

Table 2. LP-OLS Estimates

	(1) Year 0	(2) Year 1	(3) Year 2	(4) Year 3	(5) Year 4	(6) Sum
Panel A: Renewable electricity share of total electricity output (%)						
Electricity market reforms episodes	0.105*** (0.020)	0.193** (0.070)	0.158** (0.063)	0.129 (0.087)	0.134* (0.069)	0.584** (0.267)
Observations	260.000	245.000	231.000	216.000	201.000	186.000
Within R-square						
Panel B: Renewable energy consumption (% of total final energy consumption)						
Electricity market reforms episodes	-0.003 (0.007)	-0.003 (0.024)	-0.011 (0.015)	0.016 (0.022)	0.007 (0.013)	0.035 (0.052)
Observations	259.000	245.000	231.000	216.000	201.000	186.000
Within R-square						

Table 3. Unconditional Impacts of Electricity Market Reforms: LP-AIPW Estimates

	(1) Year 0	(2) Year 1	(3) Year 2	(4) Year 3	(5) Year 4	(6) Sum
Panel A: Renewable electricity share of total electricity output (%)						
ATE: Electricity market reforms episodes	0.071*** (0.012)	0.156*** (0.031)	0.171*** (0.032)	0.137*** (0.035)	0.133*** (0.037)	0.515*** (0.108)
Observations	137.000	137.000	137.000	137.000	137.000	137.000
Within R-square						
Panel B: Renewable energy consumption (% of total final energy consumption)						
ATE: Electricity market reforms episodes	-0.010*** (0.002)	0.004 (0.007)	-0.009 (0.006)	0.022*** (0.008)	0.022*** (0.008)	0.041* (0.025)
Observations	137.000	137.000	137.000	137.000	137.000	137.000
Within R-square						

Table 4. Alternative Propensity Score Estimation Method: Entropy balancing

	(1) Year 0	(2) Year 1	(3) Year 2	(4) Year 3	(5) Year 4	(6) Sum
Panel A: Renewable electricity share of total electricity output (%)						
ATE-EB: Electricity market reforms episodes	0.088*** (0.011)	0.164*** (0.028)	0.183*** (0.031)	0.139*** (0.031)	0.140*** (0.034)	0.531*** (0.111)
Observations	260.000	245.000	231.000	216.000	201.000	186.000
Within R-square						
Robust SE	0.011	0.027	0.031	0.031	0.034	0.111
P-value	1.000	1.000	1.000	1.000	1.000	1.000
Panel B: Renewable energy consumption (% of total final energy consumption)						
ATE-EB: Electricity market reforms episodes	-0.008*** (0.002)	-0.009 (0.006)	-0.011* (0.006)	0.009 (0.007)	0.011 (0.008)	0.026 (0.023)
Observations	259.000	245.000	231.000	216.000	201.000	186.000
Within R-square						
Robust SE	0.002	0.006	0.006	0.007	0.008	0.023
P-value	0.000	0.063	0.044	0.884	0.909	0.872

Table 5. Conditional Impacts of Electricity Market Reforms: The Role of Public–Private Partnerships

	Year 0	Year 1	Year 2	Year 3	Year 4	Sum
Panel A: Renewable electricity share of total electricity output (%)						
PPP	0.011 (0.015)	0.322*** (0.046)	0.719*** (0.044)	0.741*** (0.047)	0.488*** (0.056)	3.007*** (0.150)
Non-PPP	0.099*** (0.009)	0.210*** (0.028)	0.208*** (0.026)	0.096*** (0.028)	0.059* (0.033)	0.484*** (0.090)
Chi2_Difference	25.50	4.32	98.95	136.37	43.65	207.95
p_Heterogeneity	0.00	0.04	0.00	0.00	0.00	0.00
RobustSE_PPP	0.01	0.01	0.06	0.08	0.05	0.31
pvalue_PPP	0.84	1.00	1.00	1.00	1.00	1.00
RobustSE_NonPPP	0.01	0.03	0.03	0.04	0.04	0.12
pvalue_NonPPP	1.00	1.00	1.00	1.00	0.93	1.00
Observations	137	137	137	137	137	137
Panel B: Renewable energy consumption (% of total final energy consumption)						
PPP	0.031*** (0.003)	0.083*** (0.006)	0.064*** (0.009)	0.035*** (0.011)	0.024* (0.013)	0.305*** (0.034)
Non-PPP	-0.018*** (0.002)	-0.007* (0.004)	-0.021*** (0.005)	0.012* (0.007)	0.012 (0.008)	-0.007 (0.020)
Chi2_Difference	192.01	148.88	67.61	3.07	0.51	62.27
p_Heterogeneity	0.00	0.00	0.00	0.08	0.47	0.00
RobustSE_PPP	0.01	0.01	0.01	0.00	0.00	0.04
pvalue_PPP	1.00	1.00	1.00	1.00	1.00	1.00
RobustSE_NonPPP	0.00	0.00	0.01	0.01	0.01	0.02
pvalue_NonPPP	0.00	0.08	0.00	0.94	0.91	0.39
Observations	137	137	137	137	137	137

Table A1. Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Renewable electricity share of total electricity output (%)	3.049	1.718	-2.474	4.605	450
Renewable energy consumption (% of total final energy consumption)	3.648	1.412	-2.679	4.577	441
Human capital index, see note hc	1.693	0.383	1.03	2.676	441
Trade (% of GDP)	57.733	18.878	23.059	116.048	427
Inflation, average consumer prices	9.419	15.391	-72.729	156.964	450
Foreign direct investment, net inflows (% of GDP)	2.313	3.544	-1.012	39.456	440
Age dependency ratio (% of working-age pop.)	83.183	15.639	44.44	108.223	441
IMF program active for 5 or more months	0.522	0.5	0	1	450
Legislative or executive election	0.253	0.435	0	1	450
FD: Financial development index	0.152	0.095	0.035	0.534	425
Total natural resources rents (% of GDP)	9.324	6.909	0.195	36.141	449
GDP growth (annual %)	4.12	4.111	-17.669	19.675	441
Years Left in Current Term	2.185	1.609	0	6	389
Logarithm of population	17.036	0.715	15.834	18.988	441
ICRG Indicator of Quality of Government	0.45	0.112	0.194	0.806	441

Table A2. Multicollinearity check: Variance Inflation Factor (VIF)

Variables	VIF	1/VIF
Lag 1 Age dependency ratio (% of working-age pop.)	3.89	0.256765
Lag 1 Population, total (in log)	3.31	0.302198
Lag 1 Financial development index	3.09	0.323558
Lag 1 Human capital index	2.55	0.392830
Lag 1 Trade (% of GDP)	2.33	0.429919
Lag 1 Total natural resources rents (% of GDP)	1.67	0.600071
Lag 1 IMF program active for 5 or more months	1.51	0.662463
Lag 1 ICRG Indicator of Quality of Government	1.47	0.678778
Lag 1 Foreign direct investment, net inflows (% of GDP)	1.37	0.730213
Lag 1 Years left in current term	1.37	0.732228
Lag 1 Any election	1.32	0.759064
Lag 1 Inflation average consumer prices	1.31	0.763935
Lag 1 GDP growth (annual %)	1.19	0.837521
Mean VIF	2.03	

Table A3. Marginal effects of predictors on electricity market reform episodes

	(1) marg1	(2) marg2
Lag 1 Human capital index, see note hc	3.194 (2.316)	3.023 (2.321)
Lag 1 Trade (% of GDP)	-0.001 (0.006)	-0.001 (0.005)
Lag 1 Inflation, average consumer prices	-0.003 (0.006)	-0.002 (0.005)
Lag 1 Foreign direct investment, net inflows (% of GDP)	0.010 (0.031)	0.016 (0.033)
Lag 1 Age dependency ratio (% of working-age pop.)	-0.077** (0.038)	-0.086*** (0.033)
Lag 1 IMF program active for 5 or more months	0.030 (0.130)	-0.084 (0.114)
Lag 1 Legislative or executive election	0.028 (0.097)	-0.032 (0.093)
Lag 1 FD: Financial development index	-1.697 (2.081)	-2.449 (1.969)
Lag 1 Total natural resources rents (% of GDP)	-0.022 (0.023)	-0.021 (0.024)
Lag 1 GDP growth (annual %)	-0.011 (0.020)	-0.002 (0.019)
Lag 1 Years Left in Current Term	-0.012 (0.030)	-0.000 (0.026)
Lag 1 Logarithm of population	6.762* (3.732)	6.141* (3.483)
Lag 1 ICRG Indicator of Quality of Government	0.704 (0.948)	1.258 (0.859)
logrenew_elec_share Cycle from the Hamilton Filter, Yearly Panel	-0.143 (0.161)	
Llogrenew_elec_share1	0.153 (0.180)	
Llogrenew_elec_share2	0.099 (0.148)	
Llogrenew_elec_share3	0.230 (0.167)	
Llogrenew_elec_share4	0.141 (0.157)	
logwdi_enerenew Cycle from the Hamilton Filter, Yearly Panel		2.600** (1.222)
Llogwdi_enerenew1		-2.501** (1.273)
Llogwdi_enerenew2		2.023 (1.245)
Llogwdi_enerenew3		1.027 (1.684)
Llogwdi_enerenew4		0.312 (0.888)
Observations	137	137

Table A4. Covariates balance

Covariables	Controls	Treated	Mean diff-before	p-value-before	p-value-after
Lag 1 Human capital index	1.660	1.701	-0.041	0.563	0.371
Lag 1 Trade (% of GDP)	57.195	54.841	2.354	0.529	0.790
Lag 1 Inflation average consumer prices	10.379	8.448	1.931	0.553	0.910
Lag 1 Foreign direct investment, net inflows (% of GDP)	2.182	1.548	0.634	0.265	0.875
Lag 1 Age dependency ratio (% of working-age pop.)	83.651	84.697	-1.046	0.729	0.582
Lag 1 IMF program active for 5 or more months	0.524	0.621	-0.097	0.313	0.703
Lag 1 Any election	0.253	0.241	0.012	0.889	0.922
Lag 1 Financial development index	0.151	0.134	0.017	0.348	0.880
Lag 1 Total natural resources rents (% of GDP)	9.334	10.426	-1.092	0.422	0.892
Lag 1 GDP growth (annual %)	4.029	3.968	0.061	0.940	0.832
Lag 1 Years left in current term	2.218	1.963	0.255	0.426	0.946
Lag 1 ICRG Indicator of Quality of Government	0.455	0.474	-0.019	0.395	0.957
Lag 1 Population, total (in log)	17.012	16.987	0.025	0.858	0.402

Table A5. Accounting for Rare Event Bias

	(1) Year 0	(2) Year 1	(3) Year 2	(4) Year 3	(5) Year 4	(6) Sum
Panel A: Renewable electricity share of total electricity output (%)						
ATE-cloglog: Electricity market reforms episodes	0.097*** (0.011)	0.132*** (0.025)	0.158*** (0.030)	0.103*** (0.029)	0.110*** (0.035)	0.419*** (0.106)
Observations	260.000	245.000	231.000	216.000	201.000	186.000
Within R-square						
Robust SE	0.011	0.025	0.030	0.029	0.035	0.106
P-value	1.000	1.000	1.000	1.000	0.999	1.000
Panel B: Renewable energy consumption (% of total final energy consumption)						
ATE-cloglog: Electricity market reforms episodes	-0.010*** (0.002)	-0.012* (0.007)	-0.018*** (0.006)	0.006 (0.007)	0.009 (0.008)	0.021 (0.023)
Observations	259.000	245.000	231.000	216.000	201.000	186.000
Within R-square						
Robust SE	0.002	0.007	0.006	0.007	0.008	0.023
P-value	0.000	0.041	0.002	0.817	0.860	0.822

Figure 1. Average electricity market liberalization by sub-indices, 1990-2014

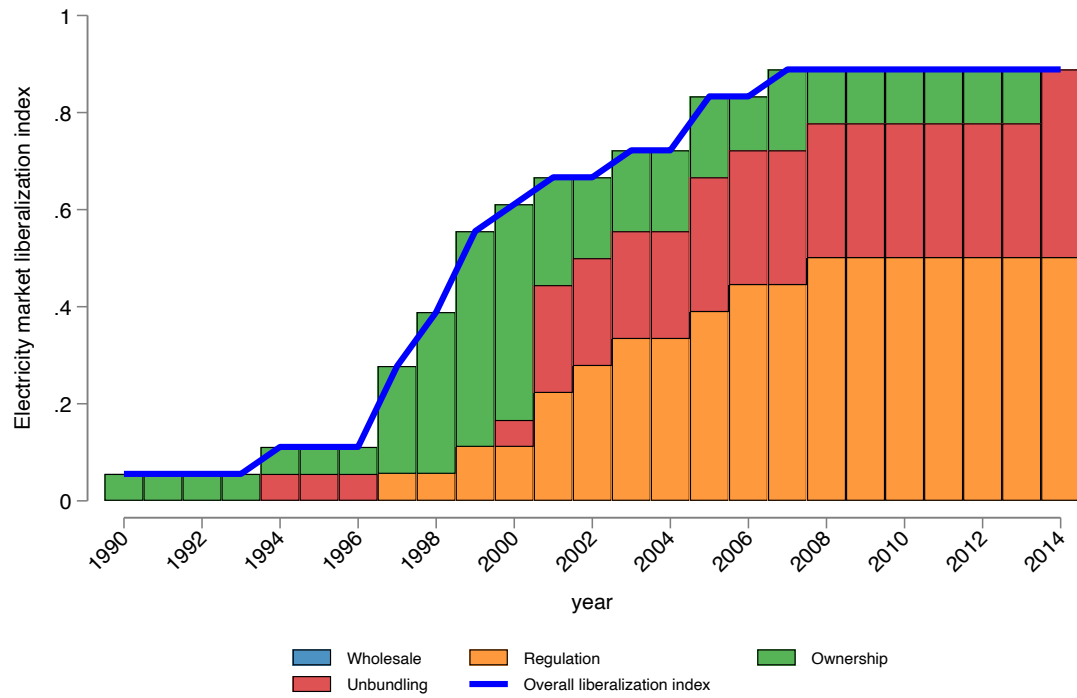


Figure 2. Average electricity market liberalization by country, 1990-2014

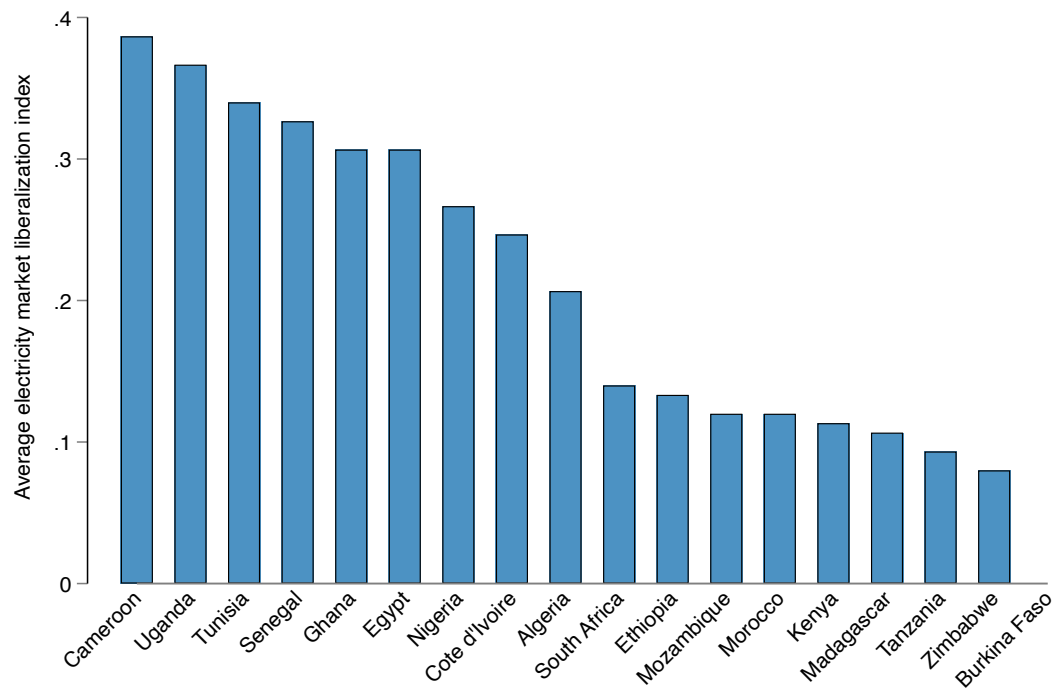


Figure 3. Number of Public-private partnerships (PPPs) projects and reform episodes by year and country

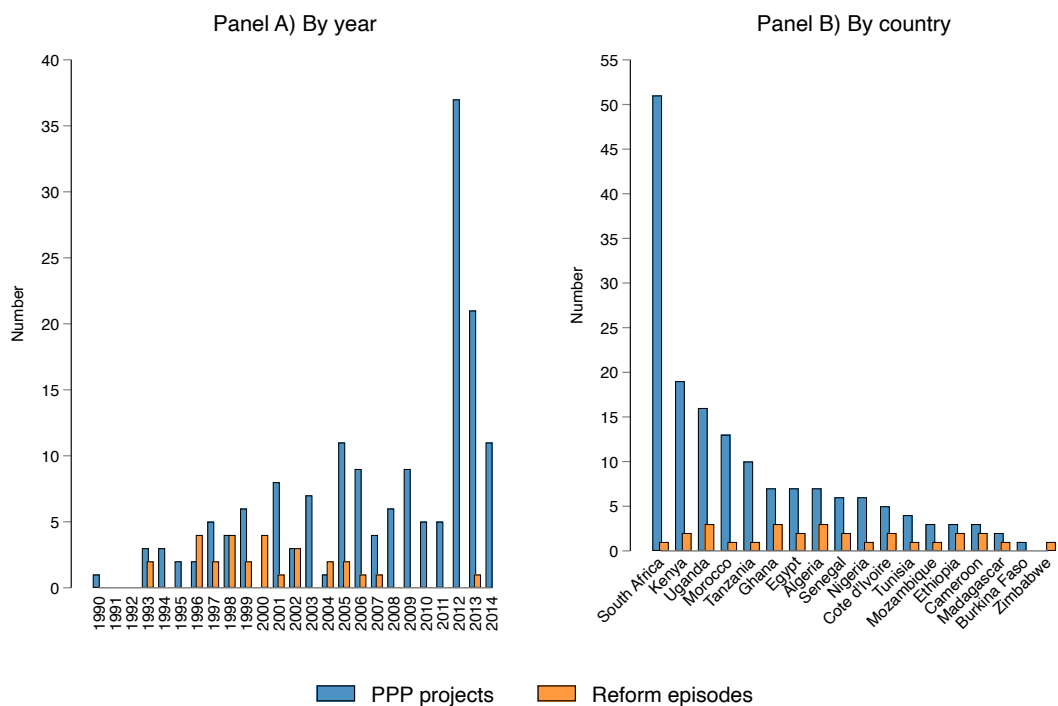


Figure 4. ROC curves for predicting reforms episodes

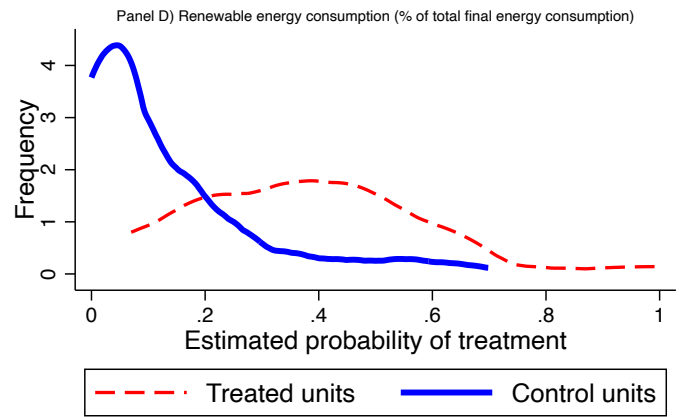
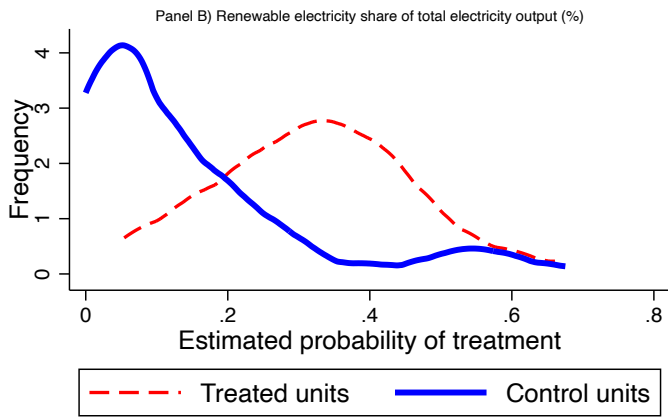
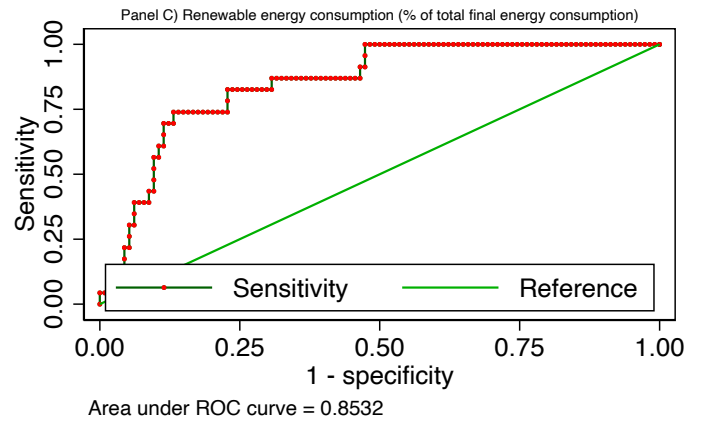
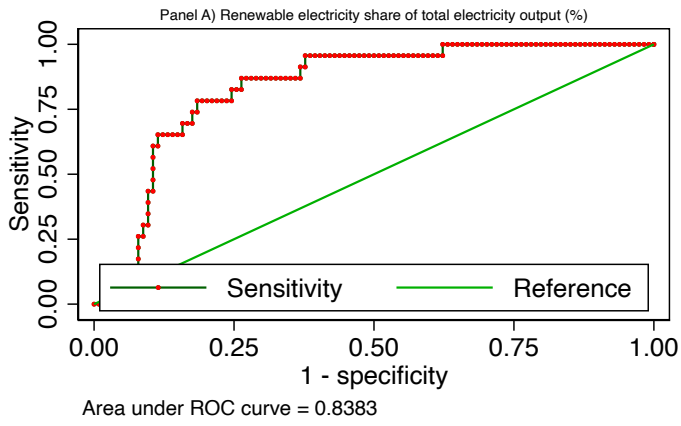


Figure A1. LP-OLS estimation

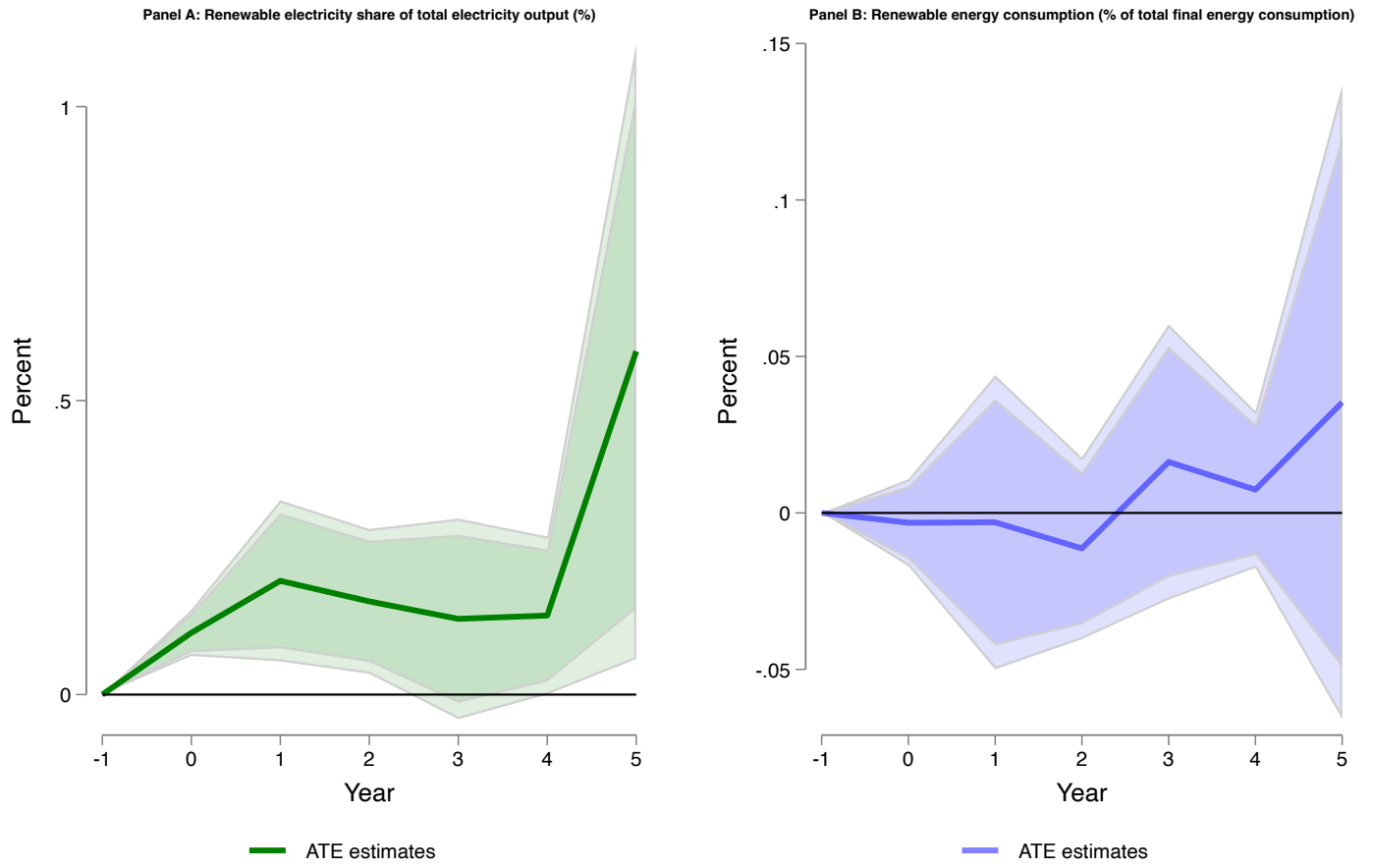


Figure A2. Unconditional Impacts of Electricity Market Reform: LP-AIPW

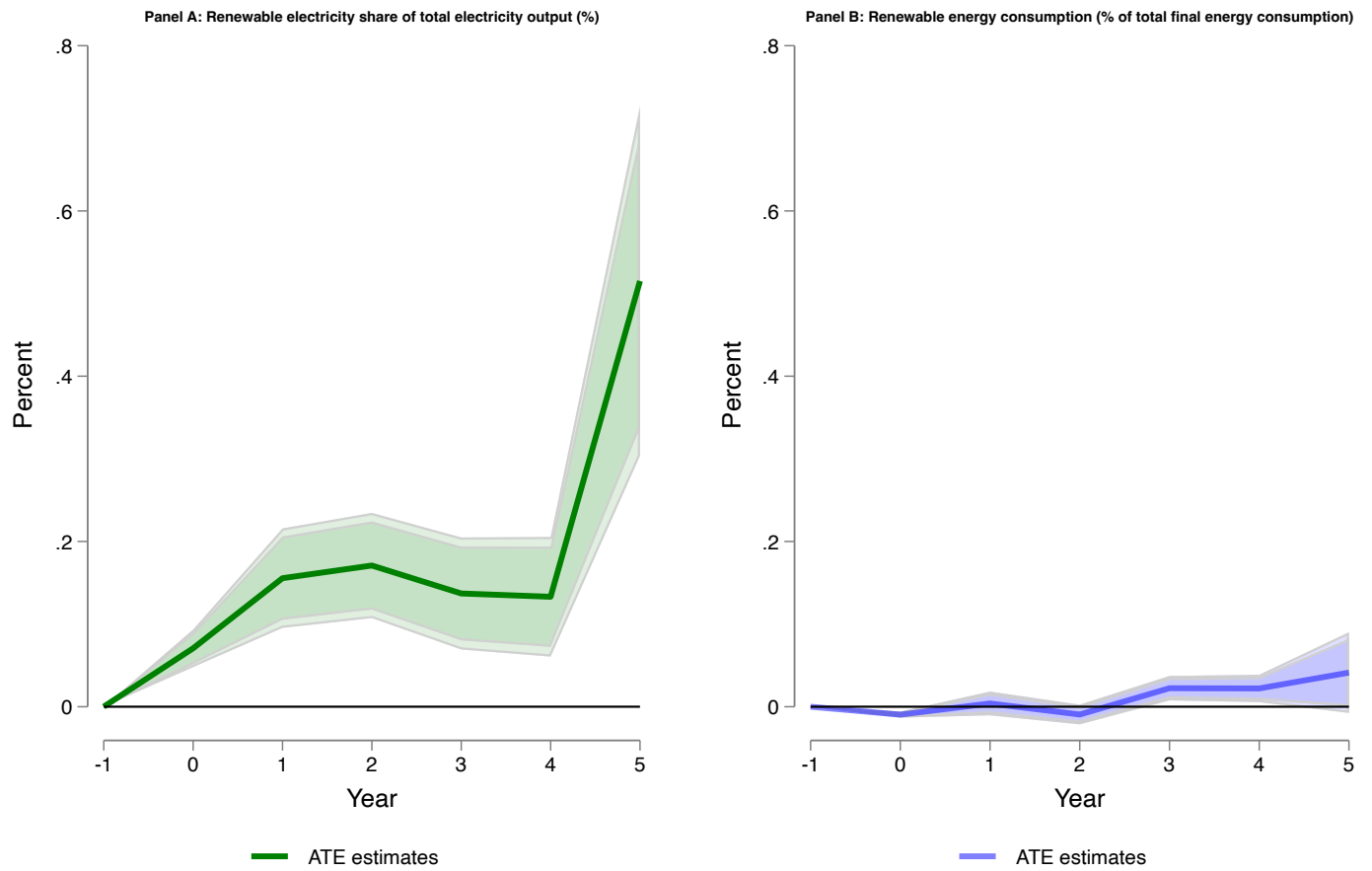


Figure A3. Alternative method to estimate the propensity score: entropy balancing

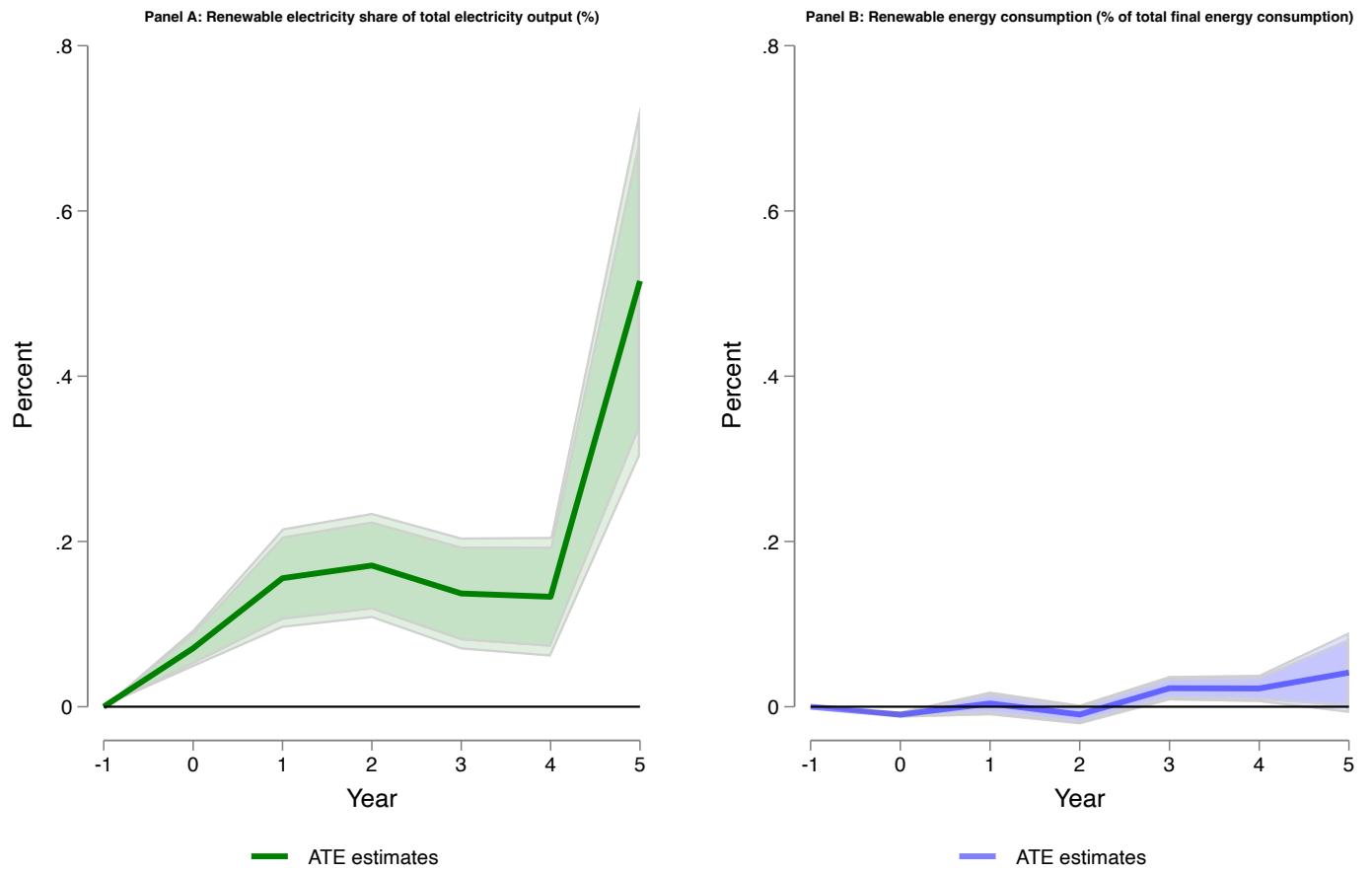


Figure A4. Accounting for rare event bias

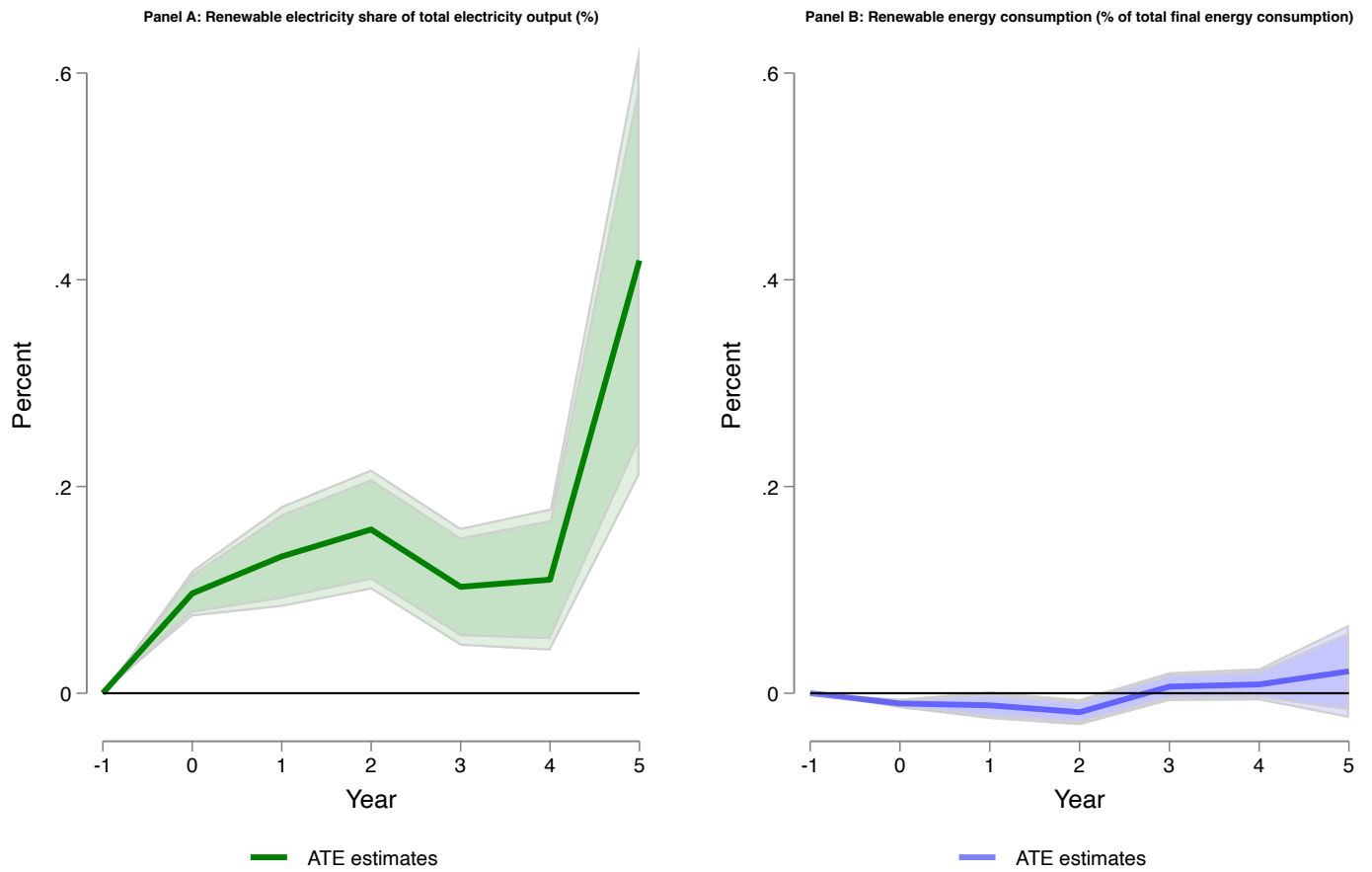


Figure A5. Sensitivity analysis with sequential country exclusion

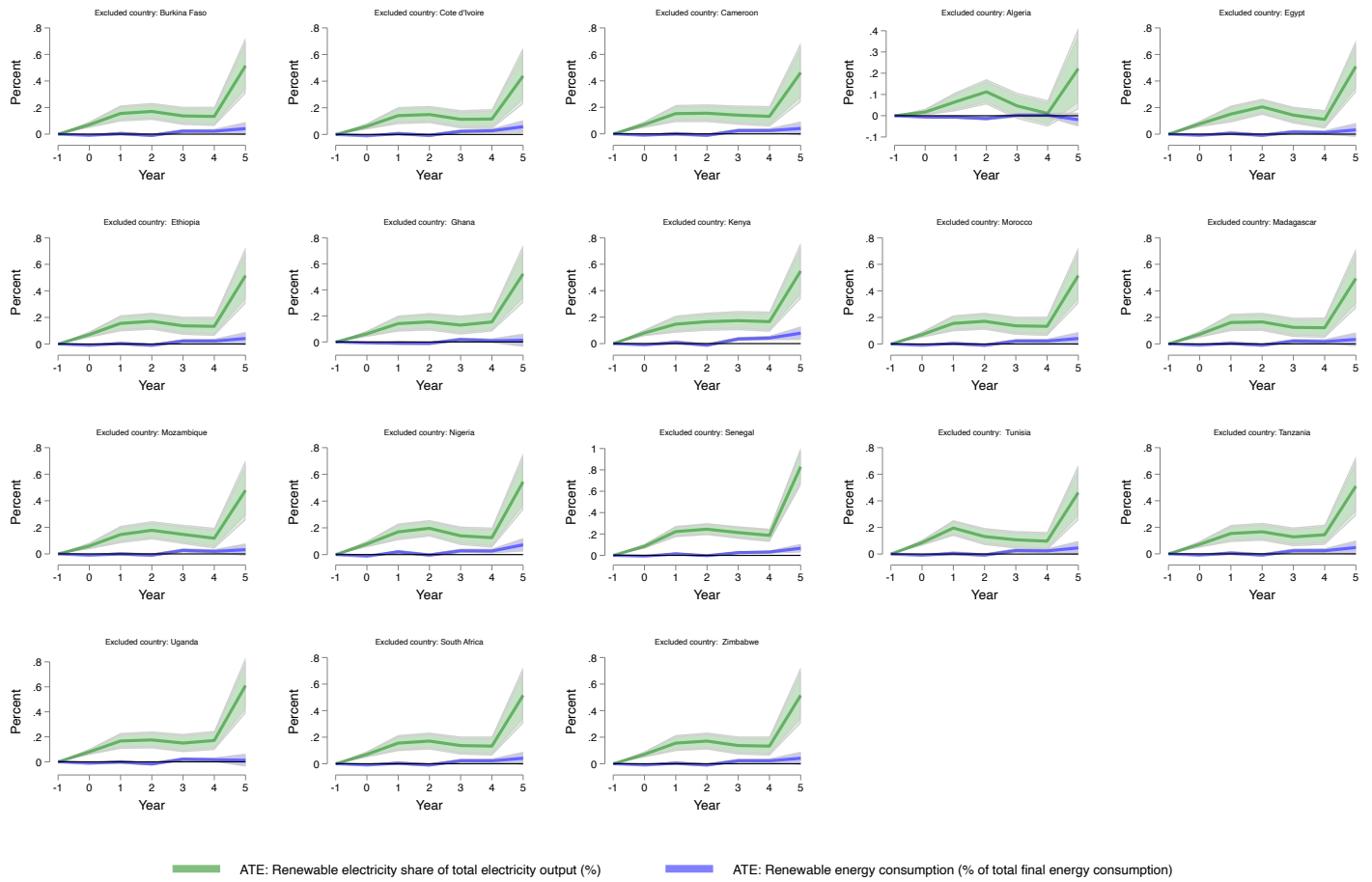


Figure A6. Conditional Impacts of Electricity Market Reform: The Role of PPPs

