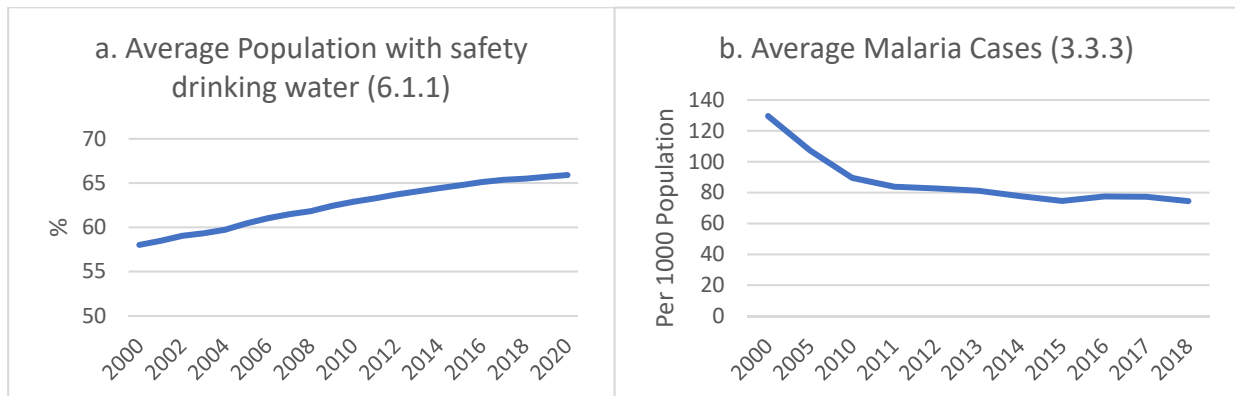
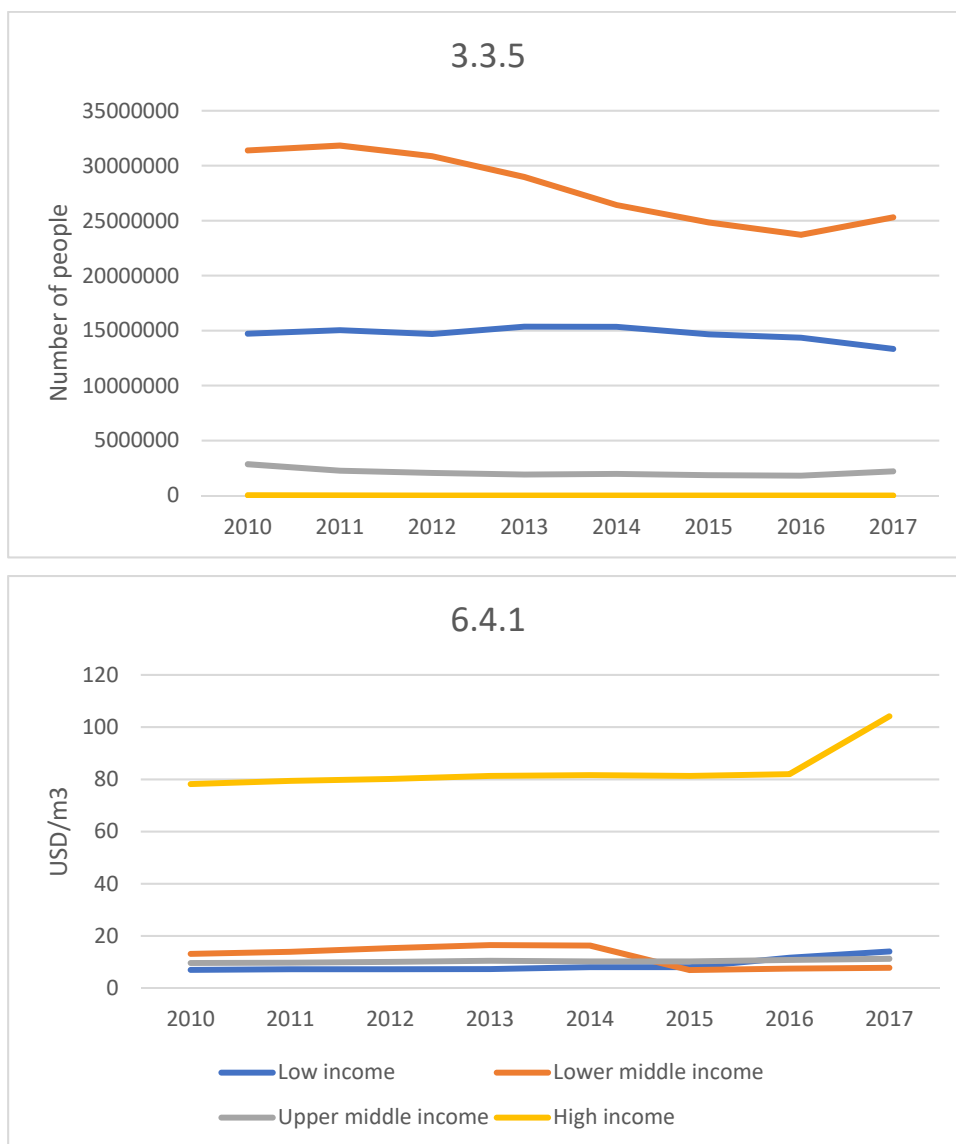


Supplementary

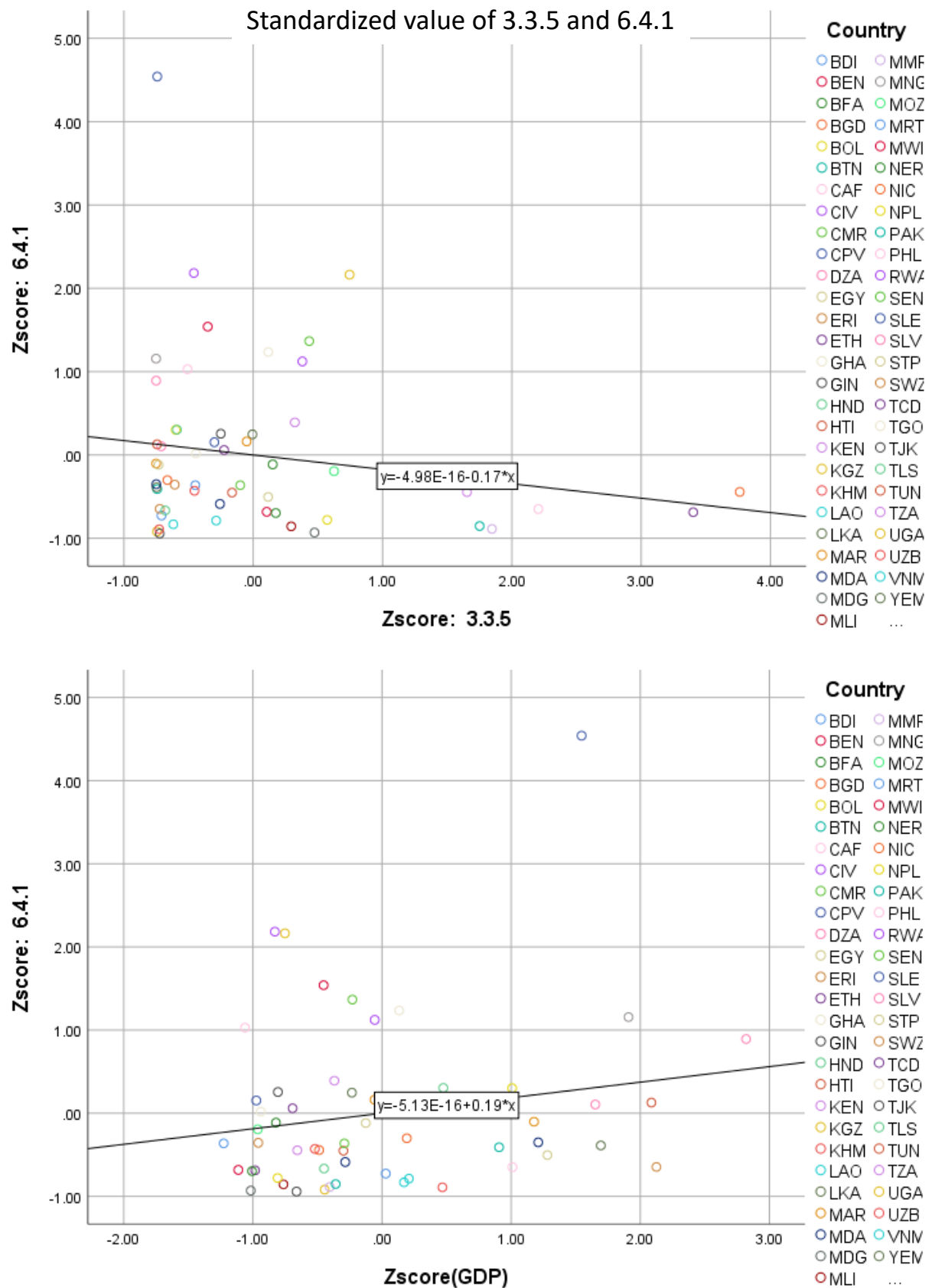
Supplementary Figure S1.a) Positive trend; b) negative trend

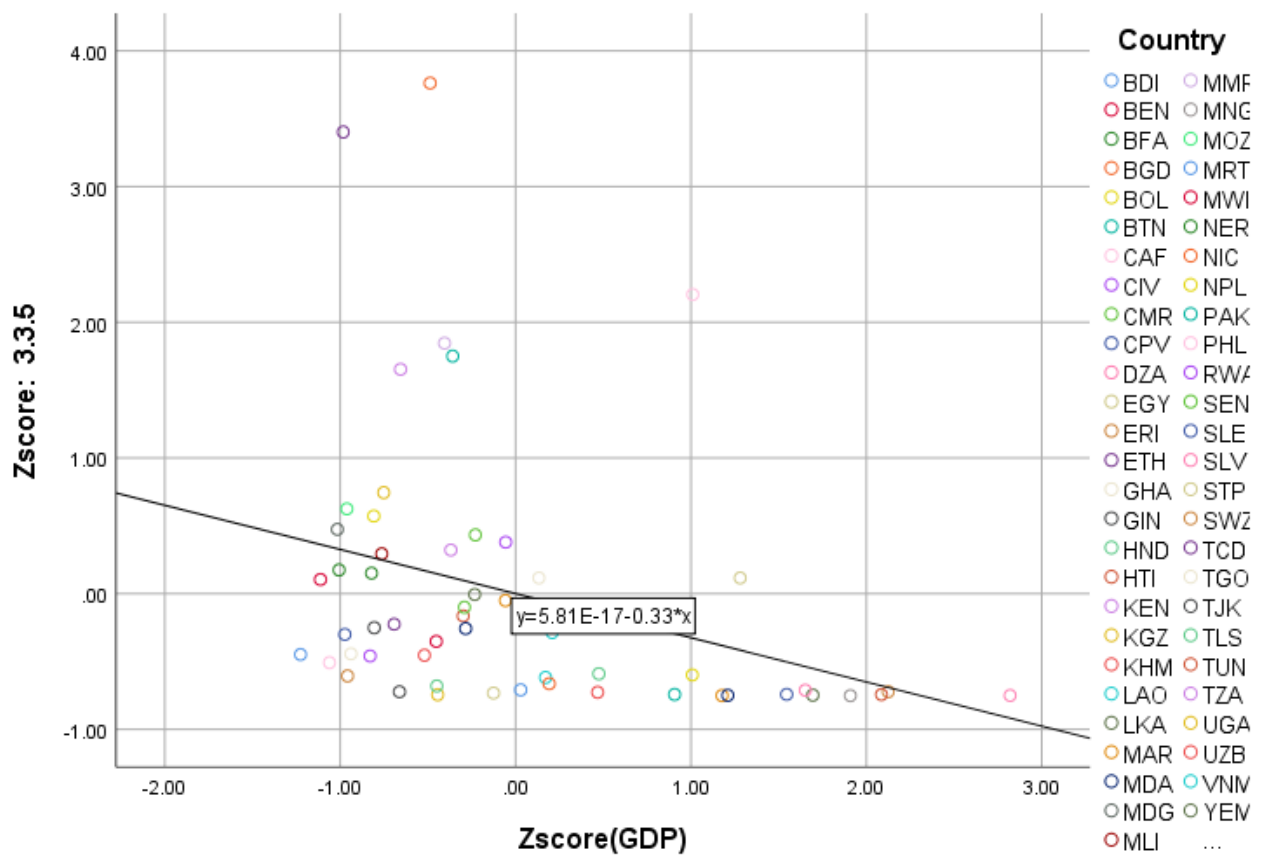
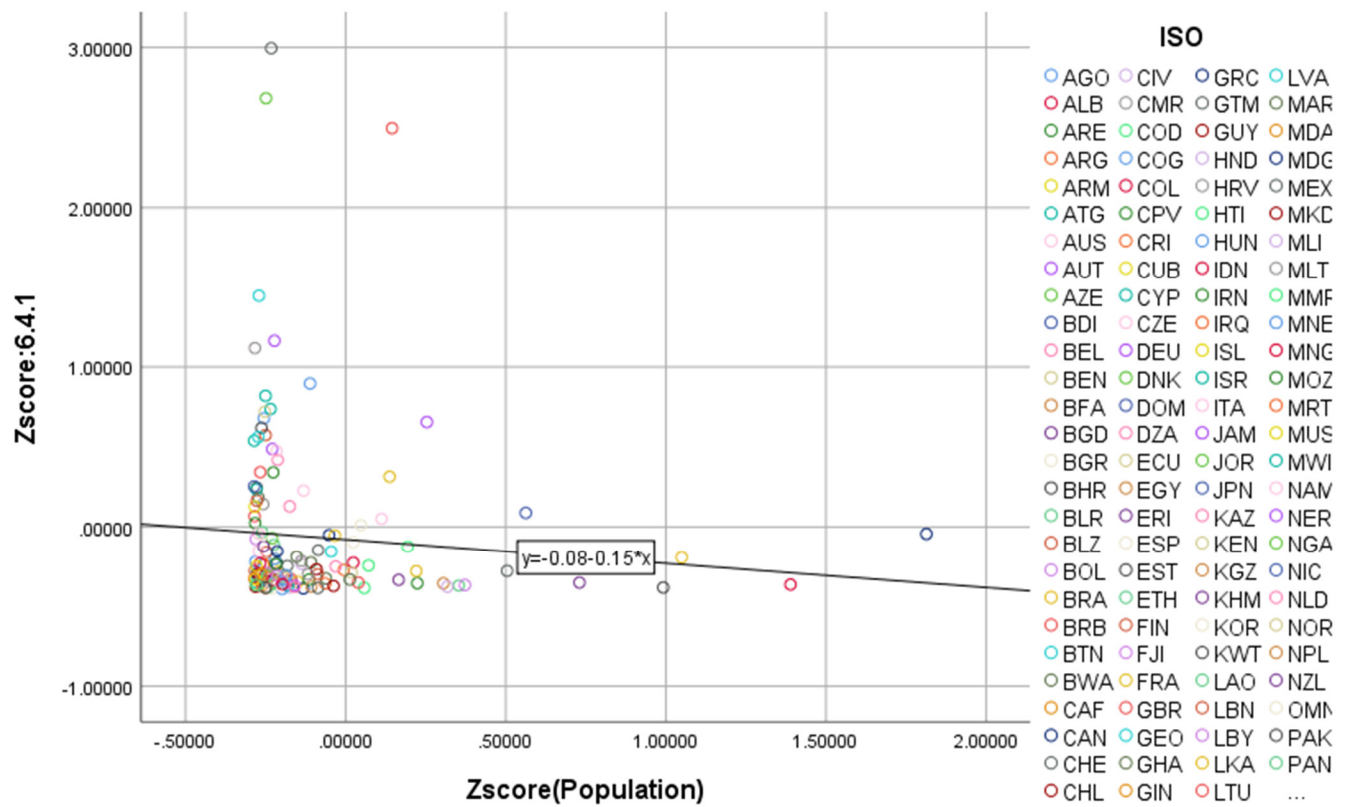


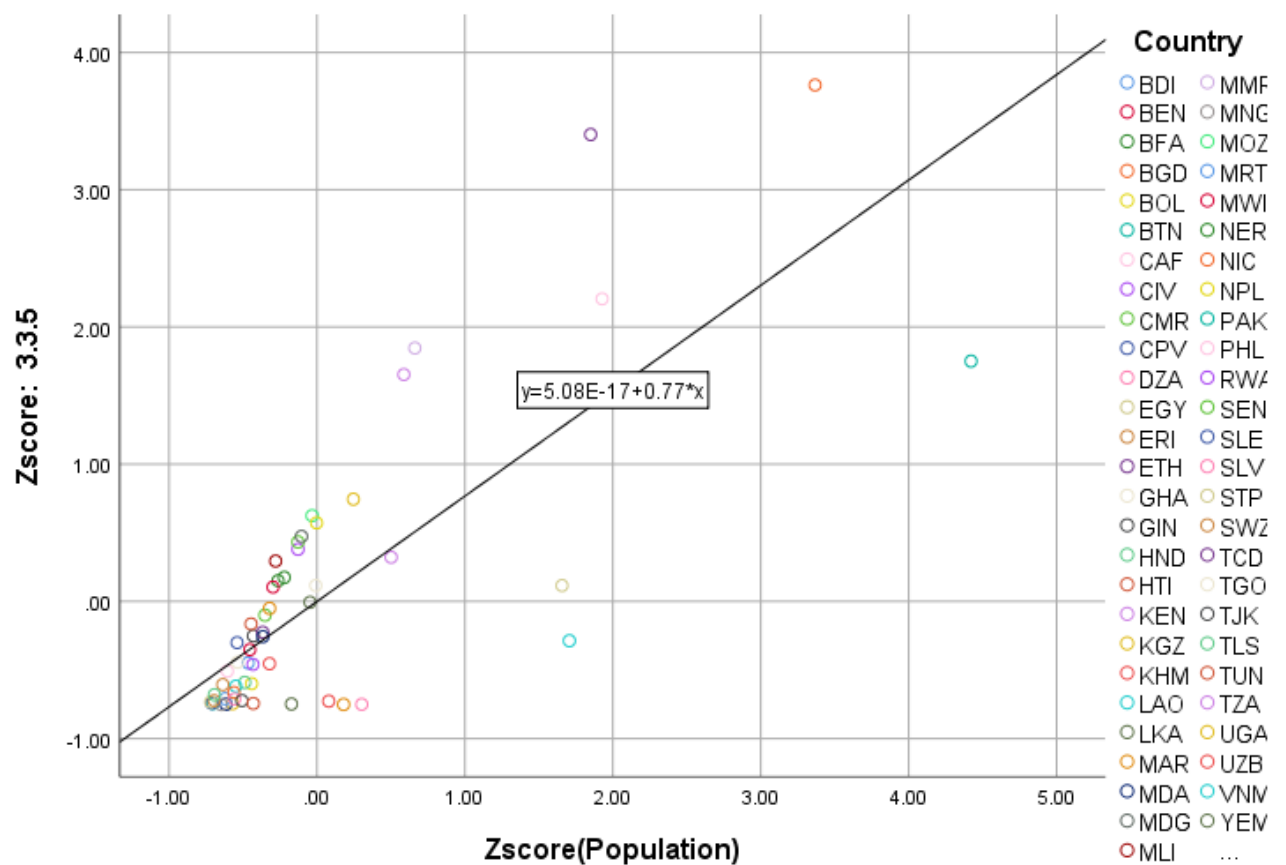
Supplementary Figure S2 shows the trends of example indicators (3.3.5 and 6.4.1) for different income levels and a scatterplot of data related to indicators 3.3.5 and 6.4.1 for all nations.



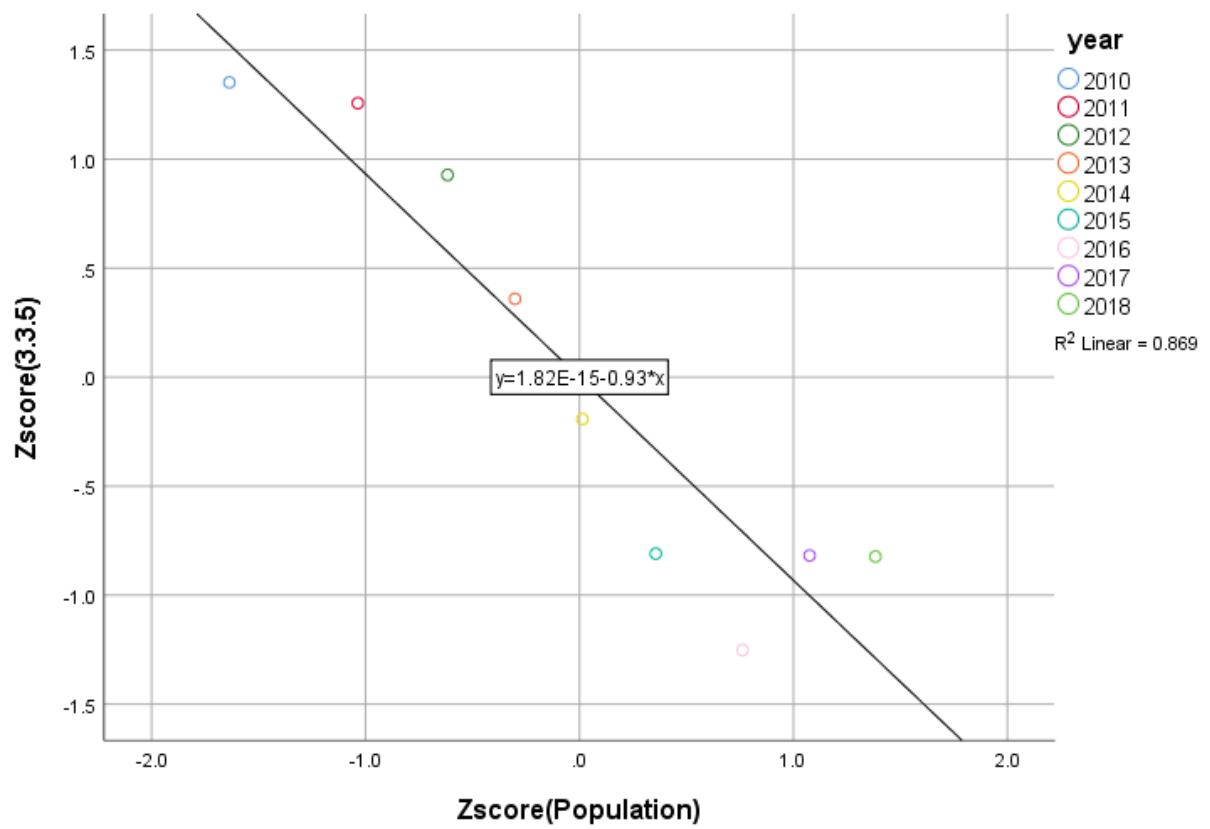
Supplementary Figure S3 Scatter plot of the correlations between indicators, GDP and population size

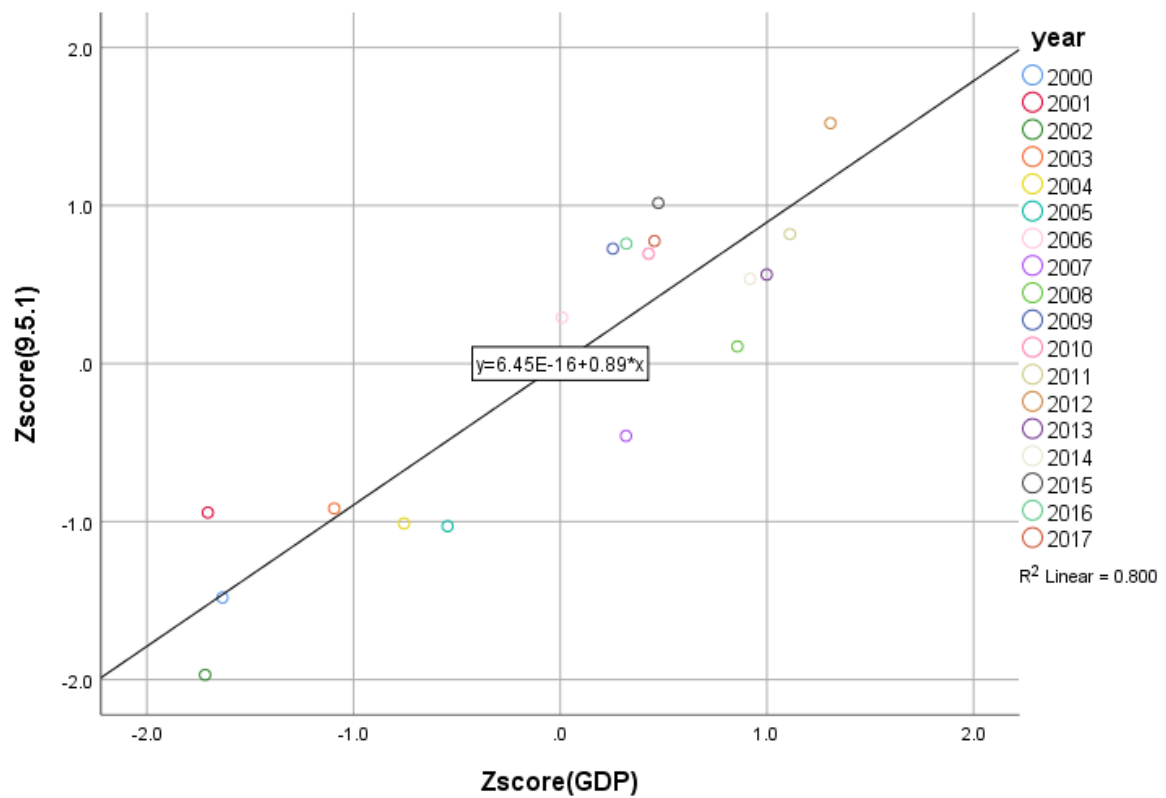
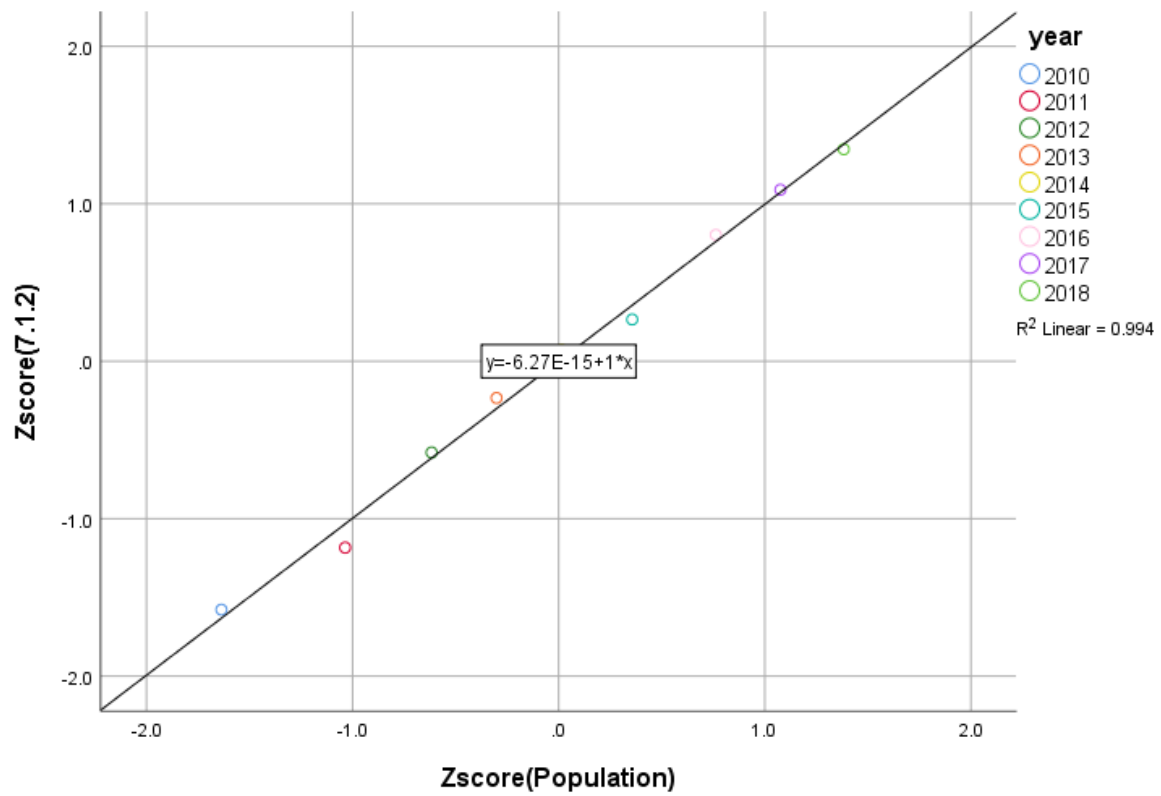






Supplementary Figure S4 Scatterplot shows yearly trend (the increase/decrease) of indicator influenced by population and GDP.





Supplementary Table S1. The magnitudes of the standardized coefficients (beta) of synergistic and trade-off interactions between indicators

Dependent indicator 1	Adjusted R square	Standardized coefficients (independent variable)			Dependent indicator 2	Adjusted R square	Standardized coefficients (independent variable)		
		Indicator 2	GDP	Pop			Indicator 1	GDP	Pop
1.5.1	0.90	0.94	-0.02	0.06	4.a.1a	0.90	0.96	0.03	-0.05
3.3.3	0.52	0.72	-0.01	-0.06	3.9.2	0.55	0.66	-0.21	0.01
3.3.5	0.06	0.04	-0.31	-0.12	6.4.1	0.45	0.03	0.69	0.00
3.3.5	0.35	0.61	0.03	-0.06	7.2.1	0.49	0.49	-0.39	-0.04
3.3.5	-0.24	-0.15	-0.25	-0.11	12.4.2a	-0.27	-0.15	0.16	-0.15
3.9.2	0.48	-0.66	-0.07	-0.02	4.a.1b	0.516	-0.592	0.26	0.04
3.9.2	0.40	-0.68	0.04	0.08	6.1.1	0.55	-0.52	0.03	0.41
3.9.2	-0.878	-0.878	-0.009	0.05	7.1.1	0.780	-0.841	0.101	0.062
3.9.2	0.770	-0.878	-0.009	0.05	7.1.2	0.780	-0.841	0.101	0.062
3.9.2	0.505	0.716	-0.03	-0.01	7.2.1	0.504	0.716	0.023	-0.006
4.a.1a	0.20	0.01	0.49	0.09	6.4.1	0.59	0.01	0.77	-0.02
4.a.1a	0.485	0.634	0.17	-0.07	7.1.1	0.467	0.656	0.089	0.09
4.a.1a	0.55	0.71	0.08	0.00	7.1.2	0.566	0.677	0.17	-0.01
4.a.1b	0.64	0.81	0.01	0.07	6.1.1	0.68	0.73	0.19	-0.06
4.a.1b	0.77	-0.88	-0.01	0.05	6.4.1	0.78	-0.84	0.10	0.06
4.a.1b	0.39	0.54	0.21	0.00	7.1.1	0.38	0.56	0.14	0.06
4.a.1b	0.42	0.59	0.13	0.06	7.1.2	0.45	0.55	0.24	-0.04
4.a.1b	0.40	0.60	0.16	0.20	12.4.2a	0.43	0.56	0.20	-0.20
6.1.1	0.50	0.72	0.07	0.27	6.3.1	0.57	0.63	0.24	-0.24
6.1.1	0.24	0.08	0.55	-0.03	6.3.2	0.07	0.10	0.30	-0.25
6.1.1	0.35	-0.22	0.74	0.00	6.4.1	0.47	-0.18	0.79	-0.02
6.1.1	0.70	0.71	0.23	0.06	7.1.1	0.66	0.79	0.03	-0.08
6.1.1	0.58	-0.50	0.45	-0.01	7.2.1	0.40	-0.70	0.10	-0.02
6.1.1	0.32	0.32	0.31	-0.15	12.4.2a	0.36	0.30	0.37	-0.14
6.4.1	0.50	-0.28	0.88	0.03	9.5.1	0.51	-0.28	0.87	0.16
6.4.1	0.47	-0.05	0.73	-0.03	12.4.2a	0.24	-0.06	0.52	-0.19
6.4.1	0.45	-0.01	0.68	-0.03	15.1.2	0.06	-0.02	0.23	-0.17
6.6.1b	0.14	-0.05	0.13	0.40	6.a.1	0.34	-0.04	-0.25	0.55
7.1.1	0.63	-0.70	0.20	0.06	7.2.1	0.60	-0.77	-0.01	0.03
7.1.1	0.11	-0.19	0.39	0.03	12.4.2a	0.08	-0.19	0.31	-0.13
7.1.2	0.68	-0.67	0.30	-0.04	7.2.1	0.61	-0.83	0.08	-0.05
7.1.2	0.15	-0.06	0.41	-0.15	12.4.2a	0.05	-0.07	0.28	-0.14
9.5.1	0.49	0.45	0.35	0.35	12.4.2a	0.52	0.46	0.32	-0.45
12.4.2a	0.26	0.48	0.21	0.03	15.1.2	0.29	0.46	-0.01	-0.27
12.4.2a	0.14	0.34	0.14	-0.05	15.5.1	0.22	0.31	0.23	-0.21
15.5.1	0.142	0.337	0.144	-0.051	12.4.2a	0.22	0.31	0.23	-0.21

Adjusted R square greater than 0.4 (bold) means acceptable range

Supplementary Table S2. Spearman's correlation coefficients and the number of samples for global and low-income country interlinkages

No	Indicator 1	Indicator 2	Global	No. of countries / sample	S/T global	Low income	No. of countries / sample	S/T low income
1	1.5.1	4.a.1a	0.54	103	S	0.60	17	S
2	3.3.3	3.9.2	0.84	135	S	0.51	27	S
3	3.3.5	6.4.1	0.58*	155	S	-0.34	23	N
4	3.3.5	7.2.1	-0.54*	164	T	0.21	27	N
5	3.3.5	12.4.2a	0.52*	61	S			
6	3.9.2	4.a.1b	0.84*	79	S	0.56*	11	S
7	3.9.2	6.1.1	0.79*	127	S	0.76*	34	S
8	3.9.2	7.1.1	0.91*	186	S	0.66*	27	S
9	3.9.2	7.1.2	-0.85	145	T	-0.56	27	T
10	3.9.2	7.2.1	-0.61	181	T	0.51	27	T
11	4.a.1a	6.4.1	0.60	74	S			
12	4.a.1a	7.1.1	0.84	125	S	0.10	14	N
13	4.a.1a	7.1.2	0.61	50	S			
14	4.a.1b	6.1.1	0.79	61	S			
15	4.a.1b	6.4.1	0.55	78	S	-0.37	12	N
16	4.a.1b	7.1.1	0.81	128	S	0.33	15	N
17	4.a.1b	7.1.2	0.50	56	S			
18	4.a.1b	12.4.2a	0.50	71	S			
19	6.1.1	6.3.1	0.67	26	S			
20	6.1.1	6.3.2	0.50	25	S			
21	6.1.1	6.4.1	0.68	113	S			
22	6.1.1	7.1.1	0.62	67	S			
23	6.1.1	7.2.1	-0.51	160	T			
24	6.1.1	12.4.2a	0.55	58	S			
25	6.4.1	9.5.1	0.55	120	S	0.55	12	S
26	6.4.1	12.4.2a	0.64	65	S			
27	6.4.1	15.1.2	0.50	158	S	0.57	22	S
28	6.6.1b	6.a.1	0.66	167	S	0.51	26	S
29	7.1.1	7.2.1	-0.67	148	T	-0.51	27	T
30	7.1.1	12.4.2a	0.57	77	S			
31	7.1.2	7.2.1	-0.72	190	T	-0.65	27	T
32	7.1.2	12.4.2a	0.55	76	S			
33	9.5.1	12.4.2a	0.52	71	S			
34	12.4.2a	15.1.2	0.57	71	S			
35	12.4.2a	15.5.1	0.60	77	S			
36	15.5.1	12.4.2a	0.60	77	S			

S: synergy; T: trade-off *applied analogous rationale