

Constructing Dataset on Authoritarian International Organization

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Background

Understanding Authoritarian International Organizations

- Authoritarian Intergovernmental Organizations (AIGO):
formal IGOs that are largely comprising authoritarian states

Project Goals

Operationalizing Authoritarian International Organizations

- Creating aggregate level variable based on country-level data
- Creating indices for robustness check

Finding distinctive patterns of AIO compared to democratic counterparts

Outline of the Project

Data Construction

- First, merge datasets into two: (1) IO level meta data and (2) country level meta data.
- Second, identify member states of each IO and create aggregate-level indices.

Data Analysis

- Test whether an IO that's democracies on average shows different institutional characteristics compared to an IO composed of non-democracies.
- Lastly, conduct robustness checks using different measurements of democracy.

Data Sources

Country-level Data

Covers time range of 1970 2021

- World Development Indicators
- Rule of Law
- Security variables
- Democracy indices
- Globalization indices

IO-level Data

Covers time range of 1970 2014

- Inception, type of IO
- Institutional features of IO
 - Pooling
 - Delegation
 - Dispute Settlement Mechanism

Country-level Variables

```
library(dplyr)
country <- qog %>%
  dplyr::select(cname, year, ccodecow,
    # World Development Indicators
    wdi_gdpcapcon2015, wdi_pop, wdi_trade,
    # Rule of Law
    wjp_overall, wbgi_rle,
    # Security variables
    wbgi_pve, cspf_sfi, atop_number,
    # Democracy Indices
    vdem_polyarchy, vdem_libdem,
    # Democracy Indices (Alternatives for
    robustness check)
    p_polity2, chga_demo, bmr_dem,
    # Globalization Index
    kofgi_dr_eg=dr_eg,
    kofgi_dr_ig=dr_ig,
    kofgi_dr_pg=dr_pg,
```

IO-level Variables

Transposing IO-level data into country-level data

```
COW <- COW %>%  
  rename(cow_igocode = ionum)%>%  
  relocate(cow_igocode, ioname, year, political ,  
            social , economic)%>%  
  pivot_longer(c('afghanistan': 'zimbabwe'),  
               names_to="country",  
               values_to="membership")%>%  
  filter(membership==1) #member states only  
  
COW$ccode<-countrycode(COW$country, origin='country  
  .name',  
                        destination='cown', warn = TRUE)
```

```
COW<-COW%>%  
  filter(!is.na(ccode))
```

Adding a few additional variables

```
MIA <- MIA %>%
```

Merging Summarizing at IO level

First, match each member state with its country level information.

```
igo_master <- COW %>%  
  left_join(country, by=c("ccode", "year"))
```

Next, aggregate at IO level with summarise() function.

```
igo <- igo_master %>%  
  group_by(cow_igocode, ioname, year) %>%  
  summarise(#average democracy scores  
    polyarchy =mean(vdem_polyarchy, na.rm=T),  
    libdem =mean(vdem_libdem, na.rm=T),  
    polity =mean(p_polity2, na.rm=T),  
    #economic variables  
    gdp_cap =mean(wdi_log_gdpcapcon2015, na.rm=T),  
    alliances =mean(atop_number, na.rm=T),  
    #asymmetry index  
    polity_sd =sd(p_polity2, na.rm=T),  
    polyarchy_sd =sd(vdem_polyarchy, na.rm=T),  
    hh=sum(share*share, na.rm=T))  
  ...
```


Summary Statistics

```
igo_analysis <- igo %>%  
  mutate(AIGO = ifelse(polyarchy < 0.5, 1, 0),  
         DIGO = ifelse(polyarchy >=0.5, 1, 0)) %>%  
  mutate_all(~ifelse(is.nan(.), NA, .)) %>%  
  arrange(ioname, year) %>%  
  select(ioname, year, polyarchy, everything())%>%  
  as.data.frame()
```

```
datasummary(All(igo_analysis)~Mean+SD+Min+Max,  
            data = igo_analysis ,  
            output = 'markdown')
```

Descriptive Statistics

	Mean	SD	Min	Max
year	1993.92	12.42	1970.00	2014.00
polyarchy	0.52	0.23	0.03	0.91
cow_igocode	2327.83	1337.78	10.00	4580.00
inception	1955.60	28.04	1831.00	2002.00
pooling	0.30	0.18	0.00	0.73
delegation	0.19	0.13	0.00	0.65
delconstit	0.13	0.14	0.00	0.64
poolconstit	0.21	0.19	0.00	0.75
DS_sum_st	0.28	0.29	0.00	1.00
polyarchy_median	0.52	0.27	0.02	0.91
libdem	0.42	0.23	0.05	0.87
libdem_median	0.41	0.27	0.04	0.88
polity	2.89	5.28	-9.67	10.00
polity_median	3.35	6.47	-10.00	10.00
gdp_cap	8.55	1.15	5.80	11.15
alliances	5.14	3.71	1.00	30.00
number	32.09	42.25	1.00	192.00
trade	4.10	0.30	2.68	5.46
percentage	0.55	0.33	0.00	1.00

Overall Trend

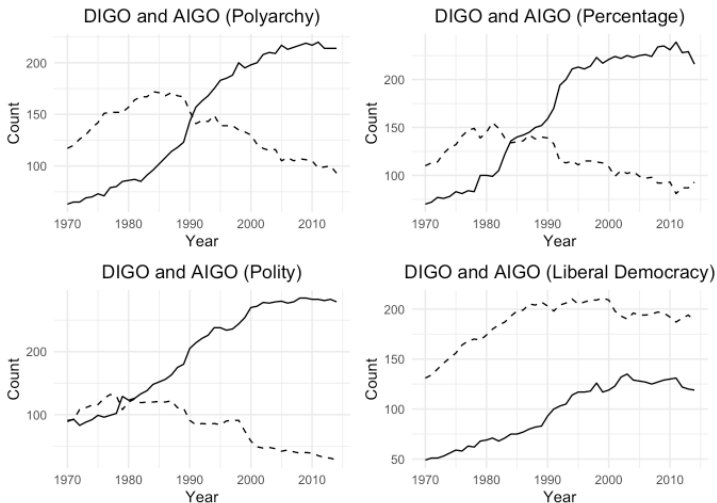


Figure: DIO: Solid, AIO: Dashed

Estimation Goals and Strategies

Empirical Questions

- Whether AIOs have weaker legal instruments than DIOs
- Whether IOs with heterogeneous regime types have weaker legal instruments than IOs with homogeneous members

Modeling Strategies

- Panel-heteroskedasticity adjusted standard errors
- Two way (unit and time) fixed effects
- One way (time) fixed effects
- Controlling for a battery of potential confounders

Estimation Results

	Two-way	Time FE
polyarchy	0.153** (0.052)	0.073 (0.044)
polyarchy_sd	0.412*** (0.071)	
econ_sd	0.090*** (0.021)	-0.117*** (0.022)
gdp_cap	-0.086*** (0.014)	0.002 (0.009)
alliances	-0.001 (0.002)	-0.003 (0.002)
number	-0.002*** (0.000)	0.001*** (0.000)
trade	-0.143*** (0.024)	0.166*** (0.023)
political		-0.026+ (0.014)
social		0.002 (0.017)
Num.Obs.	2678	2678
R2	0.101	0.077
R2 Adj.	0.058	-0.051
AIC	-4401.8	24.2
BIC	-4354.6	77.3
RMSE	0.11	0.24
Std.Errors	Custom	Custom

Steps Going Forward?

- Replicating models with different measures of democracy
- Alternative aggregate measures at IO-level