THE GRADUATE INSTITUTE GENEVA

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GRADUATE INSTITUTE OF INTERNATIONAL AND DEVELOPMENT STUDIES

State Fragility and Rule of Law in OECD Countries

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1. Theoretical and Empirical Example

1.1 Research Question

Does state fragility impact rule of law?

1.2 Data

This research will utilise Quality of Government OECD Dataset (QoG), which correlates publicly available. (Teorell, et al., 2021) The QoG data is a set of comparative data on Quality of Governance which correlates publicly available (Teorell, et al) The institute conducts research on the causes, consequences, and nature of Good Governance and the Quality of Government (trustworthy, reliable, impartial, uncorrupted, and competent government institutions). The main objective of the research is to address the theoretical and empirical problems of how political institutions of high quality can be created and maintained. A second objective is to study the effects of Quality of Government on a number of policy areas. The QoG Standard Dataset is the largest dataset constituting of more than 2,000 variables. In this research, QoG cross-sectional OECD Dataset which covers OECD member countries and has high data coverage in terms of geography and time will be studied.

1.3 Hypothesis

H1: The network tends to be clustered.
H2: The safer and more securer the country is, the rule of law tends to be stronger.
H3: The wealthier the country is, the rule of law tends to be stronger.
H4: The more effective the government is, the rule of law tends to be stronger.
H5: The higher the human capital index is, the rule of law tends to be stronger.

1.4 Selection of Variables

The choice of variables for this analysis is informed by the literature on the conflict, governance and state fragility (Marshall & Elzinga-Marshall, 2017). As the QoG Standard Dataset (Teorell et al., 2021) provides sufficient geographical coverage, there won't be further addition to the variables regarding geographical scope. Determinants of state fragility are security indicators, political indicators, economic indicators, and social indicators. The Global Report 2017 on the conflict, governance and state fragility (Marshall & Elzinga-Marchall, 2017) developed their findings and utilisation of a matrix of effectiveness and legitimacy dimensions as a method for assessing state fragility based on the study conducted at the University of Maryland's IRIS centre (Marshall & Elzinga-Marshall, 2017).

To be more specific, Marshall and Elzinga-Marshall articulated that security effectiveness, security legitimacy, political effectiveness, political legitimacy, economic effectiveness, economic legitimacy, social effectiveness and social legitimacy can be considered as the indicators for each sector. However, this report will only focus on the effectiveness dimension rather than legitimacy dimension, as determinants for legitimacy are more challenging to be quantified.

To reduce redundancy and errors in the analysis, this research utilised variables acquired from the QoG OECD Dataset (Teorell et al., 2021), and selected security apparatus (ffp_sec) for the security effectiveness indicator; government effectiveness wit h standard error (wbgi_ges) as political effectiveness indicators; economy policy performance (sgi_ecec) as economic effectiveness indicator, and human capital index (egov_hci) as social effectiveness indicators, and rule of law(wbgi_rle) as the dependent variable.
However, as human capital index value is null, this report will only use security, government effectiveness, and economy policy performance as variables.

1.5 Data Visualisation

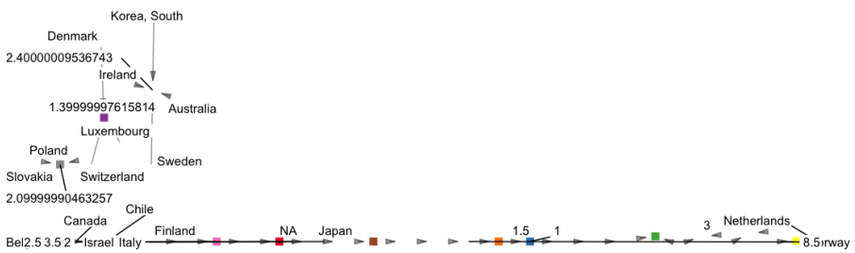

Figure above is the initial visualisation of the plot with only dependent variables. This plot illustrates the network with OECD members. This projected one-mode network for OECD members with state fragility features show a not fully connected graphs. This proves that countries within OECD still shows significant level of differences in state fragility. Also due to missing data, the graph does not fully capture the network relationship.

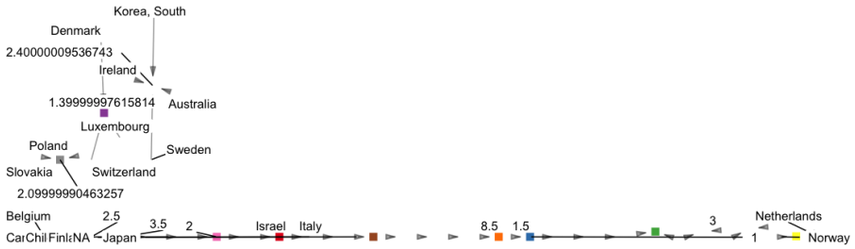

Figure above is the visualisation of the plot with dependent and independent variables. This plot illustrates the network with OECD members with state fragility features and rule of law feature. We can observe that there is no significance difference. Due to missing data, the graph does not fully capture the network relationship.

2. Observed and Simulated networks

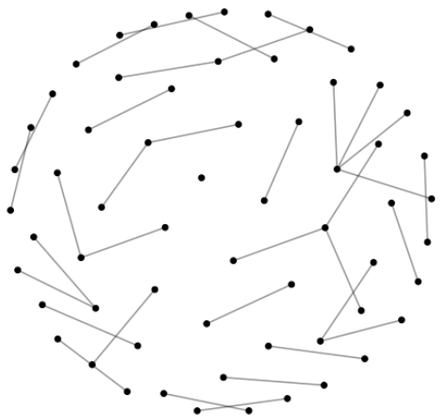

Figure above shows observed model for OECD ERGM Network

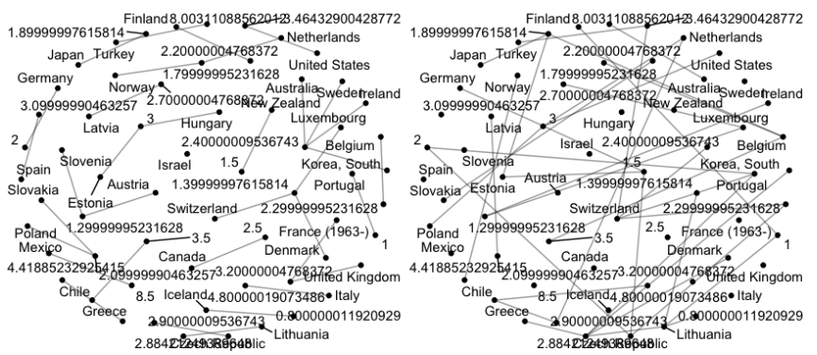

Figure above presents actual simulated networks of OECD countries with political, economy, and security variables and the effect on rule of law.
By comparing the simulated networks with the observed networks we can see that there are more interactions between actors in the simulated network. The simulation seems to capture many of the original network.

```
Call:
ergm(formula = oecd_rle_network ~ edges)

Maximum Likelihood Results:

      Estimate Std. Error MCMC % z value Pr(>|z|)
edges  -3.2074     0.1724      0   -18.6   <1e-04 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

    Null Deviance: 1247.7  on 900  degrees of freedom
 Residual Deviance:  295.9  on 899  degrees of freedom

AIC: 297.9  BIC: 302.7  (Smaller is better. MC Std. Err. = 0)
```

The summary above presents From the summary we can see that the ERGM model for OECD countries state fragility and rule of law the formula used in the model, the number of iterations the model used, and the parameter estimate, standard error, log likelihood, and p-values with typical significance codes with deviance, AIC and BIC.

3. Conclusion

This research aimed to find out the relationship of state fragility and rule of law among OECD countries. There were several challenges during the process. First, the selection of the variables was challenging due to the large volume of initial dataset. Secondly, the most challenging feature for the research was the problem of missing values. To begin with, one of the important variable (human capital index) could not be examined due to missing values of the variables. It was also difficult to analyze, plot and visualise the network due to large volume of missing data in the variable. While the QoG dataset presents comprehensive coverage of geographic and thematic areas, the lack of data makes it extremely difficult to analyse the network aspect.

```
> oecd_rle_network.gof <- gof(oecd_rle_ergm,  GOF = ~ degree + triadcensus
 + espartners - model)
Error in 0:nb2 : NA/NaN argument
```

As it was also impossible to conduct the goodness of fit test due to the large volume of missing data and overlaps. Therefore, while H1 can be confirmed, rest of the hypothesis were not able to be answered with statistically significant values. While the findings suggest that there is a certain degree of relationships between state fragility and rule of law among OECD countries, the dataset utilised in this research does not fully support the argument.