V-Dem Workshop

February 22nd
Kellogg Institute for International Studies
Notre Dame, IN
Aggregation

• Aggregation is good and bad
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• Good: more complex measures
Polyarchy
Polyarchy

Suffrage

Clean Elections

Elected Executive

Freedom of Association

Freedom of Expression
Aggregation

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• Good: more complex indicators

• Bad: Indices’ Black Box
Aggregation

• Aggregation is good and bad
• Good: more complex indicators
• Bad: Indices’ Black Box
• V-Dem’s Advantage: a lot of disaggregation
How to aggregate

• Additive strategies: more is more
The Party Strength Index

- Strong parties promote economic development
- The PS Index

National Organizations + Local Branches + Party Cohesion + Party Switching + Candidate Selection
How to aggregate

- Additive strategies: more is more
- Multiplicative strategies: the weakest link
Vanhanen’s Polyarchy Index

- % of lower-chamber seats not held by the governing party
- % of adult population actually voting
Vanhanen’s Polyarchy Index

% of lower-chamber seats not held by the governing party \times \% of adult population actually voting

If the opposition has ZERO seats in the lower chamber, Polyarchy is ZERO regardless of suffrage levels. The inverse is also true.
How to aggregate

- Additive strategies: more is more
- Multiplicative strategies: the weakest link
- The V-Dem Polyarchy Index: Solomon approved
Polyarchy

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Polyarchy
Polyarchy

- Suffrage
- Clean Elections
- Elected Executive
- Freedom of Association
- Freedom of Expression
Why additive *and* multiplicative?

- Gives equal weight to a classical/Sartorian “necessary and sufficient conditions” logic and a “family resemblance” logic of substitutability.
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- Gives equal weight to a classical/Sartorian “necessary and sufficient conditions” logic and a “family resemblance” logic of substitutability.

- It correlates at 0.94 to 0.99 with
  - a purely multiplicative formula
  - a purely additive formula
  - one that weights the additive terms twice as much as the multiplicative term
  - one that weights the multiplicative term twice as much as the additive terms
  - and one that weights suffrage six times as much as the other additive terms.

- Nevertheless, this formula is provisional.
How to aggregate

- Additive strategies: more is more
- Multiplicative strategies: the weakest link
- The V-Dem Polyarchy Index: Salomon approved
- Data Reduction techniques
Data reduction

- Bayesian Factor Analysis: the standard for Index aggregation in V-Dem
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- Similar to regular FA, but Bayesian
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• Uncertainty estimates
Data reduction

- Bayesian Factor Analysis: the standard for Index aggregation in V-Dem
- Similar to regular FA, but Bayesian
- Uncertainty estimates
- Current limits
Clean Elections

EMB Autonomy
EMB Capacity
Voter Registry

Vote-Buying
Irregularities
Intimidation

Elec. Peace
Free and Fair
Clean Elections

- EMB Autonomy
- EMB Capacity
- Voter Registry
- Vote-Buying
- Irregularities
- Intimidation
- Elec. Peace
- Free and Fair

Clean elections index

Botswana
Zimbabwe
Zambia

Rating

Rigorous and Impartial Adm.
Transparent Predictable Law Enforc.
Rigorous and Impartial Adm.
Freedom from Torture
Freedom of Dom. Mov. Men / Women
Freedom of Int. Mov. Men / Women
Freedom from Political Killings
Freedom from Forced Labor Men / Women
Freedom of Religion
Property Rights Men / Women
How to aggregate

- Additive strategies: more is more
- Multiplicative strategies: the weakest link
- The V-Dem Polyarchy Index: Salomon approved
- Data Reduction techniques
- Inductive strategy
Dimensions of Democracy

- Exploratory factor analysis of all V-Dem C Variables produces a three factor structure.
Dimensions of Democracy

Factor 1

Factor 2

Factor 3
Dimensions of Democracy

Factor 1
- Freedom of discussion
- Freedom of movement
- Government censorship of the media
- Legislature opposition parties
- Free and fair elections
- Repression of CS Organizations
- CSO entry / exit
- + 64 other variables

Factor 2

Factor 3
Dimensions of Democracy

Liberal Democ.

- Freedom of discussion
- Freedom of movement
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Factor 2

Factor 3
Dimensions of Democracy

Factor 2

6 Corruption variables
Executive respects the constitution
Nationally homogeneous civil liberties
Judicial accountability
+ 9 other variables

Factor 3

Liberal Democ.

Freedom of discussion
Freedom of movement
Government censorship of the media
Legislature opposition parties
Free and fair elections
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CSO entry / exit
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Dimensions of Democracy

Factor 3

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Rule of Law
- 6 Corruption variables
- Executive respects the constitution
- Nationally homogeneous civil liberties
- Judicial accountability
- + 9 other variables
Dimensions of Democracy

**Liberal Democracy**
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- Freedom of movement
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**Rule of Law**
- 6 Corruption variables
- Executive respects the constitution
- Nationally homogeneous civil liberties
- Judicial accountability
- + 9 other variables

**Factor 3**
- Equal access to basic education
- Equal access to basic health
- Universalistic public policy
- State autonomy (domestic and intl)
- Equal access to power (soc group)
- 6 strong parties variables
- No forced labor guaranteed
- + 15 other variables
Dimensions of Democracy

Liberal Democracy

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Welfarianism

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- Equal access to basic health
- Universalistic public policy
- State autonomy (domestic and intl)
- Equal access to power (soc group)
- 6 strong parties variables
- No forced labor guaranteed
- + 15 other variables
Dimensionality and Aggregation

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- Aggregation, however, leads to information losses.
- Even the three-dimensional inductive strategy might reduce too much.
- But it also says interesting things about regimes, institutions, and practices.
- Big Democracy Index?
Using V-Dem in *analysis*

- V-Dem’s unique coverage of countries and years create many empirical challenges
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• V-Dem has MCAR cases (government censorship of the internet for example)
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  - Alternative sources do not cover as many countries and years
  - V-Dem has MCAR cases (government censorship of the internet for example)
- Multiple Imputation may help
- Next workshop will present some of our experiences with Multiple Imputation
EXPERIMENTS ON OPTIMAL AGGREGATION
The challenge of aggregation

• There is no obvious way to aggregate multidimensional indicators.
• So far, aggregation formulas have been negotiated among the PIs.
• Although they have face validity, we would like to have a more defensible procedure.
Experiments

- We plan experiments to test the hypothesis that people with some expertise on democracy share intuitive aggregation rules.
- We have pre-tested a method using Mechanical Turk coders: comparing pairs of vignettes on several indicators.
- Their rankings make it possible to estimate a latent scale, which can then be predicted from the indicators.
- Results were only modestly encouraging, but using real experts may yield better results.