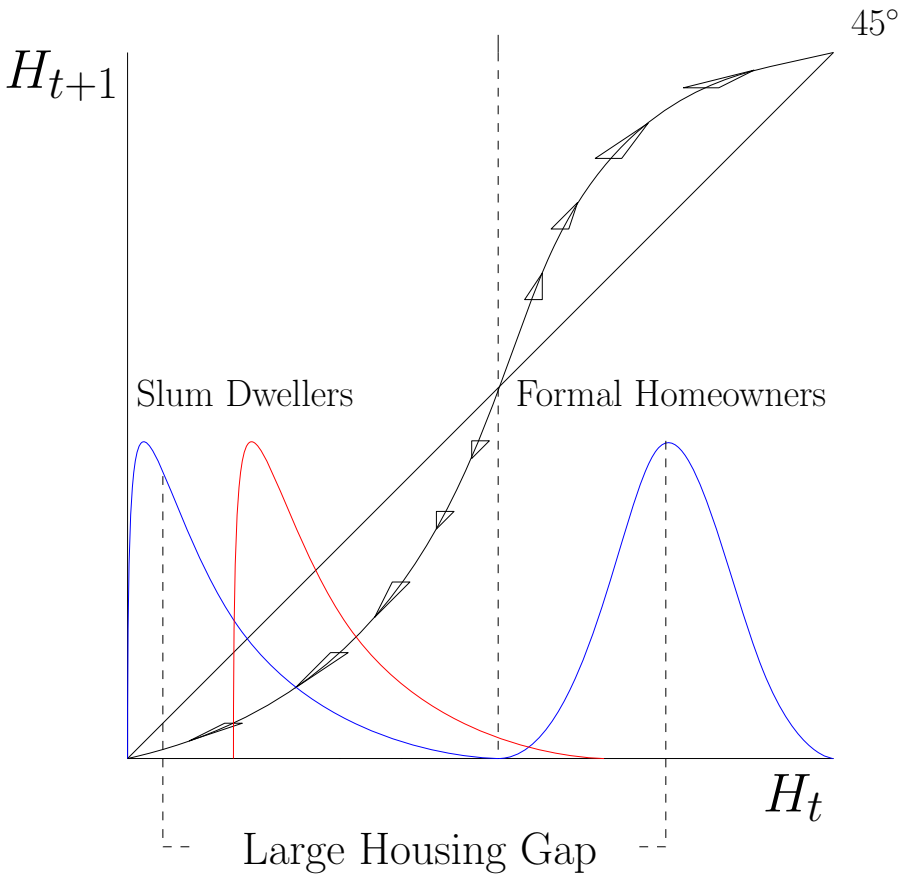
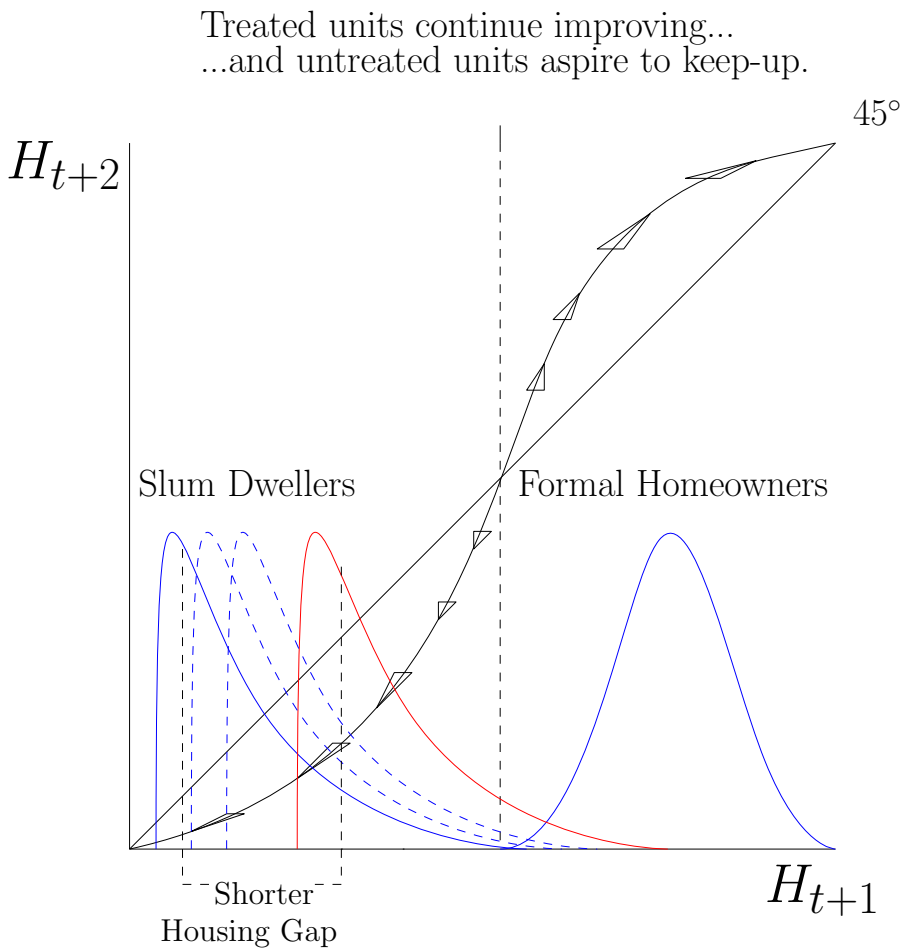
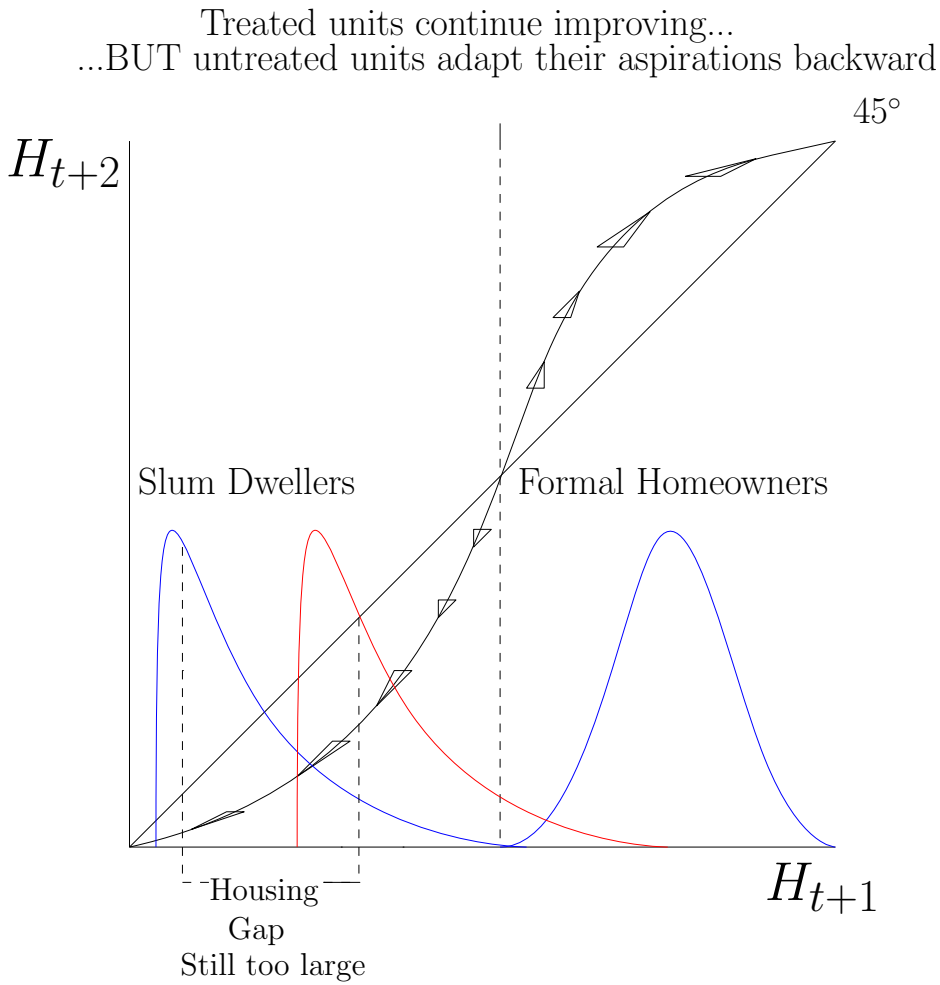


Housing Norms and Housing Externalities-2



Housing Norms and Housing Externalities-2 (Non-Monotonic Response)



This paper

- Housing experiment (TECHO program) in extremely poor slums of El Salvador, Mexico, and Uruguay.
  $\rightarrow$ Extremely low housing aspirations.
- TECHO Program as a “first push" to improve housing

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TECHO Housing Program

Figure 1: TECHO House

SAN MATEO TECALCO, OZUMBA, ESTADO DE MEXICO

- ✓ 18 m2 (6*3) in size - Doesn't include water, electr., or sanitation.
- ✓ Unit Cost ~US $1,000 $\rightarrow$ Beneficiary pays US $100 ~1.4 Monthly Income Per Capita.
- ✓ Placed-based: The new unit can be located next to the existing house or replace the existing house.
- ✓ It can be easily disassembled and moved to a new location in case of eviction.

This Paper

- Combine exogenous variation in the **supply** of TECHO houses with exogenous variation in the **length of exposure** to the treatment.
- Randomization of TECHO houses allows to identify T-C aspiration gaps (not causal spillover effects).
- Exogenous variation in the length of exposure to the treatment allows to test for aspiration adaptation: we compare the T-C aspiration gaps of those residing in slums exposed to large versus short length of exposure.

TECHO Program

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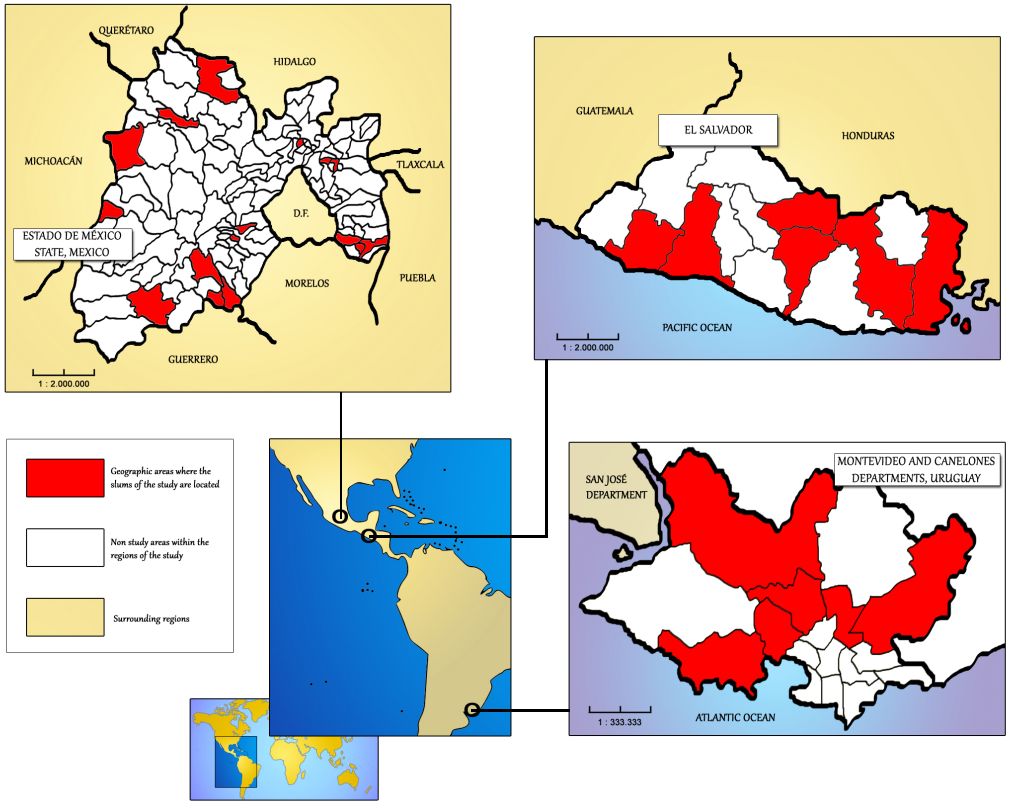
Sites selection as part of an expansion plan

Figure 2: Map of Evaluation Sites



Sample Frame and Program Implementation

1. Within each site, census of slums
2. Within each slum, selection of eligible households
   - Filter applied by TECHO volunteer teams.
3. **Phase Assignment**
   - Financial Constraints → Two phases: some slums treated in the 1^{st} year (**Phase I slums**), some other in the 2^{nd} year (**Phase II slums**).
   - “First-come first-served" criteria to allocate slums to phases
4. **Treatment Randomization**
   - T and C units co-residents within selected slums
   - Expansion plan → lottery participants agreed in that TECHO will not come back to the slum in the future.
5. Follow–Up Survey → 2 years after Baseline Phase I, all together.

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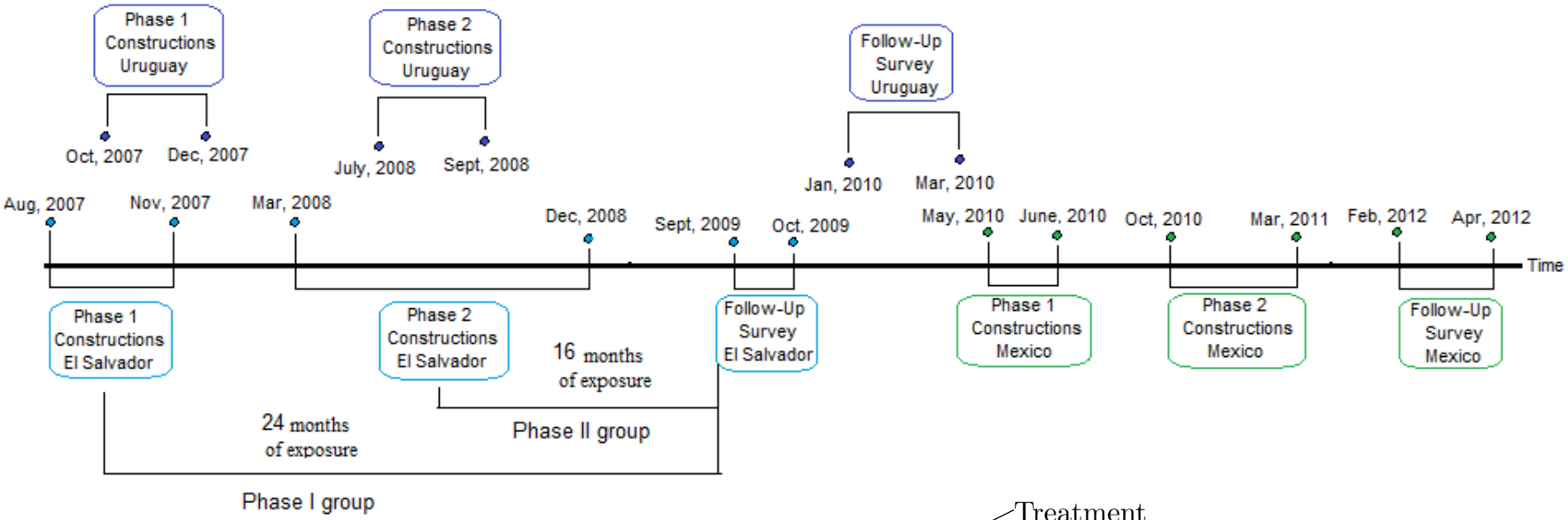
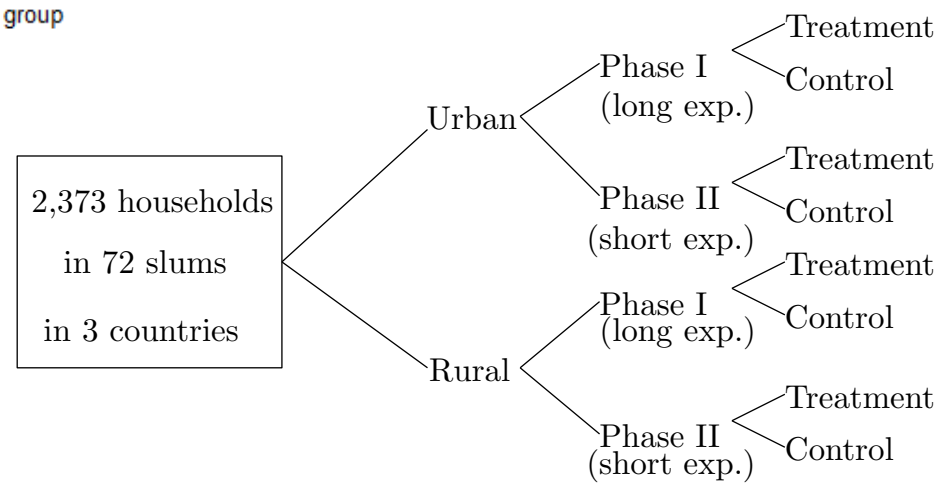
Timeline


Phase 1 Constructions Uruguay
Oct, 2007
Dec, 2007
Phase 2 Constructions Uruguay
July, 2008
Sept, 2008
Follow-Up Survey Uruguay
Jan, 2010
Mar, 2010
Aug, 2007
Nov, 2007
Mar, 2008
Dec, 2008
Sept, 2009
Oct, 2009
May, 2010
June, 2010
Oct, 2010
Mar, 2011
Feb, 2012
Apr, 2012
Time
Phase 1 Constructions El Salvador
Phase 2 Constructions El Salvador
16 months of exposure
Follow-Up Survey El Salvador
Phase 1 Constructions Mexico
Phase 2 Constructions Mexico
Follow-Up Survey Mexico
24 months of exposure
Phase II group
Phase I group


2,373 households
in 72 slums
in 3 countries
Urban
Rural
Phase I (long exp.)
Phase II (short exp.)
Phase I (long exp.)
Phase II (short exp.)
Treatment
Control
Treatment
Control
Treatment
Control
Treatment
Control

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Housing Aspiration Measure

- Asp_{ij} = **"Thinking in your actual situation, if you had to choose among the following alternatives of housing and location: What would you choose?**
  1. Continue living in the same slum under the same conditions;
  2. Continue living in the same slum and get improved housing and own land;
  3. Move to another slum;
  4. Move and get improved housing and own land outside a slum.

- ✓ Note that $(2, 4) \succ (1, 3)$
- ✓ Individuals with different reference points are able to map their aspirations over the same metric scale.
- ✓ Categories are all feasible –part of the "aspirations window" of a slum dweller.
- ✓ Categories are mutually exclusive, so:

$$Asp_{ij} = \begin{cases} 1, & \text{if } Aspiration_k \\ 0, & \text{if } Aspiration_{l \neq k} \end{cases}$$

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Identification Strategy: Reduced Form

- Linear Probability Model:

$$Asp_{ij} = \alpha + \gamma_1 Control_{ij} + \gamma_2 Control_{ij} \times PhaseI_j + \beta X_{ij} + \mu_j + \varepsilon_{ij}$$

- Both treatment status and phase are exogenous.

$$E(\varepsilon_{ij} | Control_{ij}) = 0$$ Baseline Balance at Household-Level

$$E(\varepsilon_{ij} | PhaseI_j) = 0$$ Baseline Balance at Slum-Level

- ✓ γ_1 identifies the T-C aspiration gap in Phase II (not the T-to-C spillover effect)
- ✓ $\gamma_1 + \gamma_2$ identifies the T-C aspiration gap in Phase I (not the T-to-C spillover effect)
- ✓ γ_2 identifies whether T-C aspiration gap persist or adapt over time

No Adaptation on Housing Quality Housing Adaptation (Graph)

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No Adaptation on Housing Quality | Housing Adaptation (Graph)

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Housing Aspirations

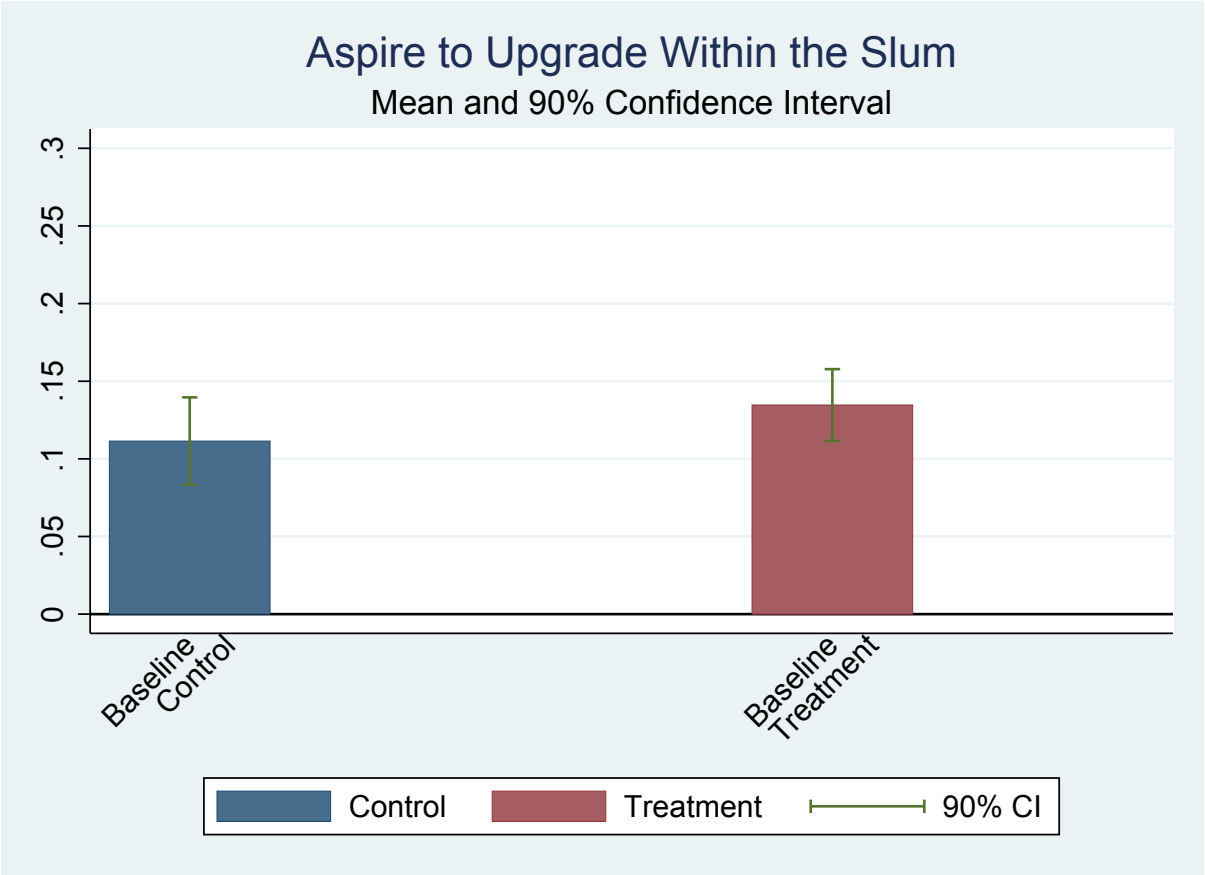
$$Asp_{ij} = \alpha + \gamma_1 Control_{ij} + \gamma_2 Control_{ij} \times PhaseI_j + \beta X_{ij} + \mu_j + \varepsilon_{ij}$$

	Urban			Rural		
Aspiration (Dep. Var)	F-Up Treat. Mean	Control	Control × Phase I	F-Up Treat. Mean	Control	Control × Phase I
		γ_1	γ_2		γ_1	γ_2
(1) Stay and Keep same conditions	0.34	0.01	-0.07	0.59	0.04	-0.01
		(0.04)	(0.06)		(0.04)	(0.07)
p-value ($\gamma_1 + \gamma_2 = 0$)		0.18			0.58	
(2) Stay and Upgrade within slum	0.16	0.09**	-0.11**	0.28	-0.03	0.01
		(0.03)	(0.05)		(0.04)	(0.06)
p-value ($\gamma_1 + \gamma_2 = 0$)		0.59			0.64	
(3) Move to other slum	0.02	0.01	0.02	0.01	-0.01	0.02
		(0.01)	(0.02)		(0.01)	(0.02)
p-value ($\gamma_1 + \gamma_2 = 0$)		0.14			0.42	
(4) Move and Upgrade out of a slum	0.48	-0.11***	0.17***	0.12	0.00	-0.02
		(0.04)	(0.06)		(0.02)	(0.04)
p-value ($\gamma_1 + \gamma_2 = 0$)		0.23			0.56	

Why in Urban but not in Rural slums? Aspirations vs Expectations

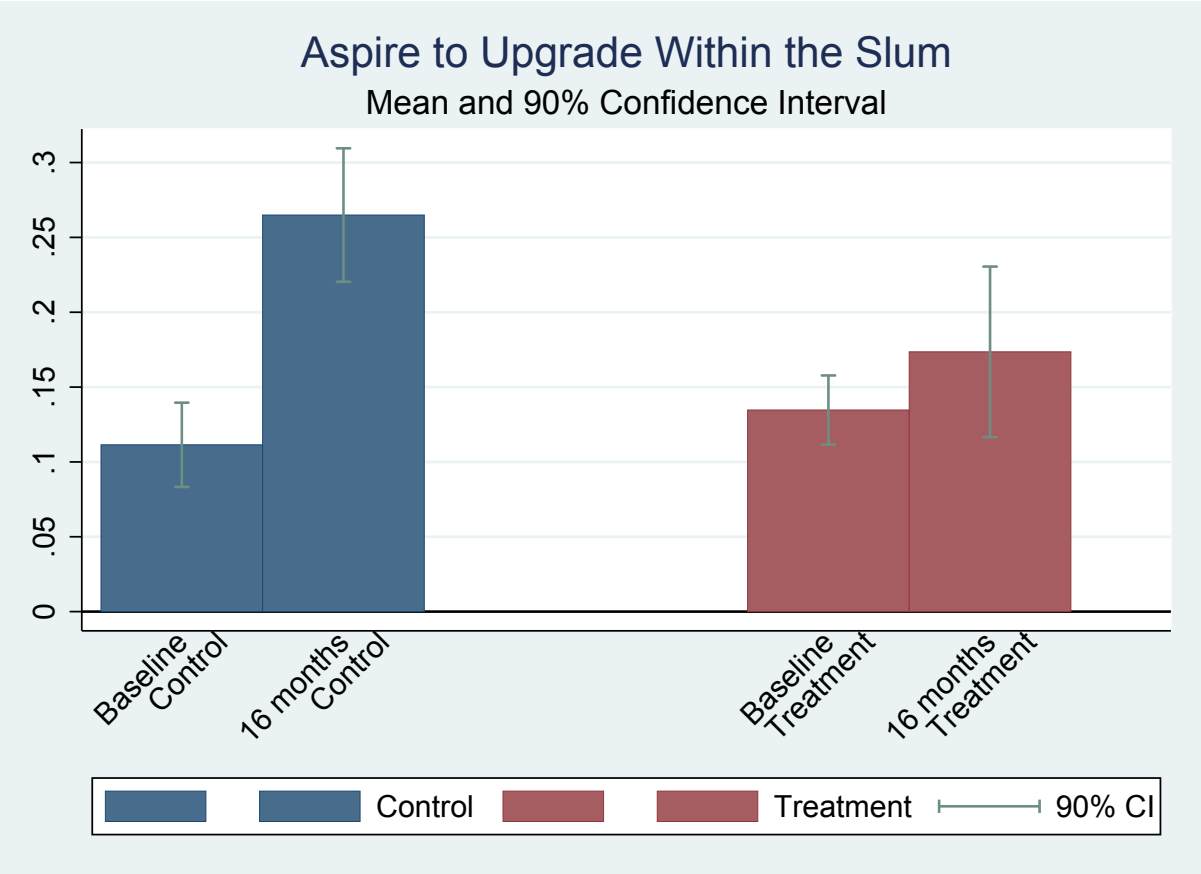
If Aspire to Stay and Upgrade Within the Slum

Figure 3: Baseline (Urban only)



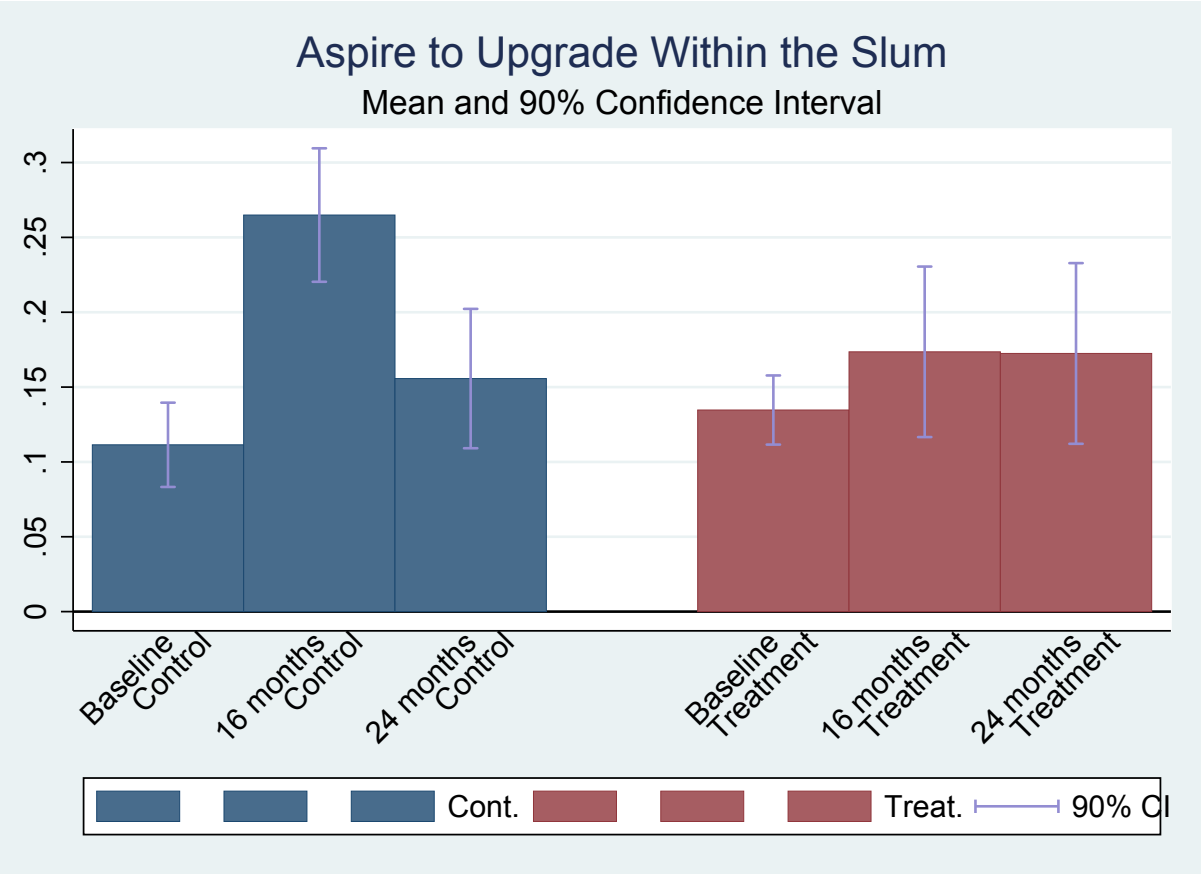
If Aspire to Stay and Upgrade Within the Slum

Figure 4: After 16 months of Treat. Exposure (Urban only)



If Aspire to Stay and Upgrade Within the Slum

Figure 5: After 24 months of Treat. Exposure (Urban only)

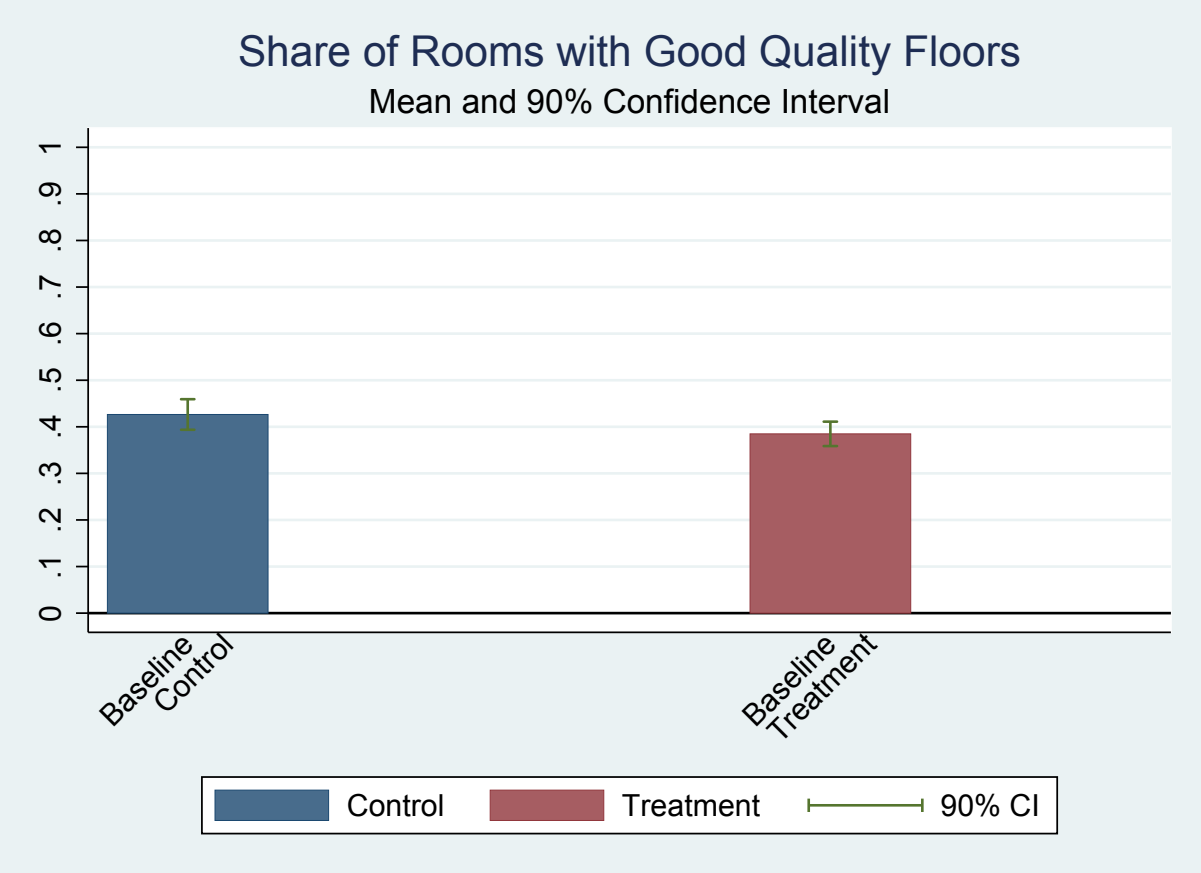


External Validity (Only Urban)

		(2) Aspire to Stay and Upgrade Within the Slum			(4) Aspire to Move and Upgrade Outside of a Slum		
	Sample Size	F-Up Treat. Mean	Control	Control × Phase I	F-Up Treat. Mean	Control	Control × Phase I
			γ_1	γ_2		γ_1	γ_2
El Salvador	140	0.28	0.04	-0.17	0.05	-0.04	0.16
		(0.45)	(0.15)	(0.17)	(0.22)	(0.07)	(0.16)
Uruguay	708	0.12	0.10**	-0.09	0.64	-0.11**	0.16**
		(0.33)	(0.04)	(0.06)	(0.48)	(0.05)	(0.08)
Mexico	248	0.31	0.11	-0.24*	0.18	-0.13**	0.21**
		(0.47)	(0.08)	(0.13)	(0.39)	(0.06)	(0.10)
All Countries	1,096	0.19	0.09**	-0.11**	0.46	-0.11***	0.17***
		(0.39)	(0.03)	(0.05)	(0.50)	(0.04)	(0.06)
p-value for F-test of Pooling Countries				0.65			0.84

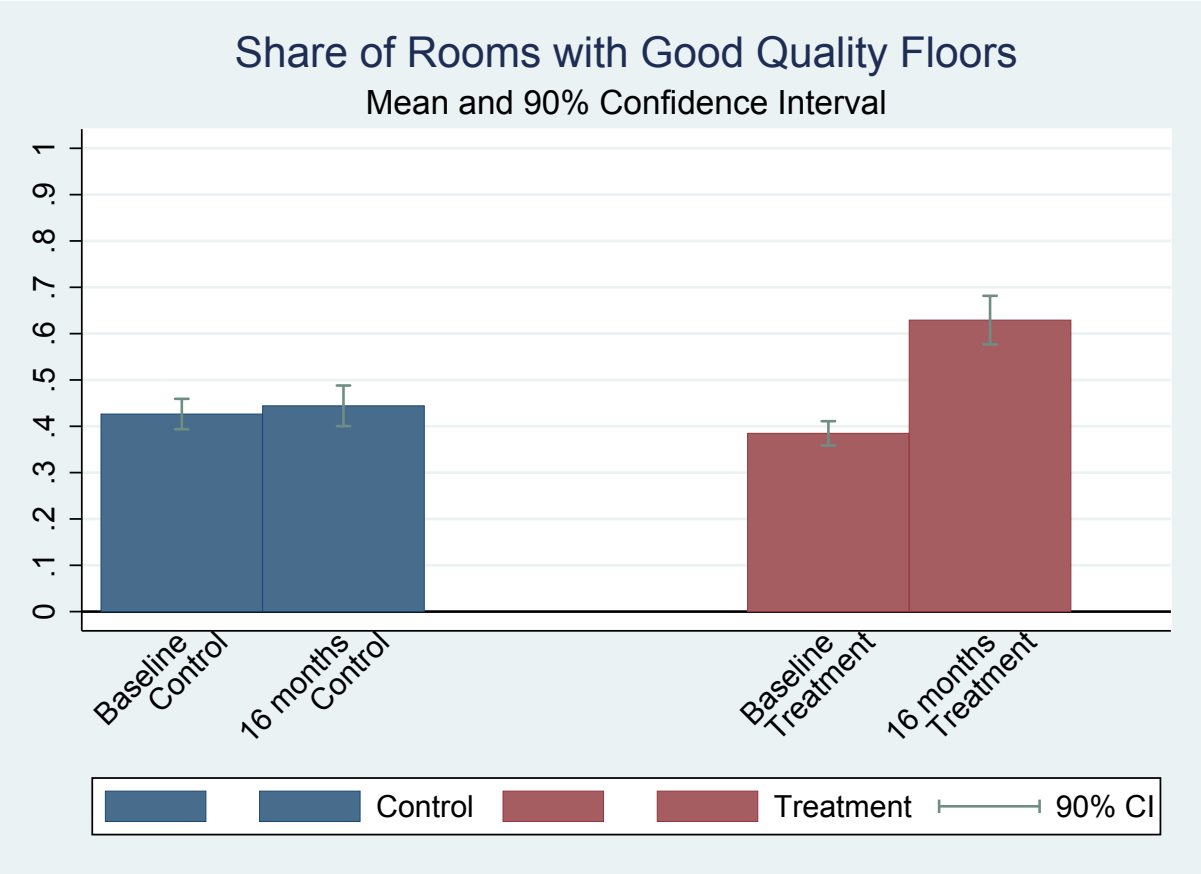
Share of Rooms with Good Quality Floors

Figure 6: Baseline (Urban only)



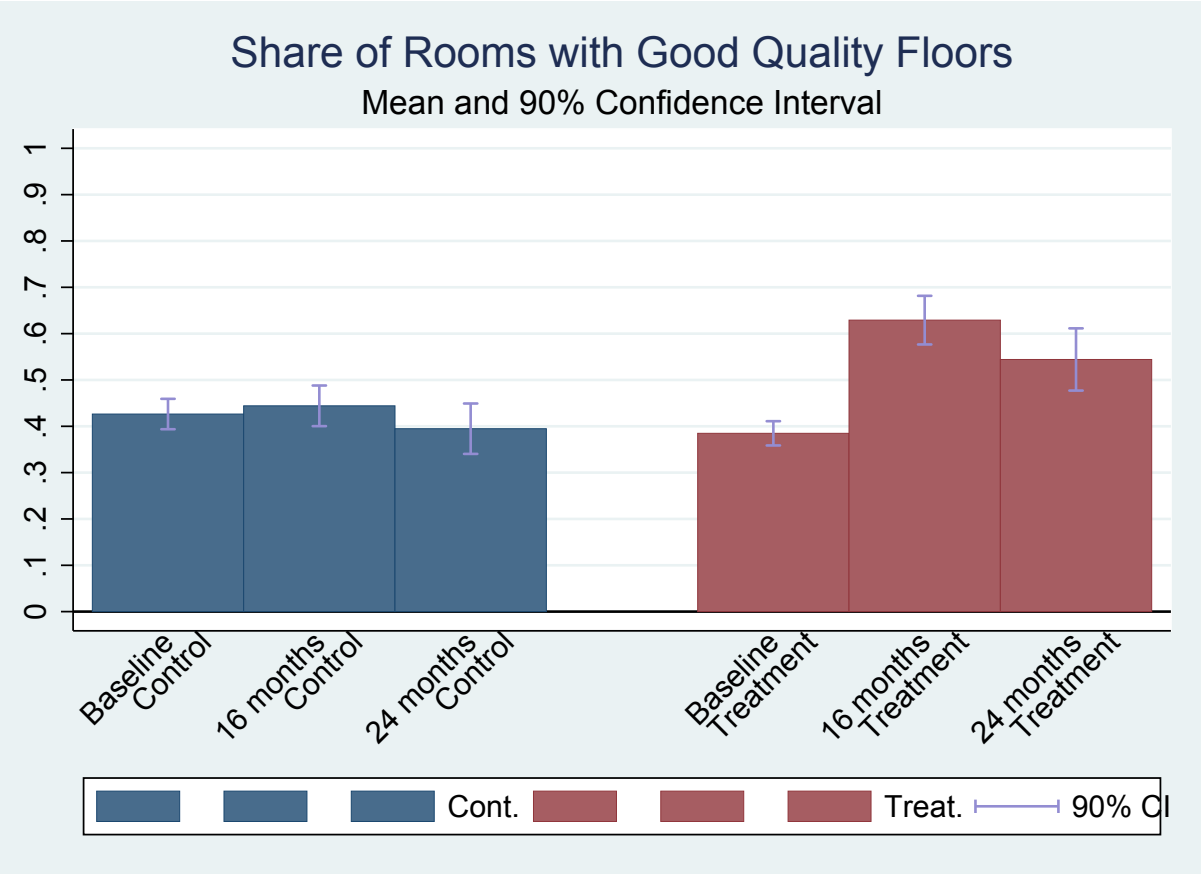
Share of Rooms with Good Quality Floors

Figure 7: After 16 months of Treat. Exposure (Urban only)



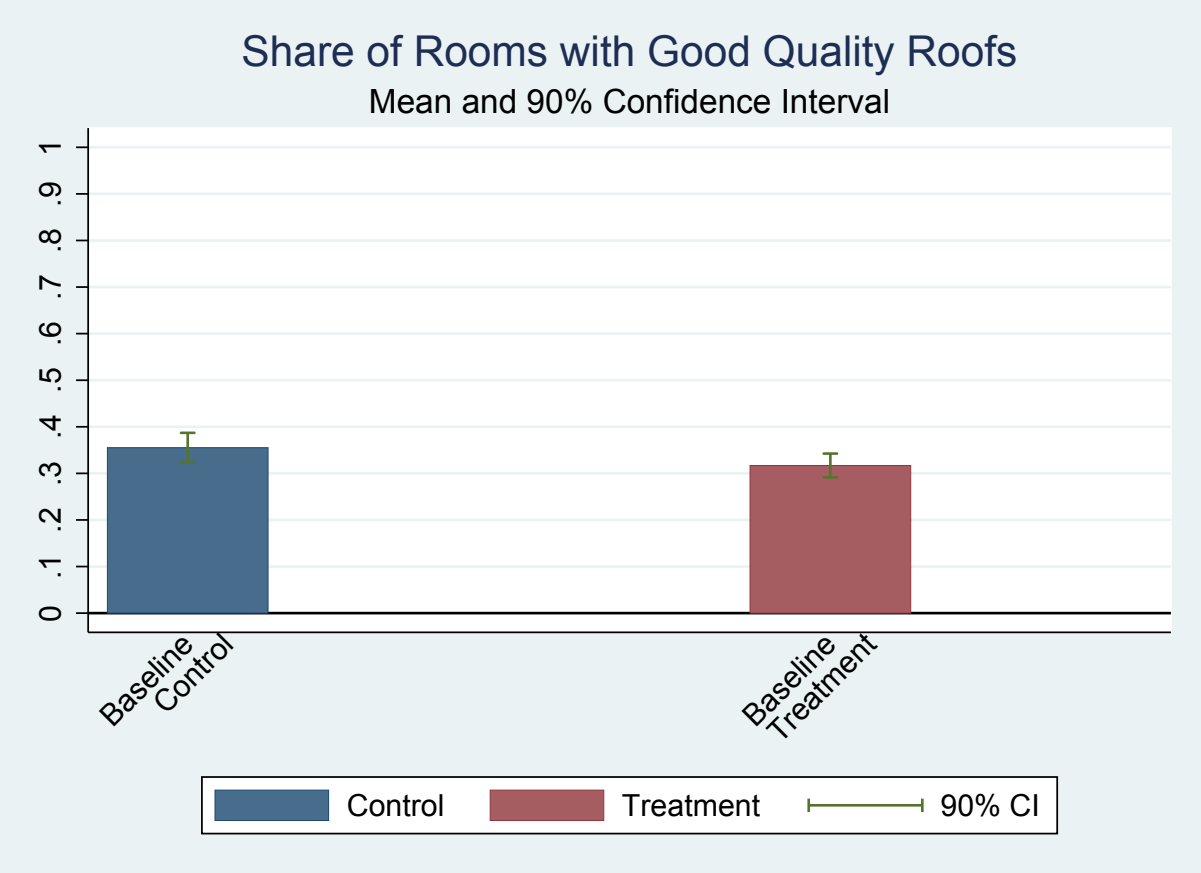
Share of Rooms with Good Quality Floors

Figure 8: After 24 months of Treat. Exposure (Urban only)



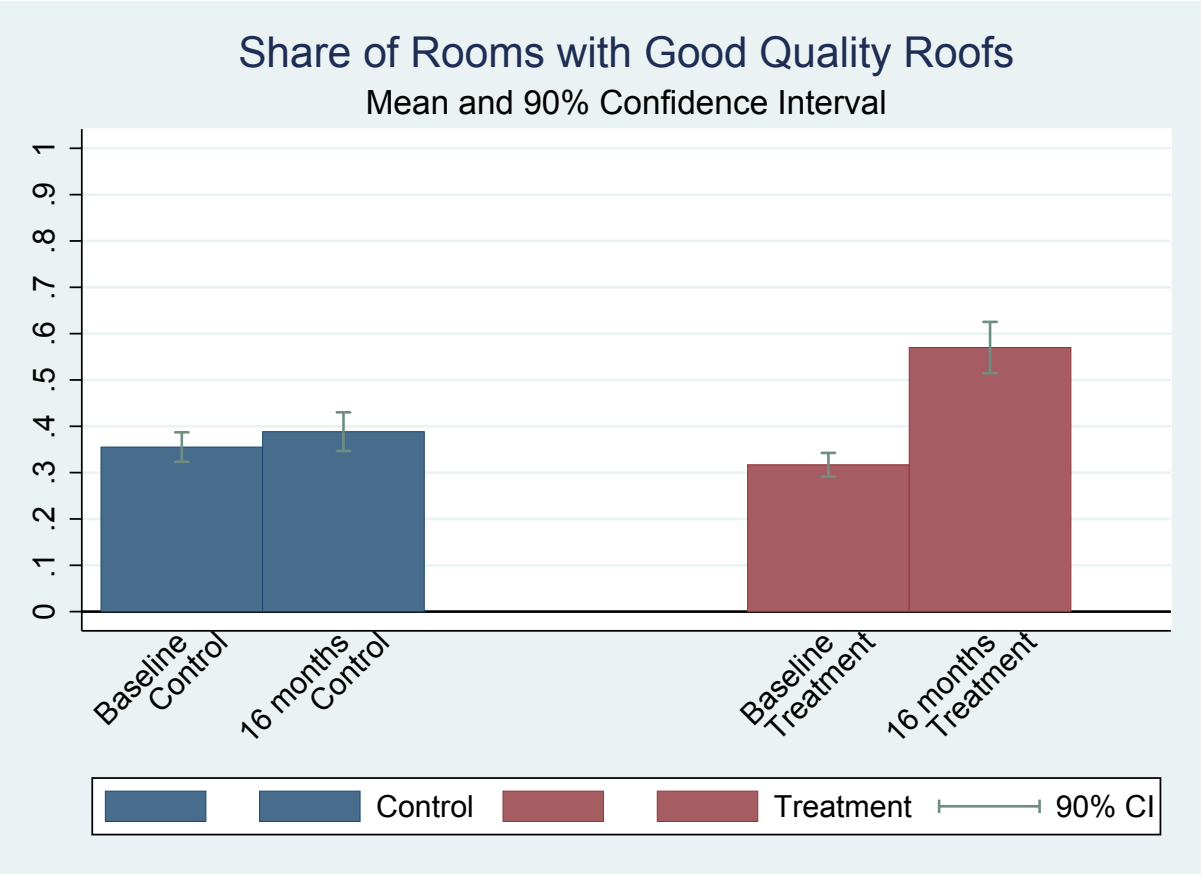
Share of Rooms with Good Quality Roofs

Figure 9: Baseline (Urban only)



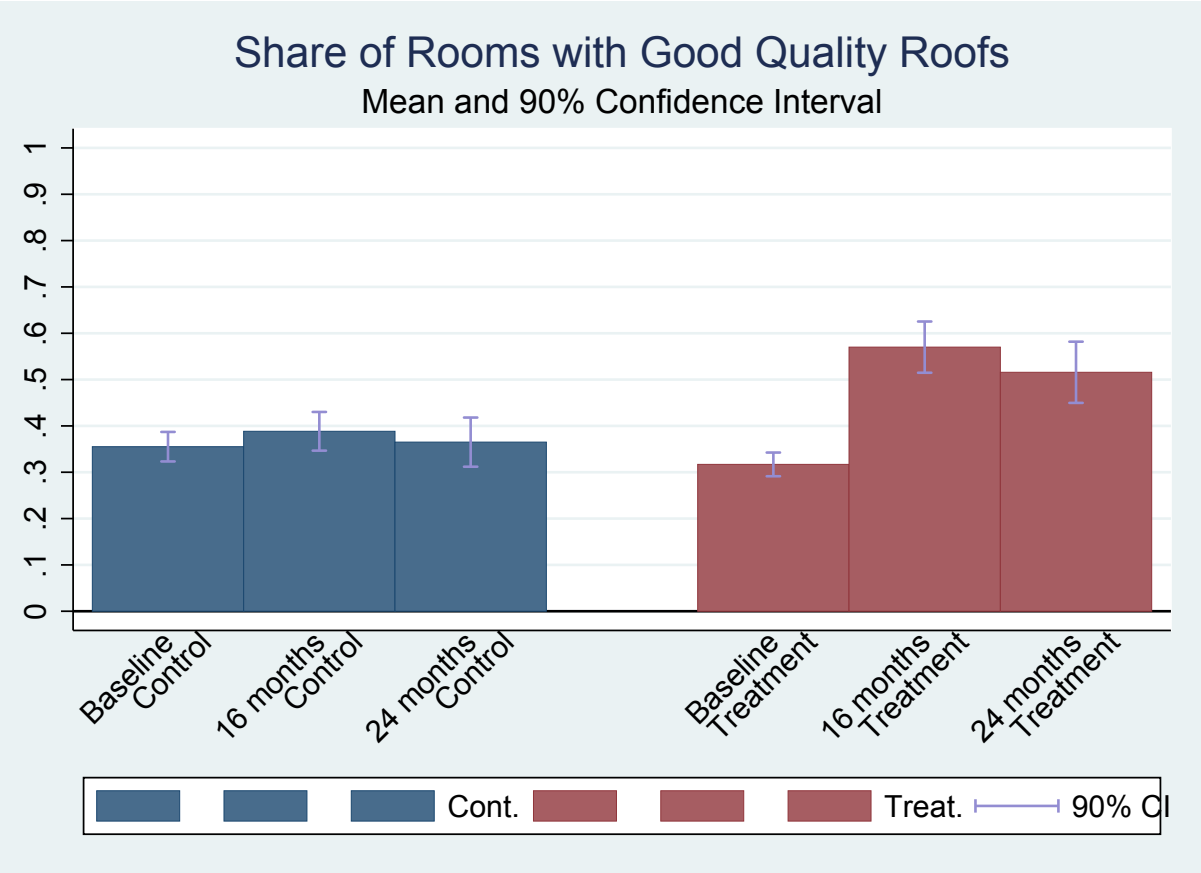
Share of Rooms with Good Quality Roofs

Figure 10: After 16 months of Treat. Exposure (Urban only)



Share of Rooms with Good Quality Roofs

Figure 11: After 24 months of Treat. Exposure (Urban only)



Housing Investment Income and Labor

Aspirations Adaptation: NLS Estimation

- Kimball and Willis (2006): NLS Adaptation Model

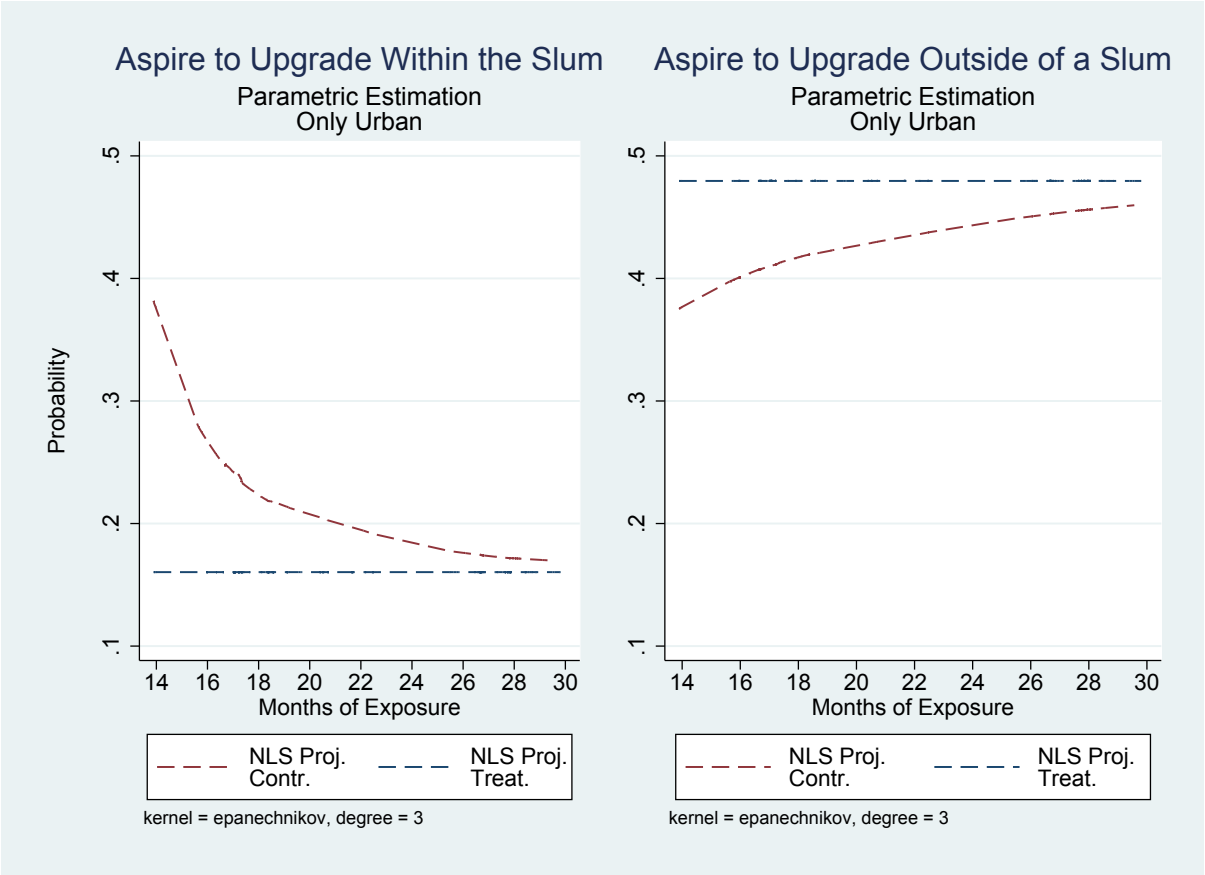
$$Y_{ic} = \alpha + Control_{ic} \times [\beta_P + \beta_T e^{-\delta(t_{ic} - t_0)}] + \mu_c + \beta X_{ic} + \varepsilon_{ic}$$

t_{ic}: months of exposure to the program
t_0: minimum treatment exposure.

- Three structural parameters:
  - ✓ β_P = Permanent Effect
  - ✓ β_T = Transitory Effect
  - ✓ δ = Aspirations Adaptation Rate

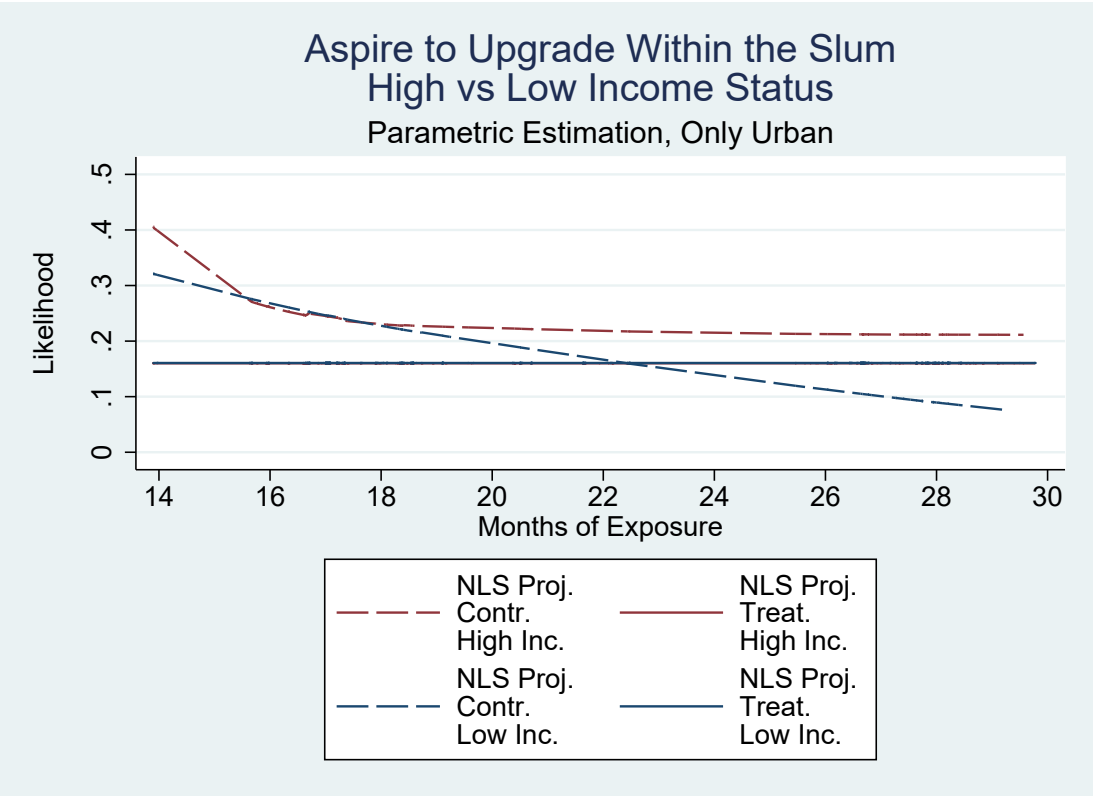
NLS Estimates (Urban Only)

Figure 12: Aspirations Adaptation (Non-Linear Proj.)



NLS Estimates (Urban Only)

Figure 13: Aspiration Adaptation by Income Status



NLS Estimates (Urban only)

	NLS Estimates			Aspiration Gains Area			OLS Estimate
Aspiration (Dep. Var)	Permanent Effect	Transitory Effect	Aspirations Adaptation Rate	Permanent Gains (PG)	Transitory Gains (TG)	Total Gains	Pooled Coefficient
	β_P	β_T	δ	$\frac{\beta_P}{\eta+r}$	$\frac{\beta_T}{\eta+r+\delta}$	PG+TG	
Stay and Upgrade	0.01	0.30	0.38	0.15	0.66**	0.82*	0.06**
	(0.03)	(0.27)	(0.31)	(0.48)	(0.33)	(0.44)	(0.02)
Move and Upgrade	-0.01	-0.10	0.16	-0.21	-0.44	-0.65	-0.05*
	(0.10)	(0.11)	(0.54)	(1.46)	(1.01)	(0.55)	(0.03)

Aspiration Gains Area (for an individual with annual mortality risk η and interest rate r):

$$\beta_{cumm.} = \int_{t_0}^{t} (\beta_P e^{-(\eta+r)(s-t_0)} + \beta_T e^{-(\eta+r+\delta)(s-t_0)}) \partial s = \frac{\beta_P}{\eta+r} + \frac{\beta_T}{\eta+r+\delta}$$

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Bottom Line

- Housing externalities are the product of a two-way link between housing development and housing aspirations.
- Residual housing policies can boost the untreated housing aspirations (and hopefully also housing investment).
- This is even in resource-constrained environments like slums.
- However, housing aspirations are not fixed, but dynamically adjust to the situation (Selten).
- Within-neighborhood inequality can raise the aspirations of the poorest, but large housing gaps make them unsustainable (Ray).
- Hence solely rising housing aspirations is not a sufficient condition to encourage housing investment among the poor.
- Key question is how to generate **sustainable housing aspirations**.
- Underlying question is about the heterogeneity of housing externalities: how within-neighborhood inequality shapes housing aspirations and housing development?

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Aspirations Adaptation in Resource-constrained Environments

- Thanks

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Sample Size, Attrition and Compliance

Table 1: Sample Size, Attrition and Compliance

	Phase I			Phase II			Combined Phases I and II			Phase I vs Phase II		
	Treat.	Control	Diff.	Treat.	Control	Diff.	Treat.	Control	Diff.	Phase I	Phase II	Diff.
Number of Households												
Baseline	653	342		703	675		1,356	1,017		995	1378	
Follow-Up	611	316		658	625		1,269	941		927	1283	
Attrition Rate	0.07 (0.01)	0.08 (0.01)	-0.01 (0.02)	0.06 (0.01)	0.07 (0.01)	-0.01 (0.01)	0.06 (0.01)	0.07 (0.01)	-0.01 (0.01)	0.07 (0.01)	0.07 (0.01)	0.00 (0.01)
Compliance with Random Assignment												
Compliance Rate	0.88	0.99		0.86	1.00		0.87	1.00		0.92	0.93	

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Baseline Balance

Table 2: Baseline Balance Within and Between Phases

	Phase I			Phase II			Phase I vs Phase II			Phase I vs Phase II Only Treat.		
	Treat.	Control	Diff.	Treat.	Control	Diff.	Phase I	Phase II	Diff.	Phase I	Phase II	Diff.
Years living in the slum	9.82	11.19	-0.26	12.80	13.32	-0.84	10.34	13.06	-2.72	9.82	12.80	-2.97
	(0.66)	(0.89)	(0.91)	(0.54)	(0.56)	(0.74)	[2.47]	[1.33]	[2.78]	[2.18]	[1.54]	[2.65]
Aspire to Upgrade Within-Slum	0.17	0.14	-0.03	0.12	0.12	-0.01	0.16	0.12	0.04	0.17	0.12	0.05
	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	[0.03]	[0.02]	[0.03]	[0.03]	[0.02]	[0.04]
Satisfaction with Floor Quality	0.19	0.21	0.01	0.25	0.27	0.01	0.20	0.26	-0.06	0.19	0.25	-0.06
	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	[0.02]	[0.04]	[0.04]	[0.03]	[0.04]	[0.05]
Satisfaction with Wall Quality	0.15	0.18	-0.02	0.16	0.16	0.02	0.16	0.16	-0.01	0.15	0.16	-0.02
	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	-0.02	[0.02]	[0.02]	[0.03]	[0.03]	[0.02]	[0.04]
Satisfaction with Roof Quality	0.17	0.20	-0.02	0.16	0.17	0.02	0.18	0.16	0.01	0.17	0.16	0.01
	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	-0.02	[0.02]	[0.02]	[0.03]	[0.02]	[0.02]	[0.03]
Satisfaction with Rain Protection	0.15	0.18	-0.01	0.15	0.14	0.03	0.17	0.14	0.02	0.16	0.15	0.01
	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	-0.02	[0.02]	[0.02]	[0.03]	[0.03]	[0.02]	[0.03]
Satisfaction with Quality of Life	0.28	0.25	0.02	0.28	0.27	0.01	0.27	0.27	0.00	0.28	0.28	0.01
	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	-0.02	[0.02]	[0.03]	[0.03]	[0.03]	[0.03]	[0.04]
Monthly Income Per Capita (USD)	59.85	49.45	-8.61	58.74	52.86	-5.08	53.08	55.77	-2.69	49.45	52.86	-3.40
	(4.29)	(2.63)	(5.99)	(2.94)	(2.54)	-4.32	[4.01]	[4.27]	[5.82]	[4.54]	[4.34]	[6.24]
Head's Years of Schooling	4.09	4.34	-0.01	4.37	3.87	0.26	4.18	4.13	0.05	4.09	4.37	-0.29
	(0.14)	(0.20)	(0.21)	(0.12)	(0.12)	-0.17	[0.52]	[0.29]	[0.59]	[0.45]	[0.32]	[0.55]

For Phase I and Phase II columns, differences in means are estimated by regressions that include settlement fixed effects, and robust standard errors are reported in parentheses. For the Phase I vs Phase II columns, standard errors clustered at the settlement level are reported in brackets. In the case of monetary variables, observations over the 99th percentile were excluded. *Significant at 10%. **Significant at 5%. ***Significant at 1%.

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Baseline Balance - Slum Level

Table 3: Baseline Balance Between Phases at Slum Level

	Urban			Rural			All		
	Phase I	Phase II	Mean Diff.	Phase I	Phase II	Mean Diff.	Phase I	Phase II	Mean Diff.
Aspire to Upgrade Within-Slum	0.16	0.13	0.03	0.17	0.12	0.05	0.17	0.13	0.04
	(0.11)	(0.06)	(0.04)	(0.09)	(0.12)	(0.05)	(0.10)	(0.10)	(0.03)
Years living in the slum	11.75	12.49	-0.75	13.63	15.83	-2.21	12.82	14.79	-1.98
	(12.42)	(6.88)	(4.02)	(12.08)	(6.54)	(3.21)	(12.03)	(6.75)	(2.48)
Z-score Housing Quality	-0.02	0.01	-0.03	0.00	0.04	-0.04	-0.01	0.03	-0.04
	(0.32)	(0.11)	(0.10)	(0.25)	(0.16)	(0.07)	(0.27)	(0.15)	(0.06)
Satisfaction with Quality of Life	0.23	0.26	-0.04	0.37	0.29	0.08**	0.31	0.28	0.03
	(0.11)	(0.12)	(0.05)	(0.13)	(0.17)	(0.04)	(0.14)	(0.15)	(0.04)
Satisfaction with Floor Quality	0.16	0.21	-0.05	0.27	0.29	-0.02	0.22	0.26	-0.04
	(0.09)	(0.17)	(0.05)	(0.13)	(0.28)	(0.6)	(0.13)	(0.25)	(0.04)
Satisfaction with Wall Quality	0.12	0.15	-0.04	0.28	0.18	0.10	0.21	0.17	0.04
	(0.09)	(0.11)	(0.04)	(0.19)	(0.17)	(0.06)	(0.17)	(0.15)	(0.04)
Satisfaction with Roof Quality	0.13	0.15	-0.02	0.23	0.16	0.07	0.19	0.16	0.03
	(0.09)	(0.10)	(0.04)	(0.12)	(0.16)	(0.04)	(0.12)	(0.15)	(0.03)
Satisfaction with Rain Protection	0.14	0.12	0.02	0.20	0.16	0.04	0.17	0.15	0.03
	(0.09)	(0.07)	(0.03)	(0.13)	(0.16)	(0.04)	(0.11)	(0.14)	(0.03)
Monthly Income Per Capita (USD)	56.87	65.02	-8.14	47.11	49.27	-2.16	51.47	54.23	-2.76
	(16.16)	(20.94)	(7.29)	(19.58)	(22.11)	(6.28)	(19.02)	(22.93)	(4.96)
Slum Pop. (HHs)	48.50	44.57	3.93	25.81	24.32	1.49	35.54	30.62	4.91
	(31.35)	(31.80)	(12.41)	(18.24)	(16.12)	(5.37)	(26.76)	(23.79)	(6.16)

Robust standard errors are reported in parentheses. In the case of monetary variables, observations over the 99th percentile were excluded.
*Significant at 10%. **Significant at 5%. ***Significant at 1%.

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Tears-and-wears of the House?

Table 4: Housing Quality

		Model 1		Model 2	
	Mean Control Group	Treatment	Treatment × Phase I	Treatment	Treatment × Phase I
		γ_1	γ_2	γ_1	γ_2
Share Rooms Good Quality Floors	0.44	0.18 (0.02)***	-0.01 -0.03	0.19 (0.02)***	-0.01 -0.03
p-value ($\gamma_1 + \gamma_2 = 0$)		0.00		0.00	
Share Rooms Good Quality Walls	0.35	0.20 (0.02)***	-0.06 (0.04)*	0.20 (0.02)***	-0.06 (0.04)*
p-value ($\gamma_1 + \gamma_2 = 0$)		0.00		0.00	
Share Rooms Good Quality Roof	0.43	0.17 (0.02)***	-0.02 -0.03	0.17 (0.02)***	-0.01 -0.04
p-value ($\gamma_1 + \gamma_2 = 0$)		0.00		0.00	
Share Rooms with Windows	0.36	0.18 (0.02)***	-0.02 -0.03	0.18 (0.02)***	-0.02 -0.03
p-value ($\gamma_1 + \gamma_2 = 0$)		0.00		0.00	

Note: *Significant at 10%. **Significant at 5%. ***Significant at 1%.

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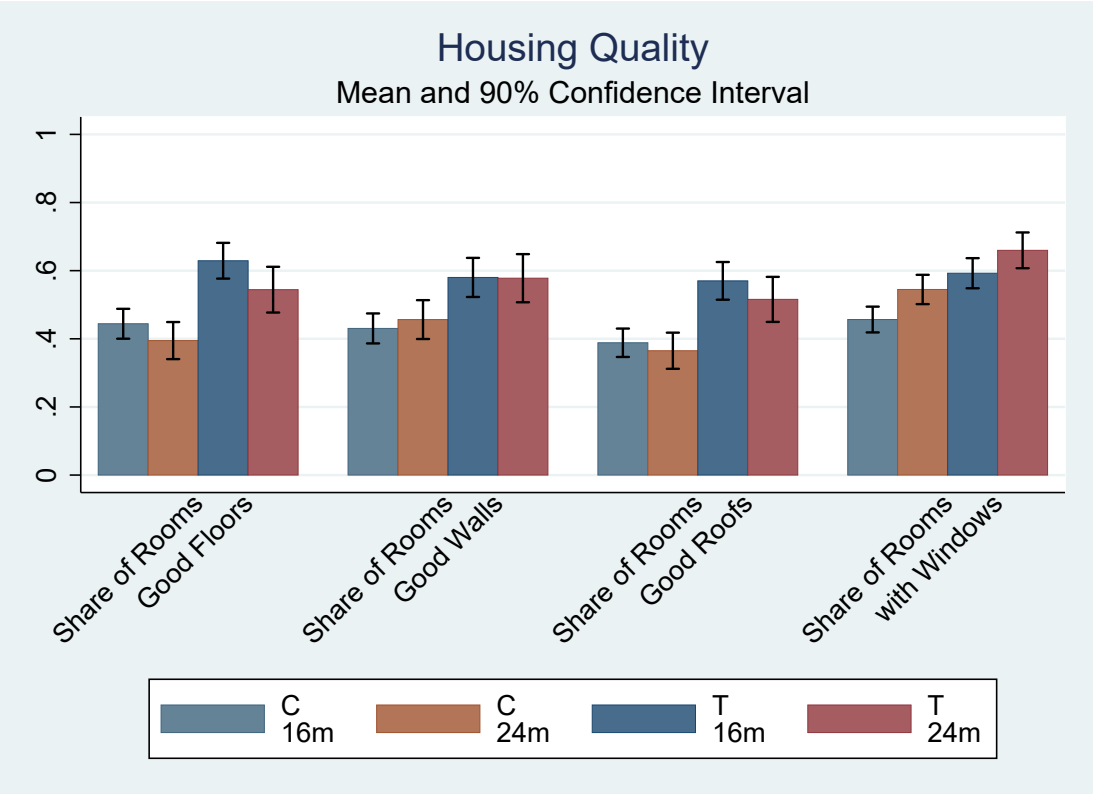
Housing Adaptation

Figure 14: Housing Adaptation



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Urban slums Richer than Rural slums

Dependent Variable	Mean Urban Slums	Mean Rural Slums	Diff.
Aspire to Upgrade within the slum	0.13 (0.33)	0.15 (0.36)	-0.02 (0.02)
Monthly Income Per Capita (USD)	63.23 (76.62)	44.39 (44.10)	18.84*** (2.79)
Share of Rooms with Good Quality Walls	0.22 (0.36)	0.18 (0.30)	0.04*** (0.01)
Share of Rooms with Good Quality Floors	0.40 (0.43)	0.42 (0.42)	-0.02 (0.02)
Share of Rooms with Good Quality Roofs	0.33 (0.42)	0.33 (0.41)	0.00 (0.02)
Share of Rooms with Windows	0.46 (0.40)	0.22 (0.32)	0.24*** (0.01)
Satisfaction with Quality of Life	0.25 (0.44)	0.29 (0.45)	-0.04** (0.02)

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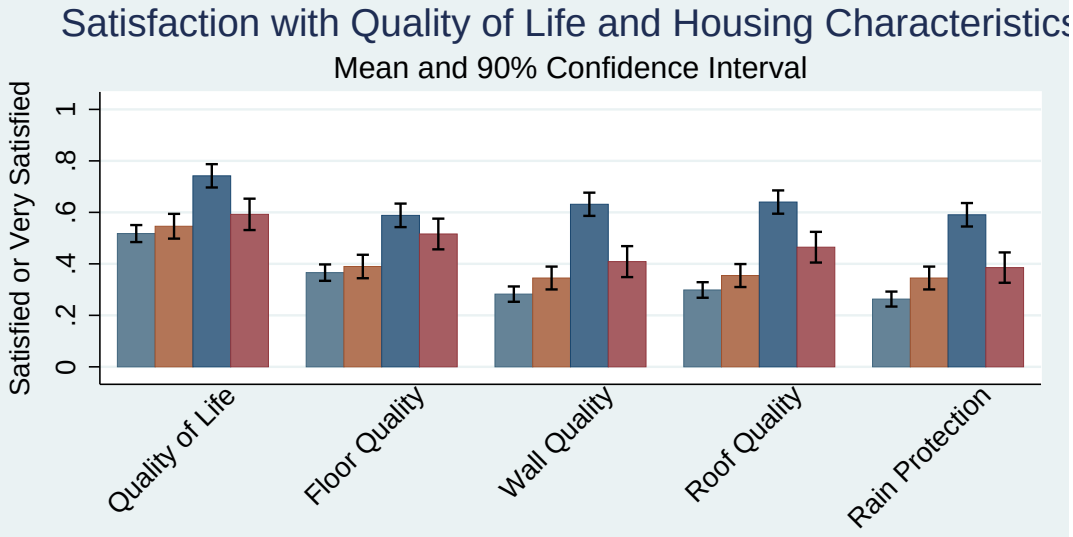
Happiness Adaptation

Figure 15: Happiness Adaptation



Note: Each outcome variable is a dummy that equal to one if respondent reports being satisfied or very satisfied with the domain, and zero if not

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Housing Expectations $\neq$ Housing Aspirations

"Thinking in the next 5 years, What do you expect to happen?

Expectation (Dep. Var.)	F-Up Treat. Mean	Control	Control × Phase I
		γ_1	γ_2
(1) We'll have stayed and kept same conditions	0.63	-0.03	0.08
	(0.49)	(0.04)	(0.07)
p-value ($\gamma_1 + \gamma_2 = 0$)		0.38	
(2) We'll have Stayed and Upgraded within slum	0.09	0.03	-0.02
	(0.29)	(0.03)	(0.04)
p-value ($\gamma_1 + \gamma_2 = 0$)		0.68	
(3) We'll have Moved to other slum	0.02	0.01	-0.02
	(0.15)	(0.01)	(0.02)
p-value ($\gamma_1 + \gamma_2 = 0$)		0.41	
(4) We'll have Moved and Upgraded out of a slum	0.27	0.00	-0.04
	(0.44)	(0.04)	(0.06)
p-value ($\gamma_1 + \gamma_2 = 0$)		0.33	

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Income and Labor

Dep Var	F-Up Treat. Mean	Control γ_1	Control × Phase I γ_2
Assets Value Per Capita (USD)	74.89	2.19	-25.84
	(163.24)	(12.30)	(20.31)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.15
Monthly Income Per Capita (USD)	77.40	-1.99	20.86
	(115.15)	(9.65)	(19.51)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.26
Hours worked last week by Household's Head	40.78	-0.05	-0.50
	(19.23)	(2.00)	(3.04)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.81
Hours worked last week by Spouse	36.97	3.26	-5.49
	(20.08)	(2.92)	(4.42)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.50

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Housing Investment

Dep. Var.	Follow-Up Treat. Mean	Control γ_1	Control × Phase I γ_2
If invested on housing quality during the last 12 months	0.40	0.05	-0.03
	(0.49)	(0.04)	(0.08)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.75
Amount invested on housing during the last 12 months (USD)	68.29	-10.30	-15.62
	(226.71)	(12.53)	(28.53)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.31
If invested on access to water during the last 12 months	0.09	-0.02	0.02
	(0.28)	(0.03)	(0.05)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.96
If have access to water in terrain	0.81	-0.03	0.05
	(0.39)	(0.03)	(0.05)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.49
If invested on sanitation during the last 12 months	0.08	-0.01	0.03
	(0.27)	(0.03)	(0.05)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.64
If have access to own bathroom	0.69	-0.02	0.03
	(0.46)	(0.04)	(0.06)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.75

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Aspiration Effects by Income Status - Only Urban

Table 5: Adaptation across Income Status - Only Urban

	High Income Status ($> p50(= \$39)$)			Low Income Status ($\leq p50(= \$39)$)		
Aspiration (Dep. Var)	F-Up Treat. Mean	Control	Control × Phase I	F-Up Treat. Mean	Control	Control × Phase I
		γ_1	γ_2		γ_1	γ_2
Stay and Keep same conditions	0.33	-0.03	-0.05	0.36	0.06	-0.12
		(0.05)	(0.08)		(0.06)	(0.09)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.19			0.39
Stay and Upgrade	0.16	0.11**	-0.08	0.16	0.06	-0.15**
		(0.04)	(0.07)		(0.06)	(0.07)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.59			0.07
Move other slum	0.01	0.03	0.00	0.02	-0.02	0.04
		(0.02)	(0.03)		(0.02)	(0.03)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.13			0.36
Move and Upgrade	0.49	-0.11**	0.13*	0.46	-0.10*	0.23**
		(0.05)	(0.08)		(0.06)	(0.09)
p-value ($\gamma_1 + \gamma_2 = 0$)			0.75			0.09
Slum F.E			Yes			Yes
Baseline covariates			Yes			Yes

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