Developing Digital Capacity: How and Why Foreign Assistance Shapes Institutions

Harry Oppenheimer - Harvard University

Digital Capacity and Strategy

Internet and cybersecurity issues cross security and cooperation (militaries and foreign policy bureaucracies), regulatory issues (technical bureaucrats), and economic issues (development and commerce).

- Valuable and new policy area (global spending $170B by 2022)
- Bureaucrats compete due to multiple uses of cybersecurity capacity
- Strategy institutionalizes values and priorities in cybersecurity

Many states are investing in digital capacity, but some lack the existing expertise to create doctrine and institutionalize policy.

Models of Digital Threat

1. Threat to interconnected states due to a lack of capacity or cooperation
2. Threat due to state capacity used for coercive ends

Consequently, capacity building has benefits (increased ability to manage) and risks (increased ability to harm)

Learning from Environment

- IOs (Haas 1959)
- Partners & competitors
- Cultural (Boli & Thomas 1999)
- Leading countries (Gruber 2000)

Learning from Assistance

- IOs (Finnemore 2003)
- Bureaucratic networking (Carpenter 2001, Gray 1973)
- Strategic dev. (Bermeo 2018)

Research Question

Does direct assistance affect doctrine institutionalization, and if so, why?

DV-Doctrine

- Doctrines for 107 countries
- Coded month of adoption
- Survival months since 8/2000
- Policy ownership (ind. technical bureaucracy, or other)

IVs-Learning and Controls

- Capacity assistance
- Spatial controls (policy adoption by allies, EIA, PTA partners)
- Demand (% internet), threat environment (Rivalry), controls

Capacity Building

- Cybersecurity Capacity Maturity Model Review framework since 8/2014
- Sponsored by UK and Finland, carried out by state and non-state actors
- By-invitation, in-country consultations, recommendations for host country

Figure 1: Cybersecurity Capacity Reviews

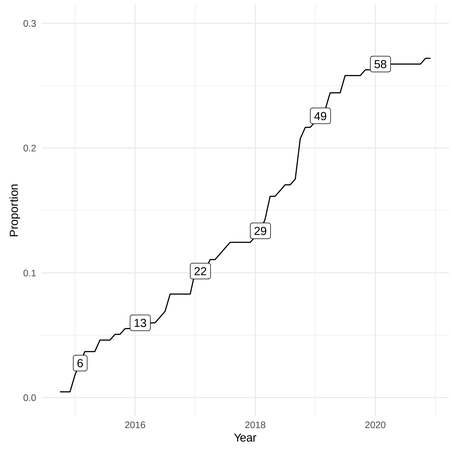
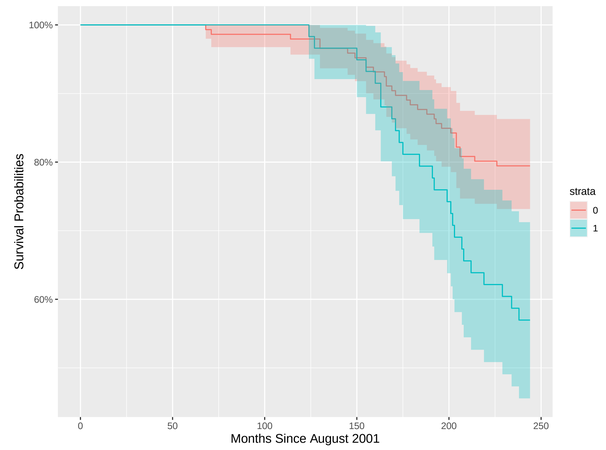


Figure 2: Survival By Technical Bodies



Method

- Cox-ph with penalized spline terms
- Coefficients are hazard ratio

Result

- Review, economic partners, allies, increase adoption among all policies
- Engagement only affects adoption through tech bureaucracies
- Learning from allies only affects adoption through non-tech bodies
- Robust to post-2014, stratified

	All Strategies	Technical Bureaucracies	Non-tech Bodies
Cyber Review	3.242*	2.875*	1.670
	(0.001)	(0.006)	(0.405)
PTA Adopt.	0.997	0.993	0.993
	(0.258)	(0.062)	(0.080)
EIA Adopt.	1.036*	0.987	1.020
	(0.001)	(0.388)	(0.198)
Ally Adopt.	1.015*	0.997	1.018*
	(0.007)	(0.692)	(0.021)
Internet %	1.020	1.005	1.037*
	(0.030)	(0.707)	(0.007)
# of Rivals	1.349*	0.610*	1.218*
	(0)	(2e-05)	(2e-05)
n events	107	69	48
Glo NPH p<.05	0.9299	0.9015	0.9943

Alternatives

- Ind. bureaucracy →invite experts
- Invitation highly correlated with strategy, unobserved confounders

Bermuda, Mozambique, Senegal, suggest this is not the case.

Implications

- Interdependence creates incentives for strategic development
- Assistance can shape state structures, create winners among bureaucrats