Analyzing Developmental Paths with Respect to the Narrow Corridor

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Abstract

This study reconsiders the narrow corridor proposed by Acemoglu and Robinson (2017) in an attempt to discover any underlying empirical patterns. Mainly building upon Murphy and O'Reilly (2022, 2023) we first replicate their findings. Afterwards we devise some sub-corridors by dividing the narrow corridor into five sections. This is to characterize graph regions that indicate different developmental paths over time. Our key findings are regardless of position with regards to the corridor, development is likely to occur, being in an undesirable part within the corridor is more likely to hurt development than aid it, and countries with close geographical proximity and similar historical backgrounds are likely to observe similar developmental movements.

1. Introduction

The relationship between the strength of the state and the strength of the society is not a novel concept in economic literature, however Acemoglu and Robinson (2017, 2020) introduce a new way of looking at it. They use a dynamic contest model to analyze the different steady states that occur when the state is relatively strong, when the civil society is relatively strong, and when they are of relatively similar strength. The authors find that if either side is relatively strong, it will engulf the opposing side and disrupt economic growth and development in the long run. When neither civil society nor state capacity dominates the other, a country enters the "narrow corridor" and both variables grow significantly.

Murphy and O'Reilly (2022, 2023) introduce a new way of measuring state capacity in order to test the corridor empirically. The authors run a principal component analysis using the rule of law index and the state authority over territory, rigorous and impartial public administration, particularistic or public goods variables from the Varieties of Democracy dataset. Using this result as a state capacity variable and the participatory index variable from the same dataset as the civil society measure, the authors examine whether countries within the narrow corridor indeed enjoy higher development. Their findings do not support the existence of the "narrow corridor".

This study will once again attempt to empirically construct the "narrow corridor" using the same parameters as Murphy and O'Reilly (2023). However, we will also attempt to divide the corridor into multiple sub-corridors in order to analyze if this increased development is indeed observed, just not at all points of the corridor. We will further look at geographical trends and in which sub-corridors certain countries have been historically.

In Section 2, we describe the process of dividing the corridor into smaller parts, explain the new figures and tables that arise as a result of this process, and analyze the results. Section 3 concludes.

2. Empirical Analysis

In order to construct the narrow corridor and the paths certain countries follow over time, the methodology of Murphy and O'Reilly (2023) was replicated to a degree. From the Variety of Democracy dataset, the participatory index variable (v2csprtcpt) was used as an empirical measure for civil society. For the state capacity measure, as in Murphy and O'Reilly (2022), a principal component analysis was run using the four variables, the rule of law index (v2x_rule), state authority over territory (v2svstterr), rigorous and impartial public administration (v2clrspct), and particularistic or public goods (v2dlencmps). Both the civil society and state capacity indices were standardized. The choice of countries was made considering the available data, any country that did not have data available for the year 1855 and afterwards was not included in the analysis. The number of countries that did have available data for this time frame was 48.

The narrow corridor is visually displayed in Figure 1. For each country, the position with respect to the corridor in the years 1855 and 2015 is shown, and the path each country takes between these years is also observable. The red, circular data points represent the position of the countries in 1855, and the green, triangular data points represent the position of the countries in 2015. The same plot is done for 4 geographical zones, including Europe, Africa, Asia, and The Americas in Figures 2, 3, 4, and 5, respectively.

The corridor shown here is clearly quite large and includes many of the countries, so naturally, it is a plausible exercise to divide the corridor further into sub-corridors. It is possible that countries that are at certain parts of the corridor develop at higher rates than those in other parts of the corridor. For this reason, we divided the corridor into 3, and the outside of the corridor into 2, yielding in total 5 sub-corridors. For simplicity the sub-corridors will be called areas from now on. Area 1 is located above the corridor. Area 2 is the area inside the corridor where both civil society and state capacity indices are less than 0. The purpose of including area 2 is to observe whether there are countries that are within the corridor, but do not observe any growth in either parameter, as merely staying in the corridor is no accomplishment. As for the shape of area 2, it was decided that including just a vertical or horizontal line dividing the corridor would unjustly reward countries with one index higher than the other, and so this shape was agreed upon. Areas 3 and 4 are the areas within the corridor (with at least one parameter greater than zero) above and below the y=x line respectively. Area 5 is located below the corridor. All of this information is displayed on Figure 6.

For each country in the dataset, the area they were located in from 1855 to 2015, in 10 year intervals, was detected. For most countries, 17 data points were available, however for a minority of countries there was a period within the time frame where data was not available. Even for such countries, a minimum of 11 data points were available. The information is displayed in 5 different world maps for each area, where a country that is not in the analysis is shaded grey, a country that is in the analysis but is not in the given area for over 50% of its data points is shaded light blue, and a country in the analysis and in the given area for over 50% of its data points is shaded red. These world maps are shown in Figures 7 through 11.

Further, in Table 1, the time each country spends in each area as a percentage of the total time can be observed.

Visually, the results suggest that with very few exceptions, countries both within the corridor and outside the corridor experience improvement in both indices over time. There is no example of a country outside of the corridor, over the years, coming much closer to the vertical or horizontal axes. Countries such as Bolivia, The Dominican Republic, and Thailand that had much higher civil society values than state capacity values contrarily experienced a significant increase in state capacity and moved closer to the corridor. Similarly, countries that had much higher state capacity values than civil society, such as Japan and Austria, observed increases in civil society and also moved closer to, or directly into, the narrow corridor. Countries that did not experience improvement are rare, Egypt is one such example, but Egypt experiences an unorthodox path, moving from the lower boundary of the corridor in 1855 to above the corridor in 2015, making it difficult to explain this movement using the corridor.

Considering the predominant areas for each country, it is possible to notice certain geographical and historical trends. Considering the countries in the data that are located in the Caribbean and Central America, one will notice every single one except for Costa Rica, namely Honduras, Haiti, Guatemala, El Salvador, and the Dominican Republic have been in area 5 for over half of the time. These countries have notoriously similar colonial pasts. For these countries especially, the argument that being inside the narrow corridor will lead to rapid improvement is doubtful as they have evidently spent a long time in an undesirable area despite being mostly within the corridor.

A new table, Table 2, is formed by collecting area data of all countries within the data set for all periods within the time frame. It is used to analyze whether a country is more likely to move to desirable areas, areas 3 and 4, from within the corridor, starting at area 2, or from outside the corridor, starting at areas 1 or 5. Starting from area 2, the probability of moving out of the corridor to areas 1 or 5 is twice or more than twice the probability of moving to areas 3 or 4. Furthermore, the probability of moving from outside the corridor to the bordering desirable areas within the corridor is greater than the probability of moving to the same desirable areas from area 2. The probability of moving from area 1 to area 3 is 11.8%, while the probability of moving from area 2 to area 3 is 4.48%. Similarly, the probability of moving from area 5 to area 4 is 8.70%, while the probability of moving from area 2 to area 4 is 5.97%. These results show that, as constructed, it provides more future prospects to a developing country to move outside of the corridor than to stay within the corridor.

3. Concluding Remarks

This study attempted to empirically reconsider the concept of the narrow corridor proposed by Acemoglu and Robinson (2017, 2020), building upon Murphy and O'Reilly (2022, 2023). Using data from the Varieties of Democracy dataset, the developmental paths of 48 countries in terms of their state capacity and civil society values were constructed. In the long term, most countries inside and outside of the corridor enjoyed economic development.

Afterwards, the corridor was further divided in order to identify whether any regions of the corridor are likely to lead to faster and more stable development. The results show that moving to desirable zones within the corridor is not easier when beginning at an undesirable place within the corridor. Indeed, if a country is beginning their path from outside of the corridor, the data shows that they are more likely to end up at a desirable point within the corridor.
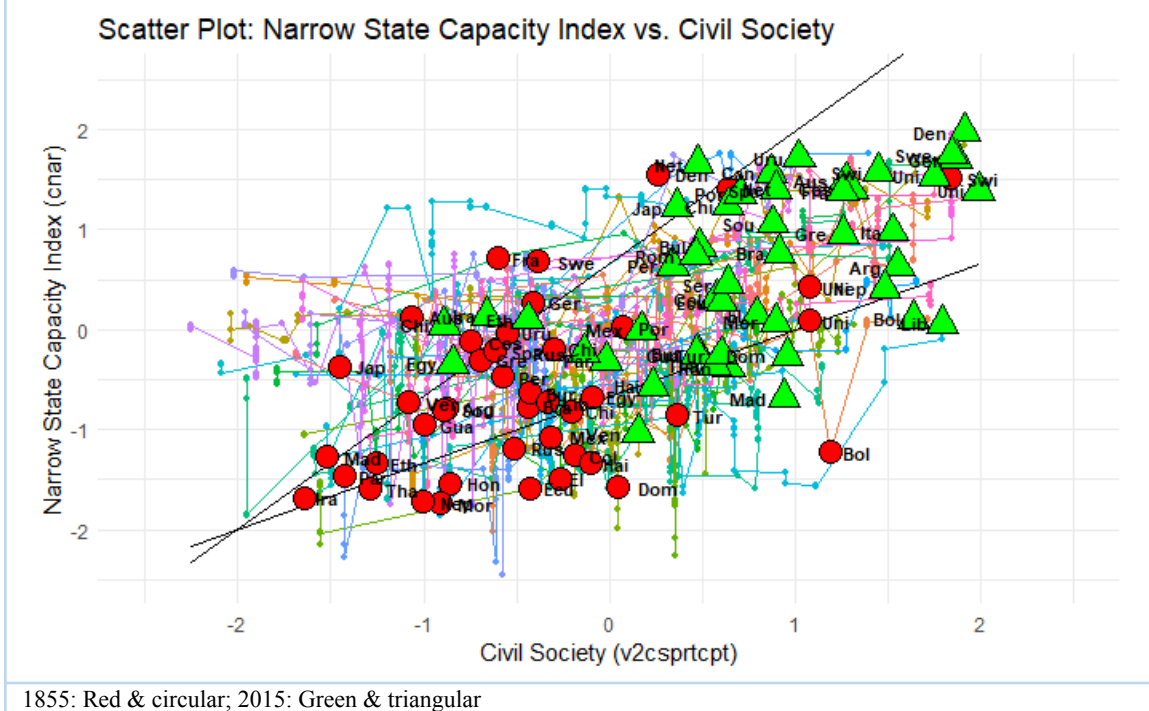
It is possible to continue the research in this paper by expanding upon the idea of the transition matrix and using more formal statistical techniques to analyze the transitional probabilities. A viable venue for future research is to obtain an empirically obtained positioning of the narrow corridor and of our areas (sub-corridors) against a preset scheme as employed in this paper. We plan to continue with an array of nonparametric kernel density estimates over the *civil society – space capacity plane*, so that we can use the density of nearby points to predict the future values of civil society and state capacity values of countries.

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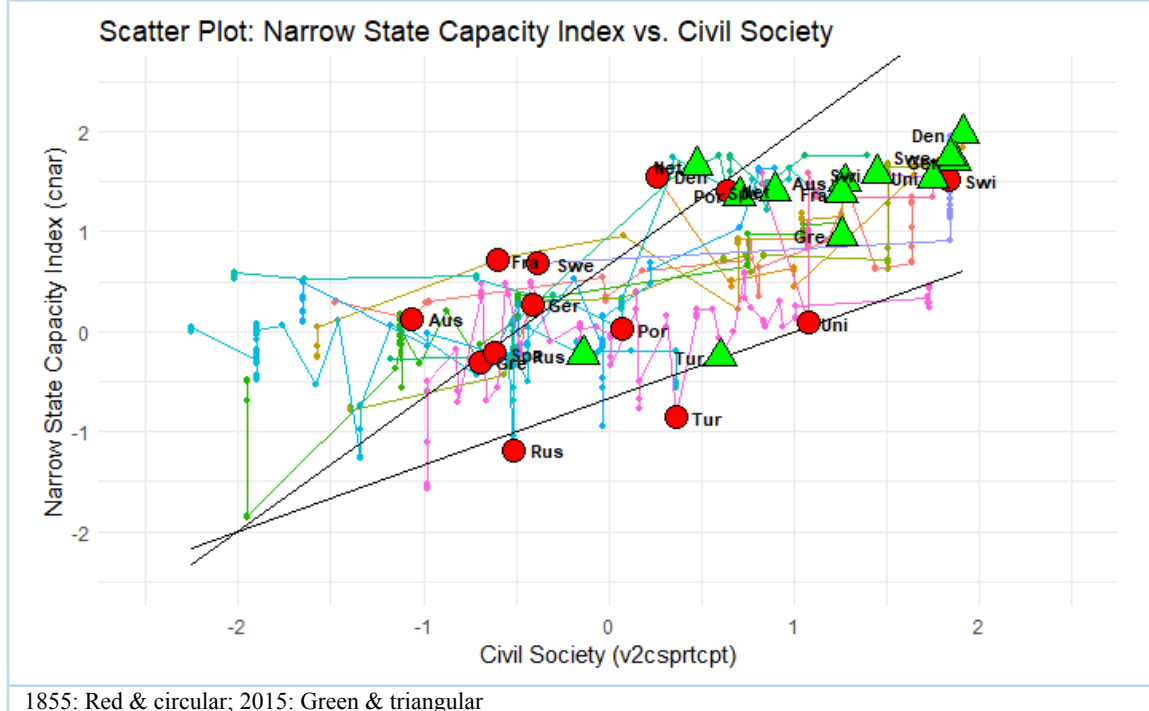Acemoglu, Daron, and James A. Robinson. "The emergence of weak, despotic and inclusive states." *SSRN Electronic Journal*, 2017, https://doi.org/10.2139/ssrn.3013821.

Tables and Figures

Figure 1. State Capacity versus Civil Society: All Countries

Scatter Plot: Narrow State Capacity Index vs. Civil Society

1855: Red & circular; 2015: Green & triangular

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Figure 2. State Capacity versus Civil Society: European Countries

Scatter Plot: Narrow State Capacity Index vs. Civil Society

1855: Red & circular; 2015: Green & triangular

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Figure 3. State Capacity versus Civil Society: African Countries

Scatter Plot: Narrow State Capacity Index vs. Civil Society

1855: Red & circular; 2015: Green & triangular

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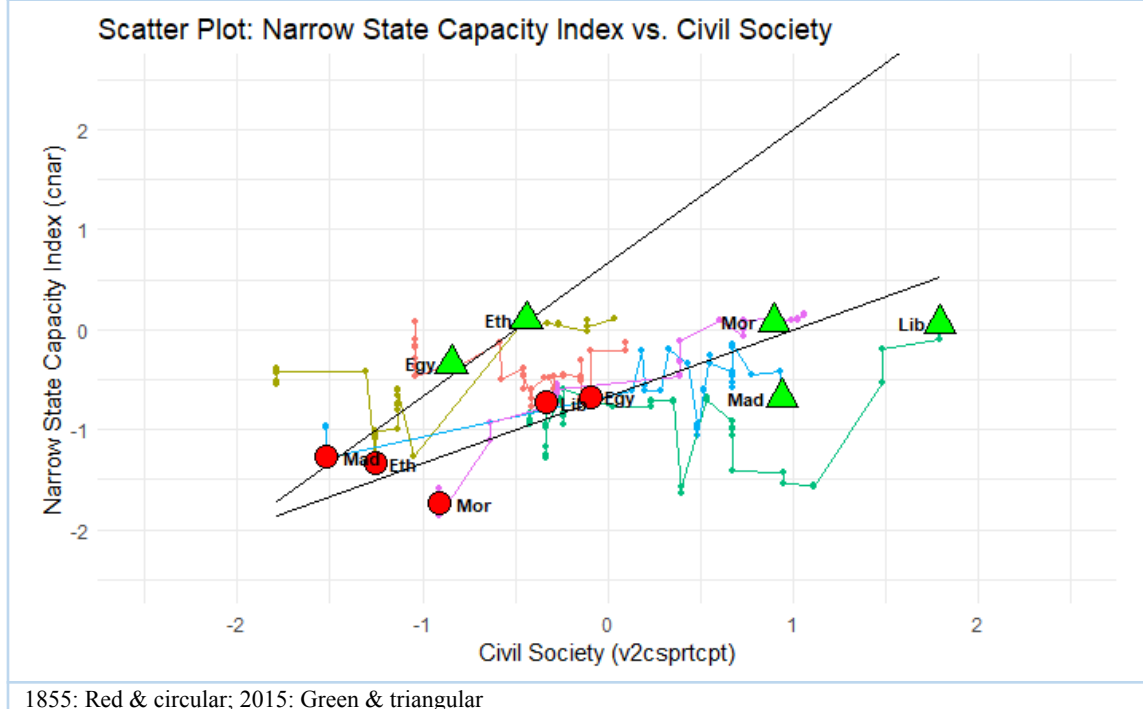
Figure 4. State Capacity versus Civil Society: Asian Countries

Scatter Plot: Narrow State Capacity Index vs. Civil Society

1855: Red & circular; 2015: Green & triangular

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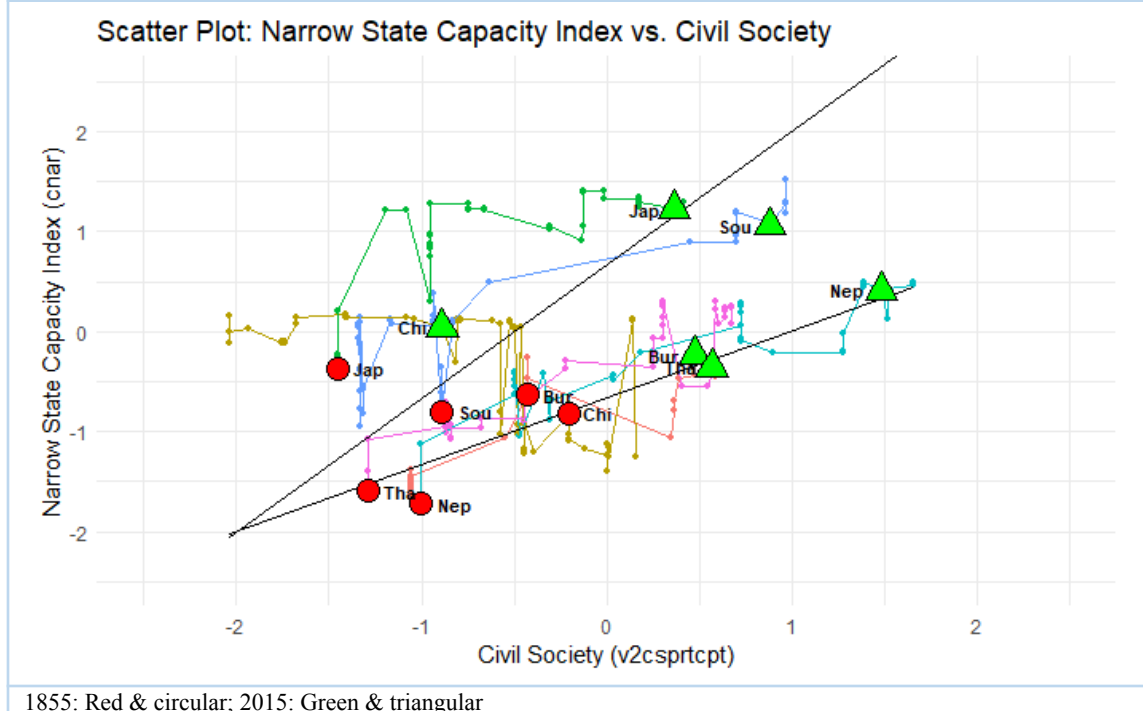
Figure 5. State Capacity versus Civil Society: American Countries

Scatter Plot: Narrow State Capacity Index vs. Civil Society

1855: Red & circular; 2015: Green & triangular

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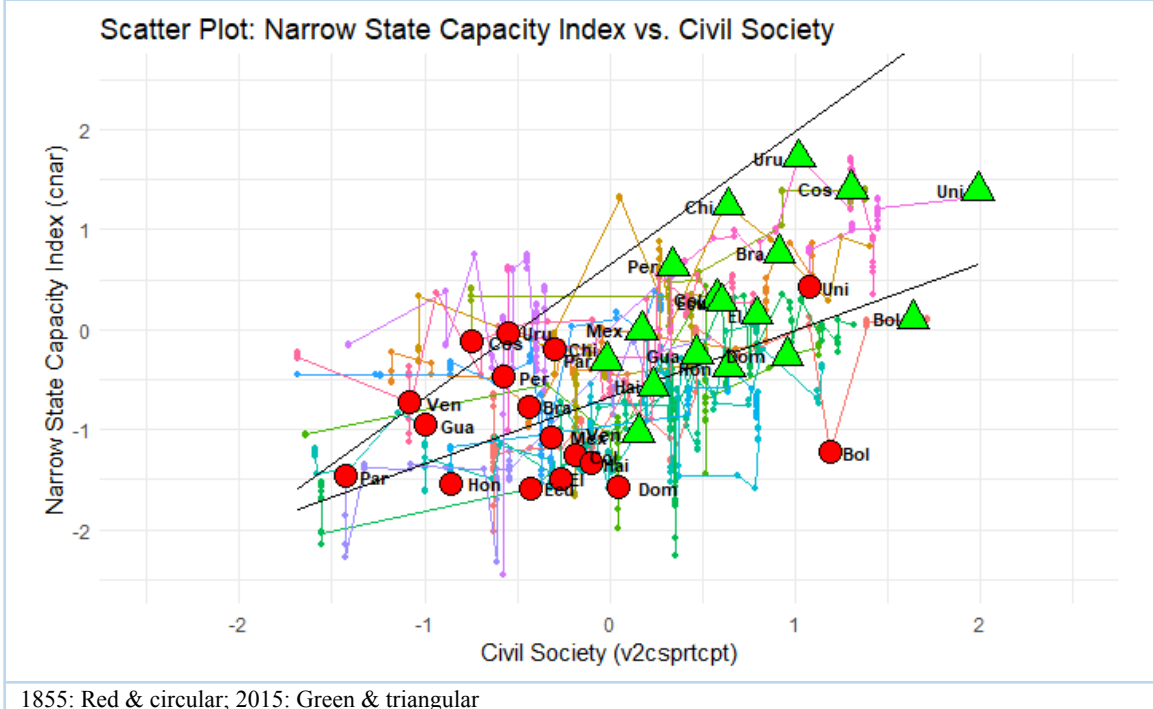
Figure 6. Division of Civil Society-State Capacity Space into Areas (Not to scale)
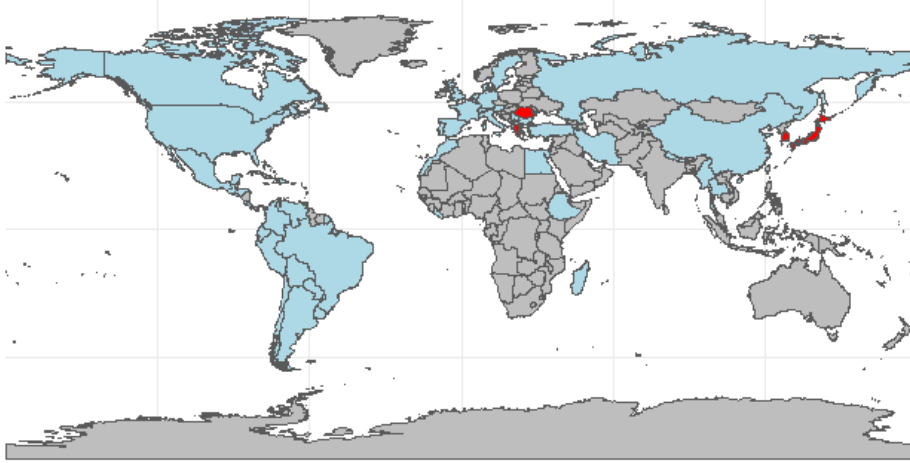

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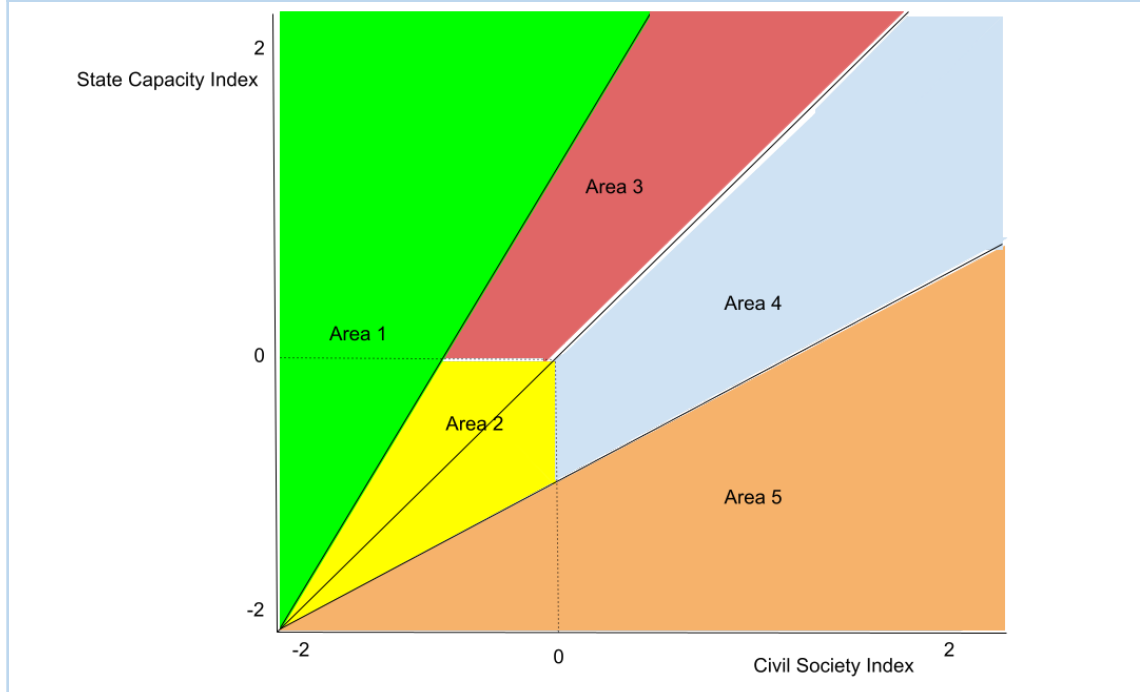
Figure 7. Countries Predominantly Staying in Area 1
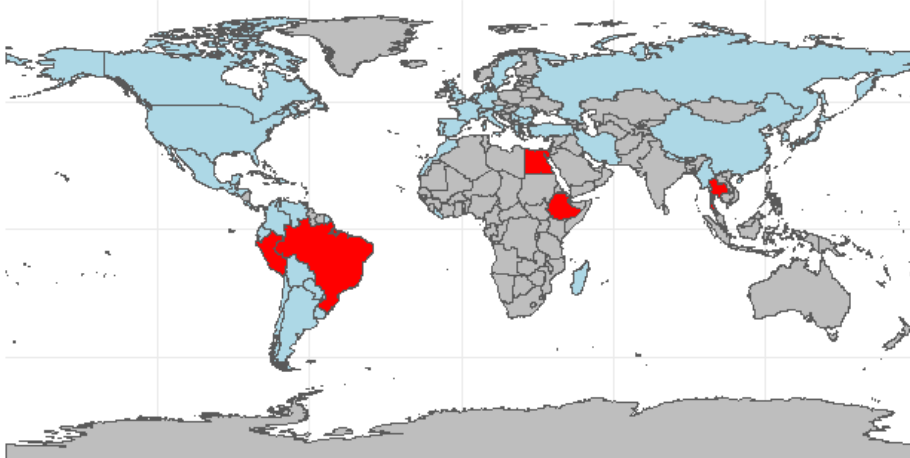

Countries with Over 50 in Area 1

Red: Countries in Area 1; Blue: All sample countries

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Figure 8. Countries Predominantly Staying in Area 2
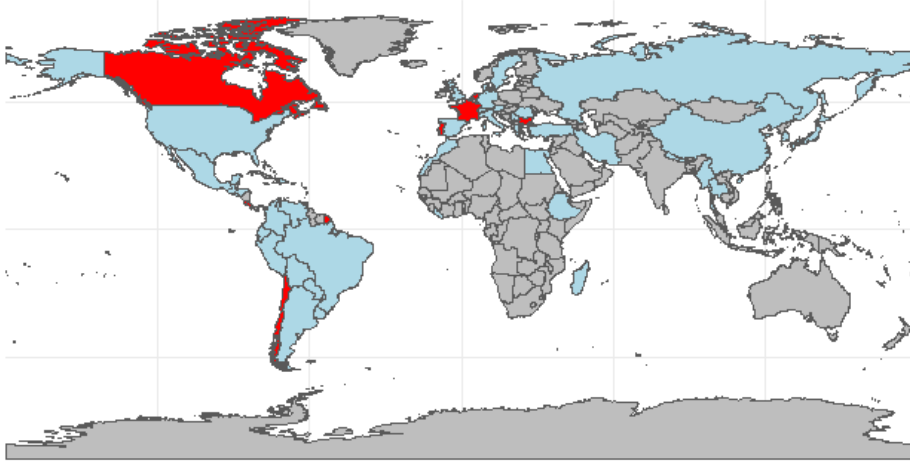

Countries with Over 50 in Area 2

Red: Countries in Area 2; Blue: All sample countries

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Figure 9. Countries Predominantly Staying in Area 3
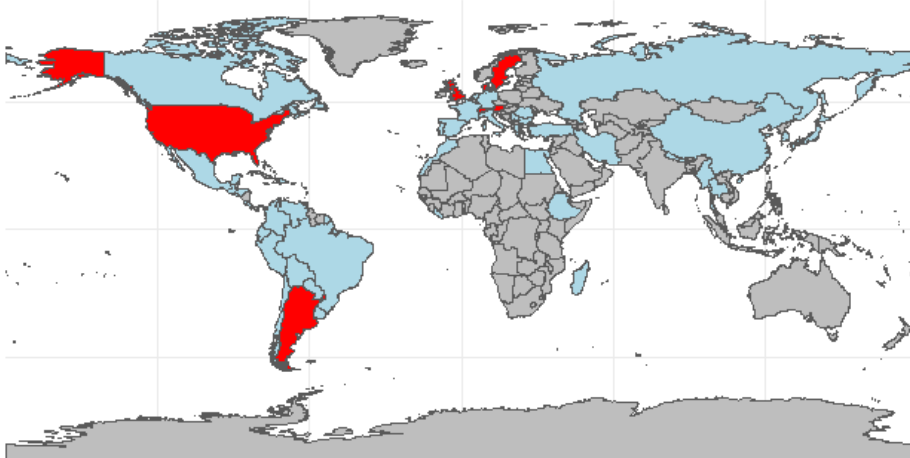
Countries with Over 50 in Area 3

Red: Countries in Area 3; Blue: All sample countries

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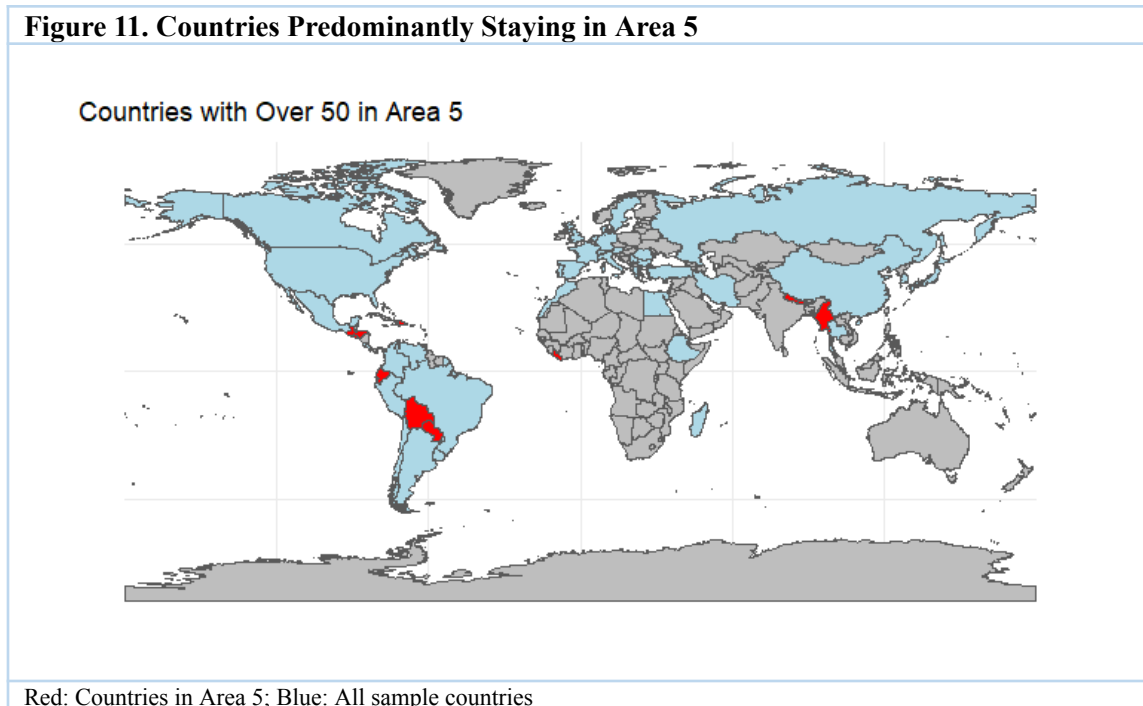**Figure 10. Countries Predominantly Staying in Area 4**

Countries with Over 50 in Area 4

Red: Countries in Area 4; Blue: All sample countries

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Figure 11. Countries Predominantly Staying in Area 5

Countries with Over 50 in Area 5

Red: Countries in Area 5; Blue: All sample countries

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Table 1. Times Spent by Each Country in Areas 1 through 5 as a Fraction of Total Time

		I	II	III	IV	V			I	II	III	IV	V
1	Argentina	0.1765	0.0588	0.0000	0.7059	0.0588	25	Italy	0.3750	0.0625	0.3125	0.2500	0.0000
2	Austria	0.1765	0.0000	0.2941	0.5294	0.0000	26	Japan	1.0000	0.0000	0.0000	0.0000	0.0000
3	Bolivia	0.0000	0.2353	0.0000	0.1765	0.5882	27	Liberia	0.0000	0.2941	0.0000	0.0000	0.7059
4	Brazil	0.1176	0.6471	0.0000	0.2353	0.0000	28	Madagascar	0.4545	0.0000	0.0000	0.1818	0.3636
5	Bulgaria	0.4286	0.0000	0.5714	0.0000	0.0000	29	Mexico	0.2941	0.1176	0.1176	0.0588	0.4118
6	Burma/Myanmar	0.0000	0.3636	0.0000	0.0909	0.5455	30	Morocco	0.0000	0.2727	0.0000	0.2727	0.4545
7	Canada	0.0000	0.0000	0.6667	0.3333	0.0000	31	Nepal	0.0000	0.1176	0.0000	0.1765	0.7059
8	Chile	0.1765	0.0588	0.5294	0.2353	0.0000	32	Netherlands	0.3529	0.0588	0.5882	0.0000	0.0000
9	China	0.4118	0.2941	0.0000	0.0000	0.2941	33	Paraguay	0.0000	0.3529	0.0000	0.1176	0.5294
10	Colombia	0.0000	0.4706	0.0000	0.1765	0.3529	34	Peru	0.2353	0.5882	0.1765	0.0000	0.0000
11	Costa Rica	0.2941	0.0000	0.6471	0.0588	0.0000	35	Portugal	0.4118	0.0000	0.5294	0.0588	0.0000
12	Denmark	0.0588	0.0000	0.2941	0.6471	0.0000	36	Romania	0.7857	0.0000	0.1429	0.0714	0.0000
13	Dominican Republic	0.1875	0.0000	0.0000	0.0625	0.7500	37	Russia	0.4706	0.4118	0.0000	0.0000	0.1176
14	Ecuador	0.0000	0.0588	0.0000	0.1176	0.8235	38	Serbia	0.5000	0.3571	0.0000	0.1429	0.0000
15	Egypt	0.2727	0.5455	0.0000	0.1818	0.0000	39	South Korea	0.5385	0.2308	0.2308	0.0000	0.0000
16	El Salvador	0.0000	0.1765	0.0000	0.1765	0.6471	40	Spain	0.2941	0.2941	0.4118	0.0000	0.0000
17	Ethiopia	0.3529	0.5294	0.1176	0.0000	0.0000	41	Sweden	0.0588	0.0000	0.2941	0.6471	0.0000
18	France	0.1765	0.0000	0.7059	0.1176	0.0000	42	Switzerland	0.0000	0.0000	0.2941	0.7059	0.0000
19	Germany	0.1875	0.0000	0.5000	0.3125	0.0000	43	Thailand	0.0000	0.5882	0.0000	0.1765	0.2353
20	Greece	0.7059	0.0588	0.0588	0.1765	0.0000	44	Turkey	0.2353	0.1765	0.0588	0.1765	0.3529
21	Guatemala	0.0588	0.2941	0.0000	0.1176	0.5294	45	UK	0.0000	0.0000	0.2353	0.7647	0.0000
22	Haiti	0.0000	0.0667	0.0000	0.0667	0.8667	46	USA	0.0000	0.0000	0.0000	1.0000	0.0000
23	Honduras	0.0000	0.0000	0.0000	0.0000	1.0000	47	Uruguay	0.0588	0.0588	0.4118	0.4118	0.0588
24	Iran	0.3529	0.4706	0.0588	0.0000	0.1176	48	Venezuela	0.3529	0.2353	0.0588	0.2941	0.0588

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Table 2. Transition Probabilities Between Areas 1 through 5

	1	2	3	4	5
1	0.726708	0.093168	0.118012	0.043478	0.012422
2	0.134328	0.641791	0.044776	0.059701	0.119403
3	0.000000	0.018182	0.827273	0.154545	0.000000
4	0.027397	0.006849	0.109589	0.780822	0.075342
5	0.018634	0.111801	0.006211	0.086957	0.776398

Represents the probability of any given country to transition from one area to another. The rows represent the initial area and the columns represent the transitioned area.