

U.S.-China economic interdependence has not declined — it has standardized!

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Research Question

- ▶ Is economic interdependence between the U.S. increasing or declining?
- ▶ Growing consensus of policymakers and scholars declare that technology decoupling is well underway (Bateman 2022, Nye 2020, Wei 2019)
- ▶ According to some, Internet is splintering into a “Western” system governed by multistakeholder forums like the IETF and a “Eastern” system reliant on Chinese national standards supported by multinational forums like the ITU (Hoffman et al. 2020; Farrell and Newman 2021[below])

The Janus Face of the Liberal International Information Order 351

Eric Schmidt predicted a bifurcated Internet split between a more closed and surveillance-oriented Chinese-based system and a more open Western-based one.⁹⁶ Now, Russia is seeking to create a localized domain name service that would allow it to cut itself off from global networks. China is pushing for a radical redesign of the underlying standards of the Internet at the ITU, to facilitate centralized control, in what it calls “New IP,” for “New Internet Protocol.”⁹⁷

Theoretical Framework: Boats and Lighthouses

Boat view of interdependence: “The boat was leaky. . . It took all the efforts of the one man to row, and of the other to bail. If either had ceased both would have drowned. . . And as the rower was really dependent upon the bailer, and the bailer upon the rower, **neither could use force against the other.**” (Norman Angell)

Lighthouse view of interdependence: standards are *public goods* and “essential infrastructure that allows modular ecosystems to form and scale” (Thun et al. 2022), upon which the U.S. and China depend. Modification to Angell's vignette: two boat owners that contribute to a lighthouse that serve all boats.

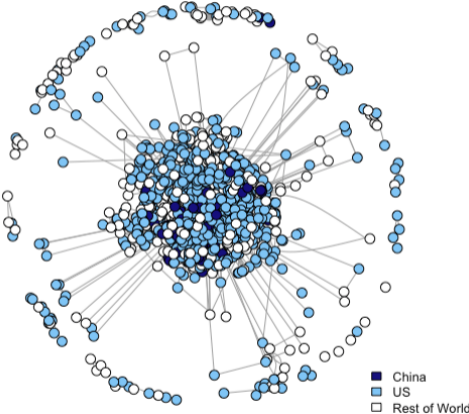
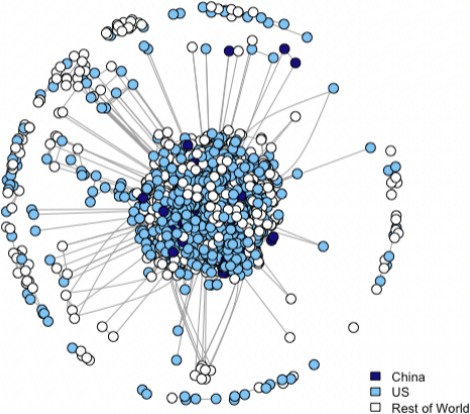


Empirical Approach

- ▶ Dataset of 3,555 RFCs (IETF stream) published between 2010–2024: 10,444 rows of author affiliations, including organizational affiliation and organization's country HQ
- ▶ Analysis of this RFC coauthorship network to evaluate U.S.-China interdependence, split into two periods (2010-2016, 2017-2024)
- ▶ Builds on related work on: Huawei's prominence in IETF RFC authorship (McQuistin et al. 2021; Weyrauch and Winzen 2020); continued collaborations after addition to Entity List (Khare et al. 2022)
- ▶ Case studies of New IP, TPM vs. TCM, WAPI vs. Wi-Fi

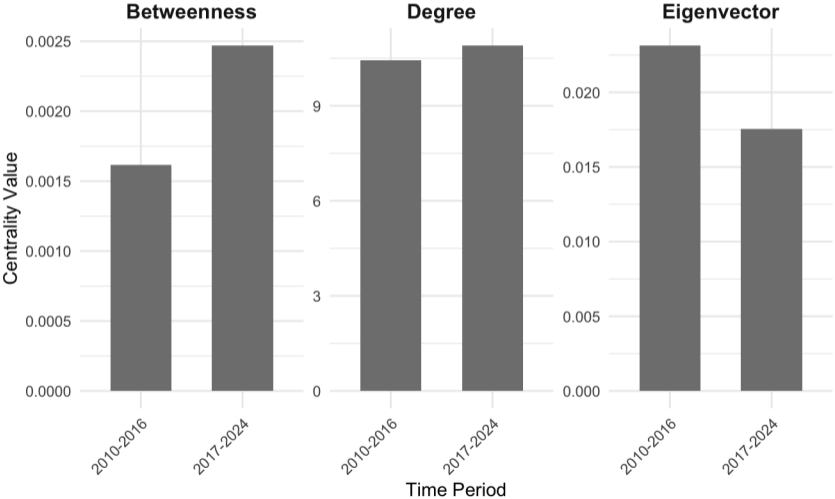
Visualization of IETF RFC coauthorship network over time

Left network (2010-2016); Right network (2017-2024)



Average centrality of authors affiliated with China-HQed orgs

China's Network Centrality Measures by Period



Are authors from same country more likely to collaborate?

	Model 1
edges	-6.09*** (0.01)
nodematch.affiliation	1.40*** (0.04)
nodematch.country_headquarters	-0.04 (0.02)
AIC	145531.34
BIC	145571.22
Log Likelihood	-72762.67

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table: ERGM of likelihood of IETF Coauthorship (2010-2024)

New IP and Splinternet

- ▶ Background: In late 2019, Chinese delegations presented "New IP" proposal, which included security frameworks that could make it easier to trace illegal Internet traffic back to the responsible party, to ITU and IETF
- ▶ One widely-circulated *Financial Times* article declared that the New IP protocols would "splinter the global internet" and "bake authoritarianism into the architecture underpinning the web."
- ▶ Yet, New IP did not lead to Splinternet. Why? Huawei reframes New IP as protocol that complements existing standards, acknowledges that "IETF would be the natural forum" to further investigate use cases (Li 2020)
- ▶ "China has grown increasingly accepting of the existing industry-led, bottom-up, incremental approach to shaping the Internet's architecture." Yoo and Mueller 2024.

Trusted Platform Module vs. Trusted Cryptography Module

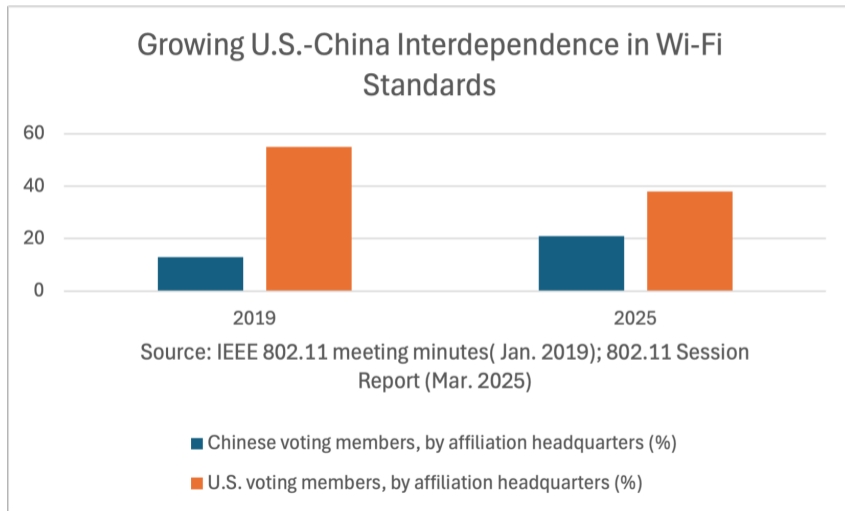
- ▶ Background: Trusted Computing Group (TCG) forms to promote specifications for the TPM security chip, recognized as ISO standard in 2009. China pushes homegrown spec (TCM).
- ▶ Yet, over time, Chinese companies have become more invested in TPM as a globally interoperable standard. In June 2015, China's Standardization Administration supports TPM 2.0 as ISO/IEC standard.
- ▶ International companies and TCG would “repeatedly refer back” to China's vote on TPM 2.0 to push back against efforts to mandate the TCM standard – Interview with a senior cybersecurity expert who worked on trusted computing at a large U.S. tech company (June 16, 2025)
- ▶ One data point: Based on TCG's most recent vendor registry, published in November 2024, seven Chinese companies were listed as approved vendors: Ant Group, FlySlice Technologies, Fuzhou Rockchip, Huawei, Lenovo, Nationz, Sinosun. First version of the registry, published in 2013, included just two Chinese vendors: Lenovo and Sinosun

Wi-Fi vs. WAPI

- ▶ Background: May 2003, China announces that any wireless technology system used in China must adopt a homegrown standard (WAPI). China's submission of WAPI as an ISO standard rejected because it circumvented the IEEE 802.11 working group (long-recognized standards authority that developed original Wi-Fi standard in 1997).
- ▶ WAPI encryption algorithm unpublished until 2 months before ISO vote; by contrast, all 802.11 committee deliberations and proposals were public: “Everything is public. . . everything we do is heavily scrutinized, too. Because we subject all draft technical drafts to very thorough vetting, reviews, responses to comments, it's a very even playing field.” – Interview with experienced participant in IEEE 802.11 (April 29, 2025)
- ▶ China drops WAPI mandate in part because Chinese companies had grown increasingly committed to Wi-Fi.

Wi-Fi vs. WAPI

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Future Steps

- ▶ Thank you for bearing with a very early-stage, rough draft!
- ▶ Main takeaway: In domains where globally interoperable standards offer economies of scale and scope, U.S.-China interdependence may be strengthening, not decoupling
- ▶ Next steps: learn more about IETF collaboration networks, continue to interview experts at various standards development organizations, explore whether findings travel to related contexts such as open-source software foundations such as CNCF