Appendix A1: Variables, Data Sources, and Full Regression Models

Table A1-1: Description of Dependent Variables

Variable	Description	Source
CI [Outcome]	Outcome index (emissions) of cooperative behavior in climate change policy. Higher values indicate more cooperative behavior between 1990 and 2003.	Bättig and Bernauer 2009
CI [Output]	Output index (policy output) of cooperative behavior in climate change policy. Higher values indicate more cooperative behavior between 1990 and 2005.	Bättig and Bernauer 2009
Ecological Footprint	"The Ecological Footprint measures the ecological assets that a given population requires to produce the natural resources it consumes (including plant-based food and fiber products, livestock and fish products, timber and other forest products, space for urban infrastructure) and to absorb its waste, especially carbon emissions."	Global Footprint Network
EPI	The Environmental Performance Index is a composite index for environmental health and ecosystem vitality. The included indicators mostly focus on policy outcomes, such as emissions.	EPI
CO_2	Carbon dioxide emissions (metric tons per capita).	Worldbank
N_2O	Nitrous oxide emissions (metric tons per capita, CO_2 equivalent).	Worldbank
CH_4	Methane emissions (metric tons per capita, CO_2 equivalent).	Worldbank
SF_6	Sulfur hexafluoride gas emissions (metric tons per capita, CO_2 equivalent).	Worldbank
Renewables [Production]	Renewable electricity output (% of total electricity output).	Worldbank
Renewables [Consumption]	Renewable energy consumption (% of total final energy consumption), logged.	Worldbank
Lead Exposure	Component of the EPI. Lead exposure measured as the age-standardized disability-adjusted life years lost per 100,000 persons (DALY rate) and transformed relative to target for good performance (distance-to-target method). Larger values indicated better performance.	EPI
Wastewater Treatment	Component of the EPI. Percentage of wastewater treated, weighted by the connection rate to the wastewater treatment system. Transformed relative to target for good performance (distance-to-target method). Larger values correspond to better performance.	EPI
Protected area	Terrestrial and marine protected areas (% of total territorial area), logged.	Worldbank
Protected area Representativeness Index	Component of the EPI: "Measures the extent to which a country's protected areas are ecologically representative."(Relative to set targets).	EPI
Deforestation	Annual Change of area covered with Forrest as percentage of the land area, percentage points. Negative values indicate deforestation.	Worldbank
Species Protection Index	Component of the EPI: "Measures protected areas in relation to species distributions. The proportion of a species range in a country under protection is calculated for each species as Area of species range in country protected / Area of species range in country and capped at a maximum of 0.17. This value is then averaged for all species occurring in a country, with all species weighted equally."	EPI

Table A1-2: Descriptive Statistics of Dependent Variables

Variable	Year	N	Mean	SD
CI: Outcome	2003	152	0.59	0.24
CI: Output	2005	152	0.61	0.20
Ecological Footprint	2013	151	3.16	2.35
EPI	2018	149	56.20	13.18
CO_2	2014	153	4.61	6.45
N_2O	2012	154	0.60	0.64
CH_4	2012	154	1.57	2.00
SF_6	2010	153	0.012	0.03
Renewables: Output	2015	153	35.96	32.43
Renewables: Consumption	2015	153	35.02	28.89
PBD	2016	149	58.90	22.95
WWT	2016	149	57.13	37.56
Protected area	2017	152	12.78	11.31
PAR	2016	149	42.37	27.86
Deforestation	2016	153	-0.02	0.27
SPI	2014	149	72.11	29.28

Table A1-3: Description of Independent Variables

Variable	Description	Source
Autocracy	Reference: democratic regimes.	Bjørnskov and Rode (2018)
Autocratic Regime Types	Subclassification of royal dictatorships, military dictatorships, hegemonic authoritarian regimes, and competitive authoritarian leaders. Reference: democratic regimes.	Combination of data from Bjørnskov and Rode (2018) and DPI (Cruz *et al.* 2016)*
GDP	GDP per Capita, constant 2010 US-$, logged	Worldbank
GDP growth	Annual growth of GDP per Capita, percentaged.	Worldbank*
Natural Resource Rent	Natural ressource rents as a percentage of GPD.	Worldbank
Population Growth	Annual growth of Population, percentaged.	Worldbank*
Population Density	Inhabitants per km^2.	Worldbank
Climate Vulnerability	Vulnerability to climate change based on the impact of extreme weather events, loss of agricultural productivity and sea level rise.	Wheeler (2011)
Corruption	Perceived corruption operationalized as the Bayesian Corruption Indicator from the QOG dataset.	Teorell *et al.* (2020)
Durability	Number of consecutive years a country has been classified within the current regime type.	Bjørnskov and Rode (2018)

Notes:
* own calculations based on the referenced data source.

Table A1-4: Distribution of Observations Across Regime Types

Variable	Year	Royal Dictatorship	Military Dictatorship	Hegemonic Authoritarian	Competitive Authoritarian	Democracy
CI: Outcome	2003	11	19	15	18	81
CI: Output	2005	11	18	17	18	83
Ecological Footprint	2013	8	12	13	20	90
EPI	2018	8	17	15	14	91
CO_2	2014	9	16	16	14	92
N_2O	2012	9	17	16	18	89
CH_4	2012	9	17	16	18	89
SF_6	2010	8	10	11	15	76
Renewables: Output	2015	9	16	13	16	93
Renewables: Consumption	2015	9	16	13	16	93
PBD	2016	9	15	12	18	91
WWT	2016	9	15	12	18	91
Protected area	2017	9	15	12	18	90
PAR	2016	9	15	12	18	91
Deforestation	2016	8	15	15	14	92
SPI	2014	9	14	13	18	91

Table A1-5: Environmental Performance of Autocracies versus Democracies

	[c] **CI: Outcome**	[p] **CI: Output**	[c] **EPI**	[c] **Eco. Footprint**	[c] **log(CO_2)**	[c] **log(N_2O)**	[c] **log(CH_4)**	[c] **log(SF_6)**	[c] **Renew: Product.^{w}**	[c] **Renew: Consu.^{w}**	[c] **PBD^w**	[c] **WWT^w**	[p] **PA^w**	[p] **PAR^w**	[p] **SPI^w**	[c] **Deforest**
Autocracy	-0.03	-0.17	-0.24 **	-0.00	0.04	0.10	0.13	-0.08	-0.25	-0.25 *	-0.04	0.00	-0.44 **	-0.45 **	-0.47 **	-0.27
	(0.15)	(0.18)	(0.09)	(0.11)	(0.04)	(0.18)	(0.23)	(0.08)	(0.19)	(0.14)	(0.13)	(0.13)	(0.20)	(0.19)	(0.19)	(0.19)
GDP	1.23	-0.55	-0.75	1.97 ***	2.13 ***	-1.49	-0.70	-0.87 **	-2.07	-3.61 ***	-1.52 *	1.11	-2.52 *	-1.49	-3.87 ***	-0.04
	(0.92)	(1.10)	(0.62)	(0.72)	(0.27)	(1.11)	(1.47)	(0.43)	(1.27)	(0.91)	(0.87)	(0.86)	(1.31)	(1.27)	(1.20)	(1.27)
GDP^2	-1.90 **	0.45	1.52 **	-2.85 ***	-1.85 ***	1.71	1.37	1.02 **	1.94	3.03 ***	2.15 **	-0.48	2.70 **	1.55	4.05 ***	0.31
	(0.93)	(1.11)	(0.63)	(0.74)	(0.27)	(1.13)	(1.51)	(0.45)	(1.28)	(0.92)	(0.88)	(0.87)	(1.32)	(1.28)	(1.21)	(1.29)
GDP growth	0.03	-0.10	-0.03	-0.06	0.04 **	0.14 **	0.55 ***	0.04	0.15 *	0.10	-0.07	-0.06	0.12	0.08	-0.06	0.24 ***
	(0.06)	(0.08)	(0.04)	(0.05)	(0.02)	(0.07)	(0.19)	(0.04)	(0.09)	(0.07)	(0.06)	(0.06)	(0.09)	(0.08)	(0.09)	(0.08)
Nat. Resource	-0.17 **	-0.18 *	-0.06	-0.11 *	-0.01	0.10	0.57 ***	0.02	-0.21 **	-0.06	-0.07	-0.05	-0.08	-0.14	-0.16	-0.09
Rent	(0.07)	(0.09)	(0.05)	(0.06)	(0.02)	(0.09)	(0.12)	(0.04)	(0.10)	(0.07)	(0.07)	(0.07)	(0.10)	(0.10)	(0.10)	(0.10)
Population	-0.14 *	-0.28 ***	-0.08	-0.04	-0.01	-0.23 **	-0.02	-0.07 *	0.06	0.06	-0.30 ***	-0.07	0.02	-0.02	-0.05	0.28 ***
growth	(0.07)	(0.08)	(0.05)	(0.06)	(0.02)	(0.09)	(0.15)	(0.04)	(0.11)	(0.08)	(0.07)	(0.07)	(0.11)	(0.11)	(0.11)	(0.11)
Population	-0.10	-0.02	-0.08 *	0.01	-0.00	-0.07	-0.14	-0.05	-0.15 *	-0.09	-0.03	-0.01	-0.16 *	-0.15 *	-0.12	0.02
density	(0.06)	(0.07)	(0.04)	(0.05)	(0.02)	(0.07)	(0.09)	(0.10)	(0.08)	(0.06)	(0.06)	(0.06)	(0.08)	(0.08)	(0.08)	(0.08)
Climate	-0.01	-0.06	-0.06	0.06	-0.07 ***	-0.06	-0.10	-0.02	0.04	0.13	-0.06	-0.11	-0.03	-0.03	-0.15	0.22 *
Vulnerabuity	(0.09)	(0.10)	(0.06)	(0.06)	(0.02)	(0.09)	(0.12)	(0.04)	(0.11)	(0.08)	(0.08)	(0.08)	(0.12)	(0.11)	(0.11)	(0.11)
Corruption	-0.10	-0.21	0.04	0.01	0.00	0.17	0.18	-0.03	0.07	-0.08	-0.00	-0.08	0.02	0.19	0.22 *	0.40 ***
	(0.11)	(0.13)	(0.07)	(0.08)	(0.03)	(0.12)	(0.16)	(0.06)	(0.13)	(0.09)	(0.09)	(0.09)	(0.14)	(0.13)	(0.12)	(0.13)
Durability	-0.15 *	0.18 *	0.02	0.06	0.01	0.15	-0.07	-0.01	0.06	-0.03	-0.12	-0.03	-0.09	0.19 *	0.05	-0.05
	(0.08)	(0.09)	(0.06)	(0.06)	(0.02)	(0.10)	(0.13)	(0.05)	(0.11)	(0.08)	(0.08)	(0.08)	(0.12)	(0.11)	(0.11)	(0.11)
Observations	144	147	143	145	147	149	149	120	147	147	145	145	144	145	144	145
Adj. R^2	0.486	0.309	0.798	0.719	0.841	0.092	0.303	0.378	0.121	0.549	0.593	0.598	0.090	0.132	0.206	0.129

Note:
Reported are the beta-coefficients of linear regression models and standard errors in parentheses.
* p<0.1 ** p<0.05 *** p<0.01
[p] policy outputs, [c] policy outcomes; w weak sustainability, remainder strong sustainability.

Table A1-6: Environmental Performance of disaggregated Autocracies versus Democracies

	[c] **CI: Outcome**	[p] **CI: Output**	[c] **EPI**	[c] **Eco. Footprint**	[c] **log(CO_2)**	[c] **log(N_2O)**	[c] **log(CH_4)**	[c] **log(SF_6)**	[c] **Renew: Product.^{w}**	[c] **Renew: Consu.^{w}**	[c] **PBD^w**	[c] **WWT^w**	[p] **PA^w**	[p] **PAR^w**	[p] **SPI^w**	[c] **Deforest**
Royal	-0.21	-0.05	-0.62 ***	-0.36	0.15	-0.46	0.30	-0.18	-0.65	-0.58 **	-0.86 ***	0.48 *	-0.91 **	-0.97 **	-0.42	-0.24
Dictatorship	(0.27)	(0.33)	(0.21)	(0.25)	(0.41)	(0.36)	(0.56)	(0.20)	(0.39)	(0.28)	(0.26)	(0.27)	(0.44)	(0.40)	(0.42)	(0.40)
Military	0.10	-0.22	-0.07	0.08	-0.08	0.02	0.05	-0.02	-0.43	-0.23	0.14	-0.10	-0.41	-0.41	-0.33	-0.50 *
Dictatorship	(0.22)	(0.26)	(0.15)	(0.16)	(0.20)	(0.26)	(0.36)	(0.12)	(0.27)	(0.19)	(0.19)	(0.19)	(0.32)	(0.29)	(0.28)	(0.29)
Hegemonic	-0.14	-0.17	-0.39 ***	0.03	-0.02	0.58 **	-0.21	-0.07	0.57 *	0.25	0.25	-0.14	0.15	-0.08	-0.32	-0.20
Authoritarian	(0.24)	(0.26)	(0.14)	(0.17)	(0.21)	(0.28)	(0.38)	(0.11)	(0.30)	(0.22)	(0.21)	(0.22)	(0.31)	(0.32)	(0.27)	(0.31)
Competitive	0.04	-0.21	-0.14	-0.02	0.56 ***	0.00	0.34	-0.10	-0.53 **	-0.48 **	-0.03	-0.01	-0.68 ***	-0.51 *	-0.76 ***	-0.18
Authoritarian	(0.21)	(0.24)	(0.12)	(0.16)	(0.21)	(0.23)	(0.30)	(0.11)	(0.26)	(0.19)	(0.17)	(0.18)	(0.26)	(0.26)	(0.28)	(0.26)
GDP	1.36	-0.64	-0.41	2.27 ***	-0.10	-0.25	-1.36	-0.86 *	-1.67	-3.40 ***	-0.98	0.79	-2.41 *	-1.15	-3.80 ***	0.12
	(0.94)	(1.13)	(0.63)	(0.76)	(1.02)	(1.21)	(1.68)	(0.49)	(1.27)	(0.91)	(0.87)	(0.90)	(1.32)	(1.32)	(1.25)	(1.34)
GDP^2	-2.03 **	0.53	1.22 *	-3.14 ***	1.21	0.52	1.98	1.00 **	1.52	2.81 ***	1.65 *	-0.18	2.65 **	1.24	3.99 ***	0.15
	(0.95)	(1.14)	(0.63)	(0.77)	(1.05)	(1.21)	(1.71)	(0.50)	(1.28)	(0.92)	(0.88)	(0.90)	(1.33)	(1.33)	(1.26)	(1.35)
GDP growth	0.03	-0.10	-0.01	-0.07	-0.03	0.15 **	0.57 ***	0.04	0.08	0.06	-0.09 *	-0.04	0.11	0.07	-0.07	0.25 ***
	(0.06)	(0.08)	(0.04)	(0.05)	(0.07)	(0.07)	(0.21)	(0.04)	(0.09)	(0.07)	(0.06)	(0.06)	(0.09)	(0.08)	(0.09)	(0.08)
Nat. Resource	-0.16 **	-0.18 *	-0.05	-0.10	0.16 *	0.08	0.57 ***	0.02	-0.17 *	-0.03	-0.03	-0.07	-0.04	-0.10	-0.15	-0.09
Rent	(0.07)	(0.09)	(0.05)	(0.06)	(0.09)	(0.09)	(0.13)	(0.05)	(0.10)	(0.07)	(0.07)	(0.07)	(0.10)	(0.10)	(0.10)	(0.10)
Population	-0.13	-0.30 ***	-0.04	0.00	-0.15 *	-0.12	-0.05	-0.05	0.04	0.06	-0.24 ***	-0.11	0.03	0.01	-0.07	0.29 **
growth	(0.08)	(0.09)	(0.06)	(0.07)	(0.09)	(0.10)	(0.15)	(0.05)	(0.11)	(0.08)	(0.07)	(0.08)	(0.12)	(0.11)	(0.11)	(0.12)
Population	-0.09	-0.02	-0.06	0.00	0.19	-0.13 *	-0.11	-0.04	-0.22 ***	-0.13 **	-0.05	0.01	-0.21 **	-0.18 **	-0.12	0.02
density	(0.06)	(0.07)	(0.04)	(0.05)	(0.27)	(0.07)	(0.09)	(0.10)	(0.08)	(0.06)	(0.06)	(0.06)	(0.09)	(0.09)	(0.08)	(0.09)
Climate	-0.02	-0.06	-0.06	0.06	-0.07	0.01	-0.15	-0.02	0.05	0.13	-0.06	-0.11	-0.01	-0.04	-0.15	0.24 **
Vulnerabuity	(0.09)	(0.10)	(0.06)	(0.07)	(0.08)	(0.10)	(0.13)	(0.04)	(0.11)	(0.08)	(0.08)	(0.08)	(0.12)	(0.12)	(0.11)	(0.12)
Corruption	-0.12	-0.20	0.01	-0.02	-0.12	0.08	0.19	-0.04	-0.01	-0.13	-0.08	-0.03	-0.02	0.13	0.22 *	0.39 ***
	(0.12)	(0.13)	(0.07)	(0.08)	(0.10)	(0.12)	(0.18)	(0.06)	(0.13)	(0.10)	(0.09)	(0.09)	(0.14)	(0.14)	(0.13)	(0.14)
Durability	-0.15 *	0.18 *	0.03	0.06	-0.20 *	0.15	-0.07	-0.01	0.04	-0.05	-0.13 *	-0.02	-0.13	0.18	0.03	-0.05
	(0.08)	(0.10)	(0.06)	(0.06)	(0.10)	(0.10)	(0.13)	(0.05)	(0.11)	(0.08)	(0.07)	(0.08)	(0.12)	(0.11)	(0.11)	(0.11)
Observations	144	147	143	145	147	149	149	120	147	147	145	145	144	145	144	145
Adj. R^2	0.481	0.295	0.805	0.719	0.817	0.107	0.303	0.383	0.177	0.572	0.628	0.603	0.119	0.137	0.201	0.116

Note:
Reported are the beta-coefficients of linear regression models and standard errors in parentheses.
* p<0.1 ** p<0.05 *** p<0.01
[p] policy outputs, [c] policy outcomes; w weak sustainability, remainder strong sustainability.

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Appendix A2: Sensitivity of Patterns for Influential Observations and Regime Types

Figure A2-1: Standardized Residuals by Regime Type

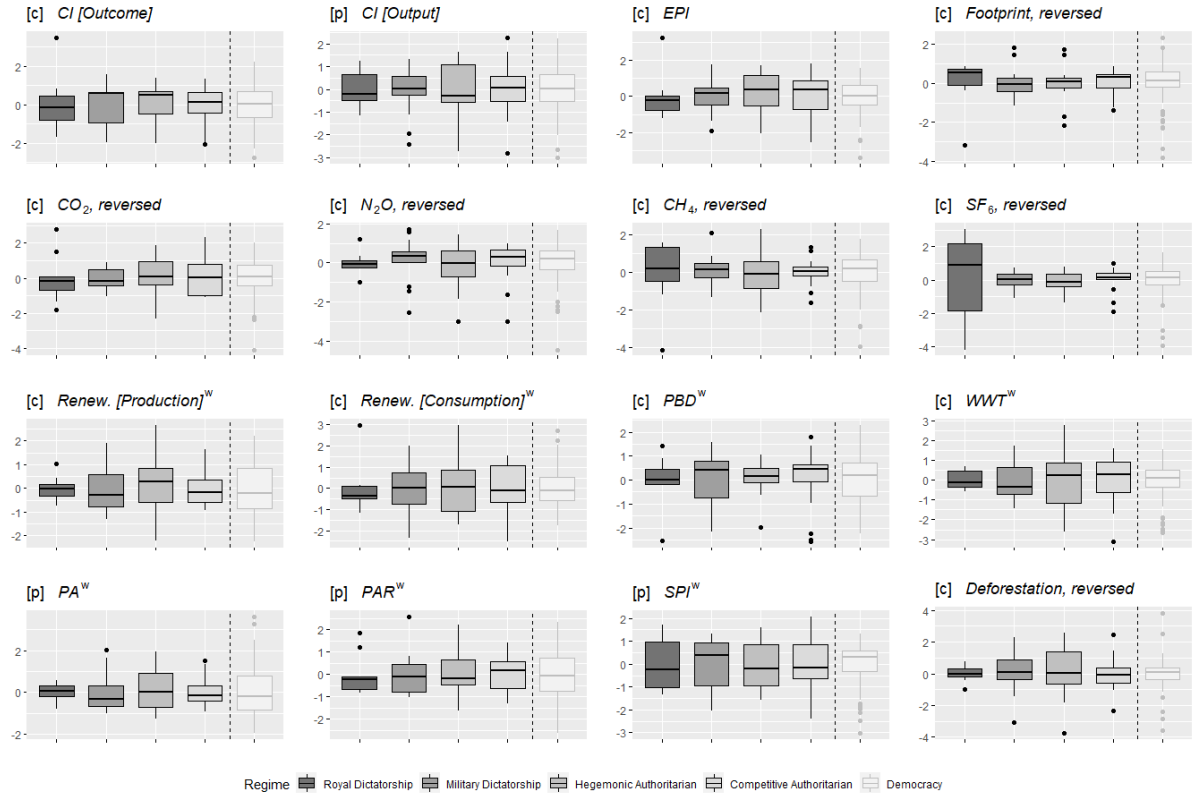


Figure A2-2: Cook's Distance

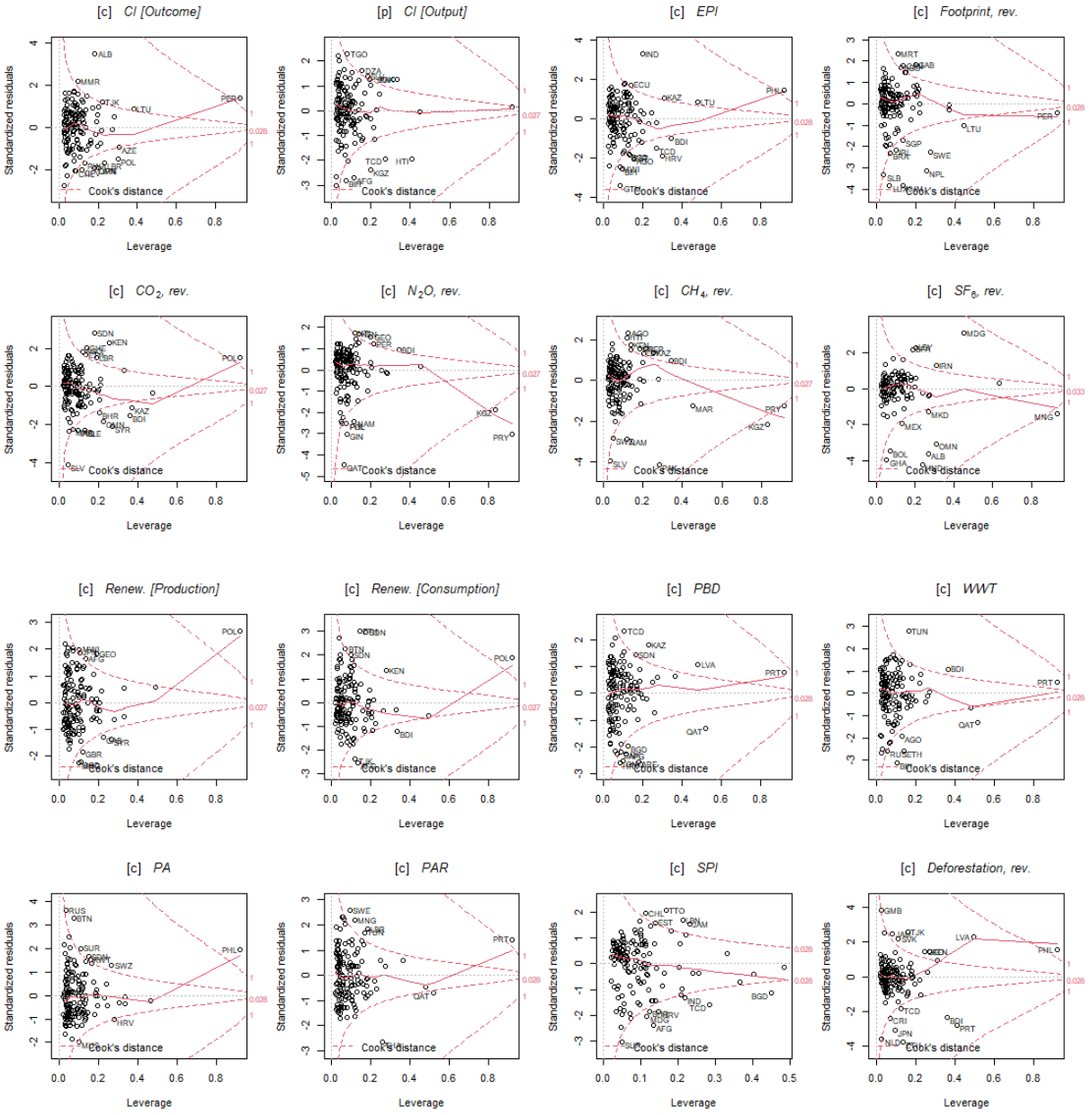


Table A2-1: Influential Cases

	Model	Overestimations (negative residuals)	Underestimations (positive residuals)
[c]	*CI [Outcome]*	Azerbaijan, Cape Verde, Chile, Japan, Liberia, Oman, Rwanda, Poland, USA	Albania, Lithuania, Myanmar, **Peru,** Tajikistan
[p]	*CI [Output]*	Afghanistan, Bosnia & Herzegovina, Chad, Haiti, Kyrgyzstan	Algeria, Burundi, El Salvador, Pakistan, Togo
[c]	*EPI*	Angola, Bangladesh, Bosnia & Herzegovina, Burundi, Chad, Croatia, Estonia, Guatemala, Malawi	Ecuador, India, Kazakhstan, Lithuania, **Philippines**
[c]	*Ecological Footprint*	Bhutan, El Salvador, Iraq, Latvia, Laos, Morocco, Oman, Poland, Sierra Leone, Syria	Angola, Georgia, Malawi, Switzerland
[c]	CO_2	Bahrain, Burundi, El Salvador, Iraq, Kazakhstan, Morocco, Oman, Syria	Angola, Ethiopia, Kenya, Liberia, **Poland,** Sudan, Switzerland
[c]	N_2O	Guinea, **Kyrgyzstan,** Namibia, **Paraguay,** Philippines, Qatar,	Burundi, Georgia, Haiti, Kenya, Peru
[c]	CH_4	El Salvador, Eswatini, **Kyrgyzstan**, Morocco, Namibia, Pakistan, **Paraguay**	Angola, Burundi, Haiti, Ireland, Kazakhstan, Kenya, Libya, Peru,
[c]	SF_6	Burkina Faso, Iran, Libya, Madagascar	Albania, Bolivia, Ghana, Honduras, Macedonia, Mexico, **Mongolia,** Oman
[c]	*Renewables: [Production]* [w]	Afghanistan, Georgia, Japan, Malawi, **Poland**	Bangladesh, Gabon, Mongolia, UK, Syria
[c]	*Renewable [Consumption]* [w]	Afghanistan, Burundi, Tajikistan	Bhutan, Ethiopia, Kenya, **Poland**, Sudan
[c]	*PBD* [w]	Afghanistan, Bangladesh, Croatia, Denmark Equatorial Guinea, UAE, Qatar	Chad, Kazakhstan, Latvia, Poland, Sudan
[c]	*WWT* [w]	Angola, Bosnia and Hercegovina, Ethiopia, Qatar, Russia	Burundi, Tunisia, Poland
[p]	*Protected area* [w]	Croatia, Mauritius	Bhutan, Eswatini, Kuwait, **Philippines,** Russia, Sudan, Suriname,
[p]	*PAR* [w]	Qatar, Thailand	Liberia, Mongolia, **Philippines**, Sweden, Tunisia
[p]	*SPI* [w]	Afghanistan, Bahrain, Bangladesh, Chad, Croatia, India, Madagascar, Suriname	Chile, Estonia, Jamaica, Lebanon, Trinidad and Tobago
[c]	*Deforestation*	Burundi, Chad, Cota Rica, Ethiopia, Netherlands, Japan, Portugal	Georgia, Jamaica, Kenya, Latvia., **Philippines,** Slovakia, Tajikistan, The Gambia

Notes:
Cases with a Cook's Distance $D>4/n$. Bold are observations with a Cook's Distance $D>1$.

Figure A2-3: Frequency of High Influence for Countries ($D>^{4}/_{n}$)

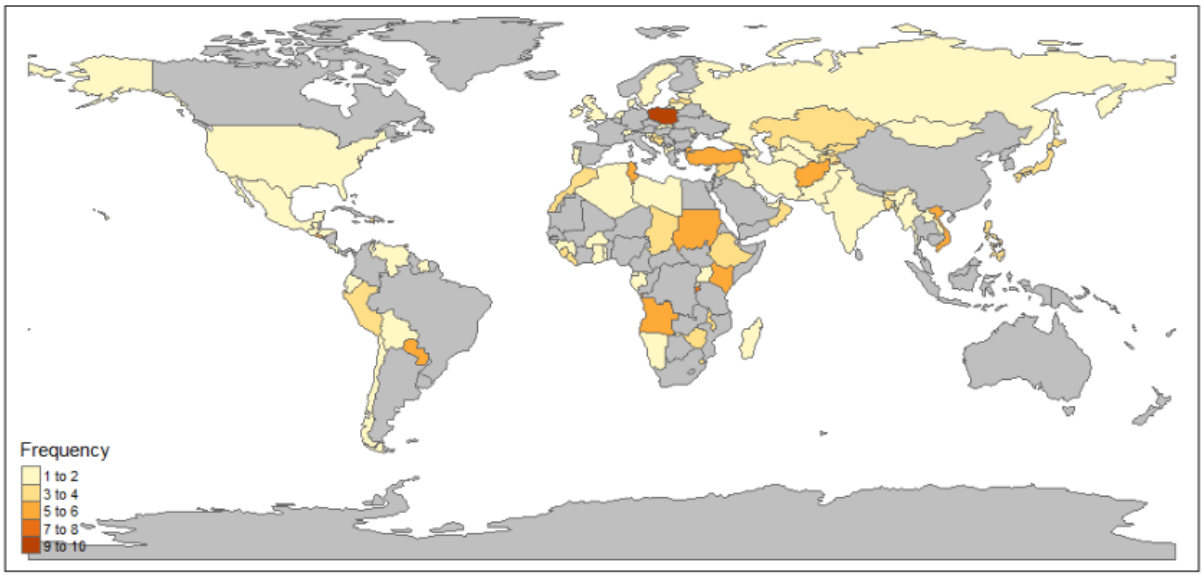
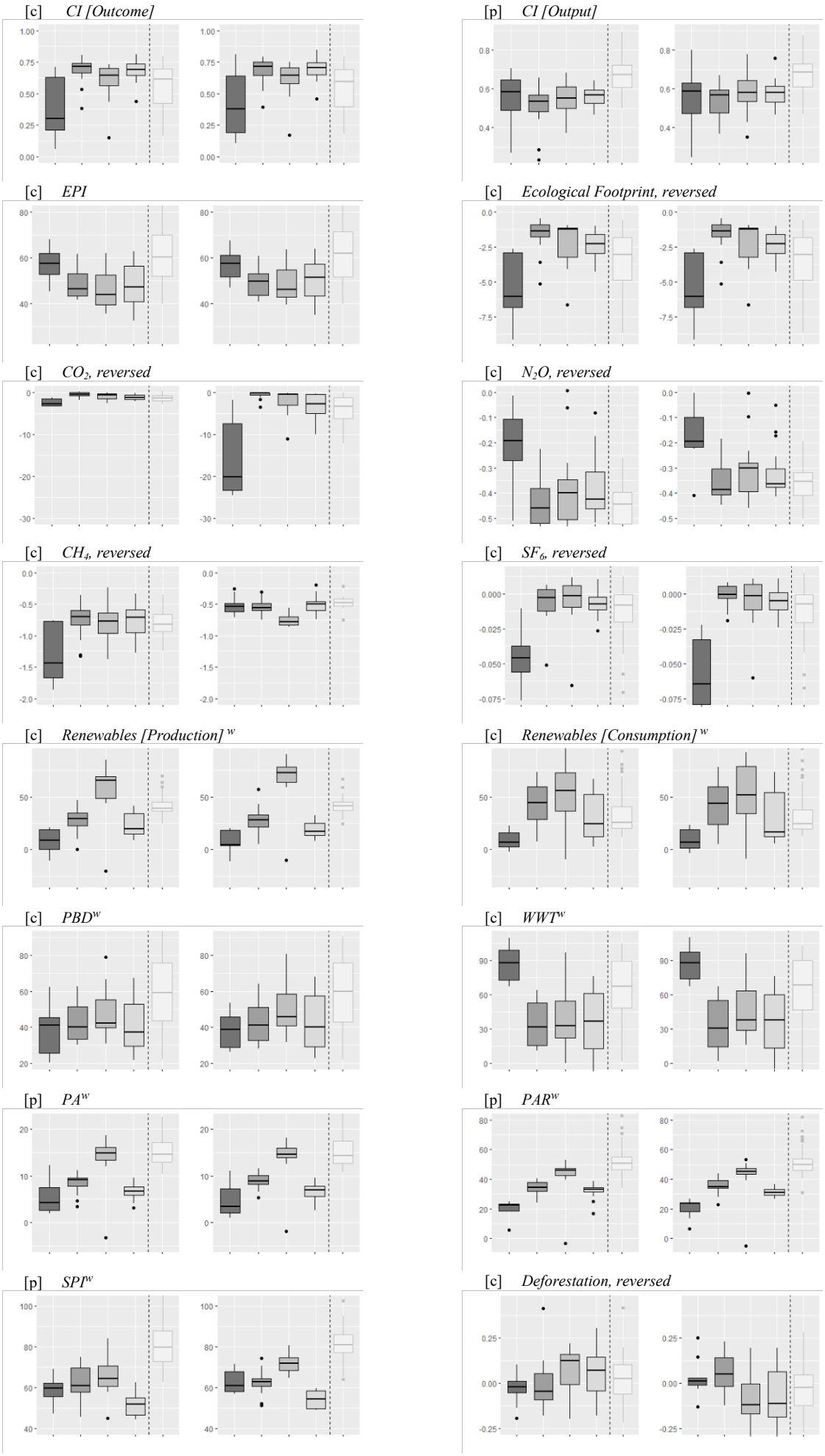


Figure A2-4: Fitted Values by Regime Type



Notes:
For each indicator, the left panel illustrates the fitted values for the initial regression analyses (full sample). The right panel is a replication of the regression analyses without influential cases.