"Quantifying Slum Electrification in India and Explaining Local Variation"

Supplementary Appendix

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A1 Content

This appendix contains the following material.

- Table A1 contains the summary statistics (including the variables used in the appendix).
- Table A2 controls for income.
- Table A3: the dependent variable is the possession of assets that require electricity.
- Table A4 explores variation among slums.
- Table A5 uses an alternative index of wealth (that excludes cell phones and grinders).
- Table A6 uses an alternative weighting system (to increase the weight of people living in slums).

A2 Summary Statistics

Summary statistics

	mean	sd	min	max	count
Rural					
Electricity	0.69	0.46	0	1	26759
Hours of Electricity	13.84	7.37	0	24	19792
Electric Asset Ownership Index	-0.26	0.68	-1	2	25610
Rural	1.00	0.00	1	1	27011
Slum	0.00	0.00	0	0	27011
Wealth Index	-0.24	0.60	-1	2	26736
Wealth Index (alt.)	-0.21	0.66	-1	1	26761
Log Income	9.21	2.31	0	14	4550
Agriculture	0.60	0.49	0	1	27011
Education	6.38	4.91	0	15	26968
Household Size	5.36	2.63	1	38	27011
Urban					
Electricity	0.95	0.22	0	1	13766
Hours of Electricity	18.74	6.07	0	24	13142
Electric Asset Ownership Index	0.53	0.96	-1	2	12644
Rural	0.00	0.00	0	0	13818
Slum	0.00	0.00	0	0	13818
Wealth Index	0.46	0.90	-1	2	13672
Wealth Index (alt.)	0.40	0.68	-1	1	13699
Log Income	10.41	1.67	0	15	4077
Agriculture	0.09	0.28	0	1	13817
Education	9.87	4.65	0	15	13806
Household Size	4.86	2.16	1	28	13818
Urban Slum					
Electricity	0.92	0.28	0	1	723
Hours of Electricity	15.05	7.65	0	24	681
Electric Asset Ownership Index	-0.00	0.70	-1	2	646
Rural	0.00	0.00	0	0	725
Slum	1.00	0.00	1	1	725
Wealth Index	0.03	0.72	-1	2	717
Wealth Index (alt.)	0.08	0.66	-1	1	718
Log Income	9.55	2.11	0	13	156
Agriculture	0.07	0.25	0	1	725
Education	7.16	4.60	0	15	725
Household Size	5.35	2.09	1	17	725
Total					
Electricity	0.78	0.41	0	1	41248
Hours of Electricity	15.78	7.29	0	24	33615
Electric Asset Ownership Index	-0.00	0.86	-1	2	38900
Rural	0.65	0.48	0	1	41554
Slum	0.02	0.13	0	1	41554
Wealth Index	-0.00	0.79	-1	2	41125
Wealth Index (alt.)	-0.00	0.73	-1	1	41178
Log Income	9.77	2.12	0	15	8783
Agriculture	0.42	0.49	0	1	41553
Education	7.56	5.09	0	15	41499
Household Size	5.19	2.49	1	38	41554
Observations	41554				

Table A1: Summary Statistics.

A3 Robustness Tests

Regression results

	(1) Logit	(2) Logit	(3) Logit	(4) Logit	(5) OLS	(6) FE	(7) FE	(8) FE
Rural	-2.402***	-2.399***	-1.701***	-1.546***	-5.221***	-4.264***	-3.691***	-3.030***
	(0.156)	(0.194)	(0.220)	(0.188)	(0.671)	(0.593)	(0.525)	(0.525)
Slum	-0.404	-0.928***	-0.663**	-0.546	-3.692*	-2.227	-1.952	-1.088
	(0.351)	(0.320)	(0.326)	(0.368)	(1.998)	(1.829)	(1.907)	(1.721)
Wealth Index			2.259***	1.827***			0.861***	0.389***
			(0.186)	(0.238)			(0.119)	(0.135)
Log Income				0.123***				0.169*
				(0.034)				(0.092)
Agriculture				-0.120				-0.288
				(0.159)				(0.229)
Education				0.099***				0.108**
				(0.018)				(0.040)
Household Size				0.000				-0.036
				(0.027)				(0.039)
Constant	2.930***	4.570***	4.357***	2.325***	18.948***	25.780***	25.393***	20.922***
	(0.199)	(0.145)	(0.209)	(0.281)	(1.015)	(0.593)	(0.505)	(1.190)
State Fixed Effects		✓	✓	✓		✓	✓	✓
Observations	41248	40993	40596	8338	33615	33615	33262	7524

Standard errors in parentheses
See text for the dependent variables.
Omitted category is urban.
Standard errors clustered by state. Weighted responses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A2: Controlling for Income.

Regression results

	(1) OLS	(2) FE	(3) FE	(4) FE
Rural	-0.839***	-0.741***	-0.260***	-0.227***
	(0.067)	(0.057)	(0.035)	(0.033)
Slum	-0.490***	-0.390***	-0.140***	-0.118***
	(0.101)	(0.101)	(0.028)	(0.027)
Wealth Index			0.716***	0.642***
			(0.026)	(0.025)
Agriculture				-0.005
				(0.012)
Education				0.022***
				(0.003)
Household Size				-0.003*
				(0.002)
Constant	0.485***	1.363***	0.586***	0.439***
	(0.072)	(0.057)	(0.038)	(0.047)
State Fixed Effects		✓	✓	✓
Observations	38900	38900	38666	38615

Standard errors in parentheses
See text for the dependent variables.
Omitted category is urban.
Standard errors clustered by state. Weighted responses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: Dependent Variable: Ownership of Electric Asset Index.

Regression results

	(1) Logit	(2) Logit	(3) Logit	(4) FE	(5) FE	(6) FE
Wealth Index	2.880***	2.995***	2.166	0.520	0.355	0.942
	(0.617)	(0.841)	(1.854)	(1.057)	(0.981)	(0.650)
Log Income			0.019			0.492*
			(0.110)			(0.254)
Agriculture						-2.307
						(2.518)
Education			0.618*			-0.115
			(0.318)			(0.173)
Household Size			-0.705			-0.056
			(0.573)			(0.115)
Constant	3.385***	4.636***	4.393	17.520***	16.014***	10.016***
	(0.364)	(0.456)	(3.742)	(0.041)	(0.038)	(2.351)
State Fixed Effects		✓	✓		✓	✓
Observations	715	685	105	673	673	147

Standard errors in parentheses
See text for the dependent variables.
Omitted category is urban.
Standard errors clustered by state. Weighted responses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Explaining Variation Among Slums.

Regression results

	(1) Logit	(2) Logit	(3) Logit	(4) Logit	(5) OLS	(6) FE	(7) FE	(8) FE
Rural	-2.402***	-2.399***	-1.532***	-1.502***	-5.221***	-4.264***	-3.591***	-3.006***
	(0.156)	(0.194)	(0.214)	(0.232)	(0.671)	(0.593)	(0.540)	(0.550)
Slum	-0.404	-0.928***	-0.658*	-0.609*	-3.692*	-2.227	-2.075	-1.947
	(0.351)	(0.320)	(0.340)	(0.329)	(1.998)	(1.829)	(1.876)	(1.878)
Wealth Index (alt.)			2.044***	1.710***			1.247***	0.919***
			(0.133)	(0.091)			(0.171)	(0.119)
Agriculture				-0.028				-0.887***
				(0.095)				(0.213)
Education				0.083***				0.104***
				(0.010)				(0.026)
Household Size				-0.023				-0.032
				(0.015)				(0.036)
Constant	2.930***	4.570***	4.741***	4.081***	18.948***	25.780***	25.173***	24.364***
	(0.199)	(0.145)	(0.139)	(0.170)	(1.015)	(0.593)	(0.539)	(0.716)
State Fixed Effects		✓	✓	✓		✓	✓	✓
Observations	41248	40993	40649	40599	33615	33615	33314	33270

Standard errors in parentheses
See text for the dependent variables.
Omitted category is urban.
Standard errors clustered by state. Weighted responses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5: Alternative Wealth Index.

Regression results

	(1) Logit	(2) Logit	(3) Logit	(4) Logit	(5) OLS	(6) FE	(7) FE	(8) FE
Rural	-1.997***	-1.476***	-1.050***	-1.076***	-1.530	-2.045	-1.775	-1.245
	(0.388)	(0.289)	(0.278)	(0.296)	(2.199)	(1.912)	(1.935)	(1.993)
Urban	0.404	0.920***	0.646**	0.589*	3.692*	2.195	1.930	1.846
	(0.351)	(0.323)	(0.326)	(0.311)	(1.998)	(1.792)	(1.890)	(1.895)
Wealth Index			2.271***	1.807***			0.797***	0.485***
			(0.180)	(0.191)			(0.156)	(0.146)
Agriculture				0.021				-0.941***
				(0.098)				(0.216)
Education				0.115***				0.118***
				(0.013)				(0.031)
Household Size				-0.003				-0.021
				(0.015)				(0.034)
Constant	2.526***	3.648***	3.712***	2.945***	15.256***	24.104***	23.504***	22.077***
	(0.331)	(0.286)	(0.291)	(0.339)	(2.152)	(1.912)	(1.882)	(1.907)
Observations	41248	40993	40596	40546	33615	33615	33262	33218

See text for the dependent variables.
The omitted category is slum.
Standard errors clustered by state. Weighted responses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A6: Alternative Weight Scheme.