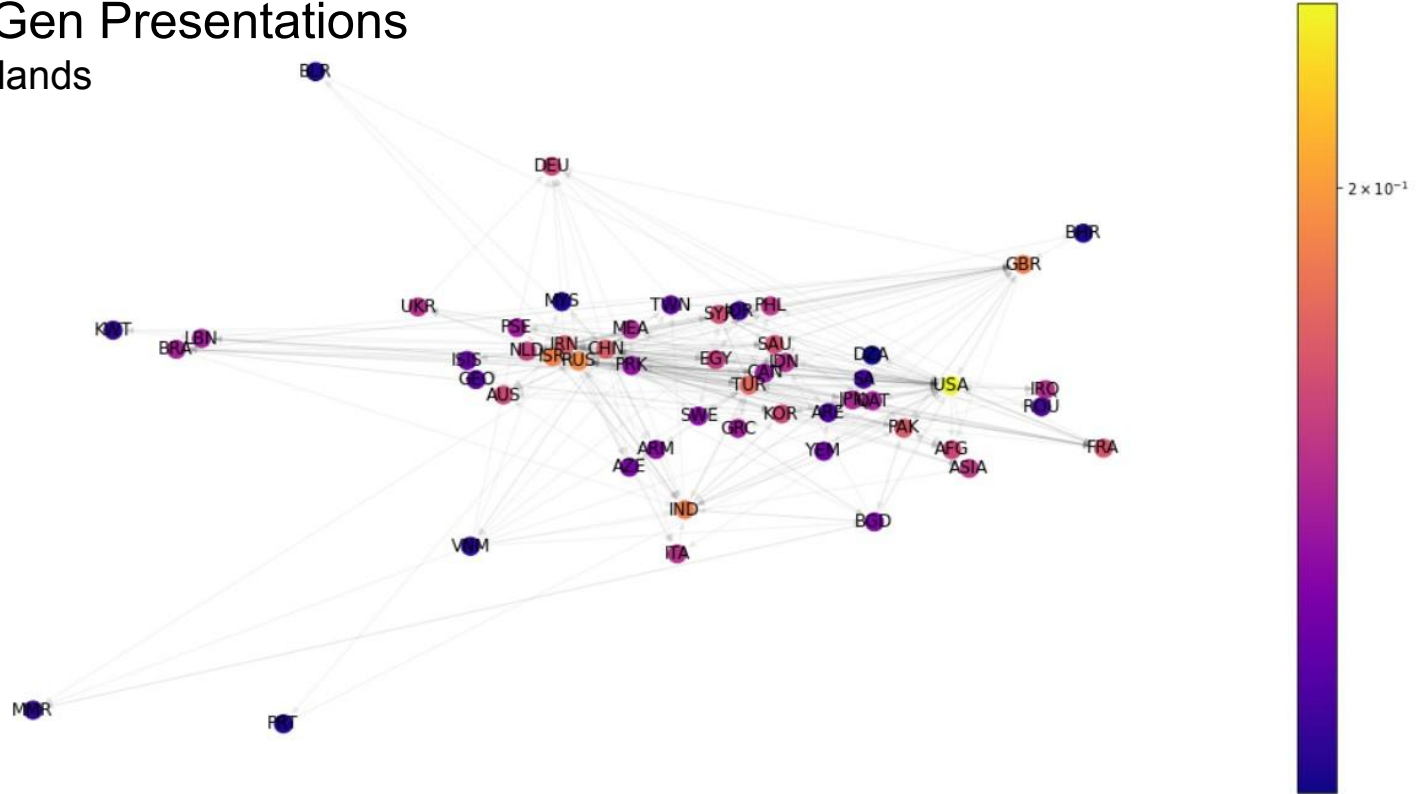


# Evaluating prevalent Designs of public Cyber Incident Data Sources

ICANN74 NextGen Presentations

The Hague, Netherlands

14th of June 2022



# Overview of selected Cyber Incident Data Sources

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*Name of Data Collection*

*Publisher*

ICANN Cybersecurity Incident Log

ICANN

Dyadic Cyber Incident and Dispute Dataset

Valeriano, B. & Maness, R. C.

Cyber Operations Tracker

Council of Foreign Relations

Targeted Cyberattacks Logbook

Kaspersky Lab

Significant Cyber Incidents

Center for Strategic and Int. Studies

Heidelberg Cyber Conflict Dataset

Heidelberg University

# ICANN Cybersecurity Incident Log

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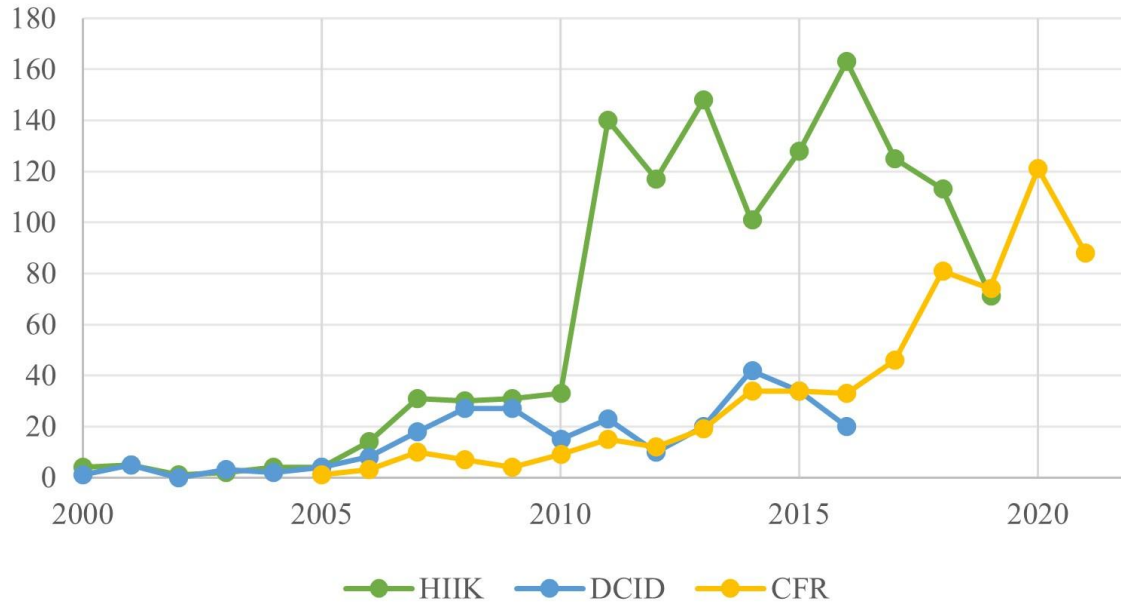
<https://www.icann.org/cybersecurityincidentlog>

This cybersecurity incident log is part of the ICANN organization's commitment to transparency.

## Cybersecurity Incident Log

Announcement Date	Issue or Incident	Status	Related Information
3 June 2022	Atlassian Confluence Server and Data Center Vulnerability	Closed	As we informed you on 3 June, ICANN's Engineering and Information Technology (E&IT) team became aware of a <a href="#">vulnerability</a> affecting Atlassian's Confluence Server and Data Center products on 2

# Comparison of Incident Amounts among Datasets over Time



**Graph 1:** The Heidelberg Dataset (HIIK) is the most inclusive incident collection

# Reciprocity of countries with the highest conflict degree

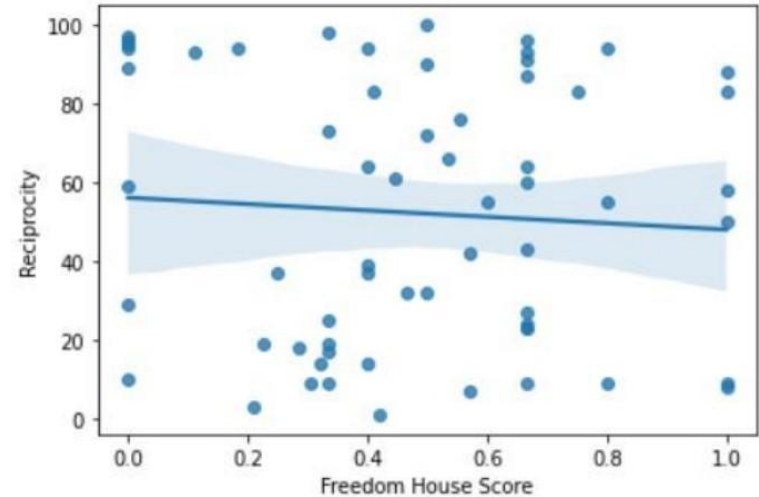
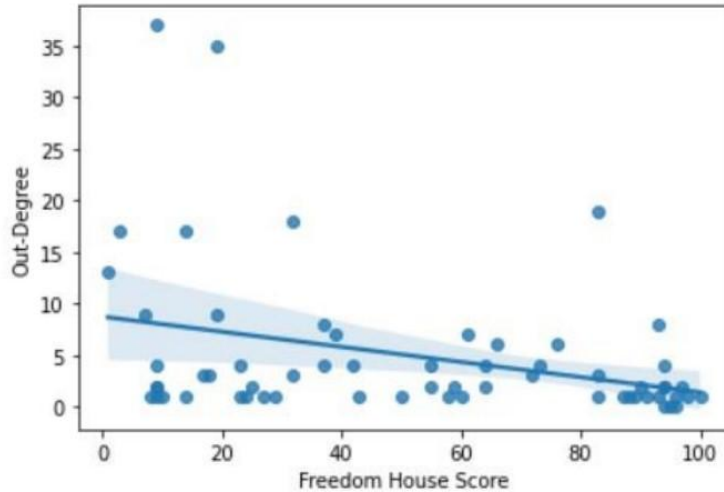
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Country	Degree	In-Degree	Out-Degree	Reciprocity
China	92	14	78	0.282
USA	80	34	46	0.500
Russia	80	20	60	0.300
Iran	61	12	49	0.360
Turkey	41	15	26	0.439
UK	37	20	17	0.324
North Korea	37	3	34	0.162
India	36	15	21	0.555
Israel	36	17	19	0.388
Pakistan	28	12	16	0.642

**Graph 2:** Even among the top ten conflicting countries the reciprocity stays low

Data: Heidelberg Cyber Conflict Dataset

# Limitations of traditional political science methodologies

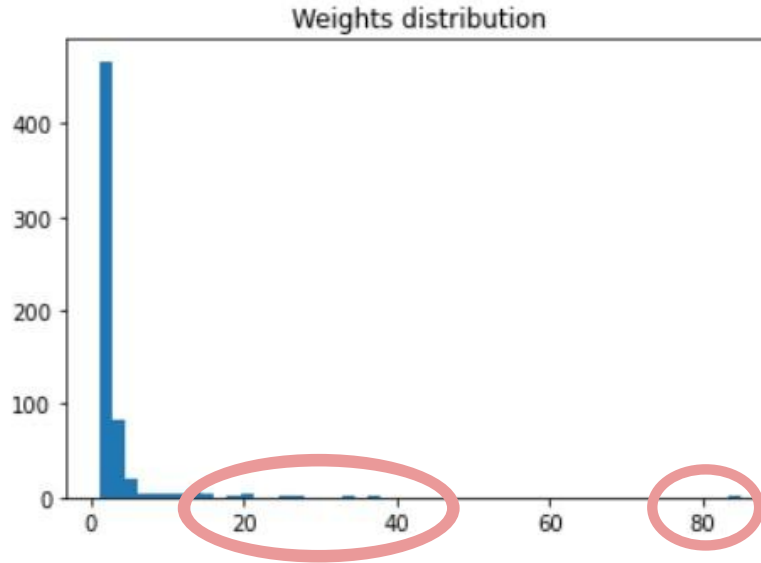


**Graphs 3 & 4:** No identifiable relationship between regime freedom score and cyber conflict measures

Data: Heidelberg Cyber Conflict Dataset

# Small number of relevant conflicting states

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**Graph 5:** Highly unbalanced weights distribution of conflict edges

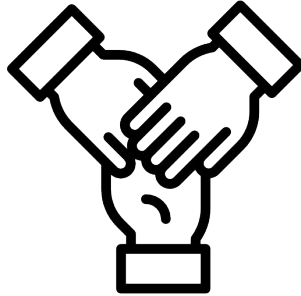
Data: Heidelberg Cyber Conflict Dataset

# Conclusion and Brief Summary

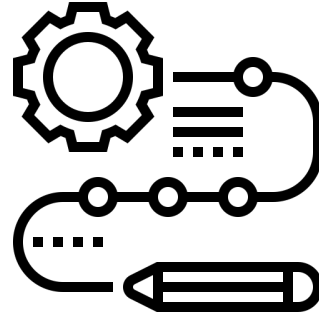
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Transparency



Cooperation



Methodology



## Selected References

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- Baronchelli, A. (2018): Conflicts in Cyber-Space. The Network of Cyber Incidents 2000- 2014. In: Peace Economics, Peace Science and Public Policy, 1-7.
- Healey, J. & Grindal, K. (2013). A Fierce Domain. Conflict in Cyberspace 1986 to 2012. Cyber Conflict Studies Association.
- Maoz, Z. (2010). Networks of nations: the evolution, structure, and impact of international networks 1816–2001, Volume 32. Cambridge University Press.
- Steiger, S.; Harnisch, S.; Zettl, K.; Lohmann, J. (2018). Conceptualizing conflicts in cyberspace. Journal of Cyber Policy, 3 (1), 77-9.
- Valeriano, B. & Maness, R. C. (2014). The Dynamics of Cyber Conflict between Rival Antagonists, 2001–11. Journal of Peace Research, 51 (3), 347–360.