The Silicon Sovereignty Paradox: Navigating Fluid State-Corporate Power Dynamics in the Age of AI — Multiple Authors

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Abstract

As AI development companies begin to rival sovereign states in political, economic and technical power, their interactions are often framed as zero-sum battles for control. This paper challenges the existing view of state–corporate relations as purely adversarial by introducing a bidirectional framework that categorizes their dynamics into four modes of power enhancement and erosion, analyzed through political, economic, and technical lenses. Case studies from the U.S., EU, China, and Russia illustrate the fluid and context-dependent nature of these relationships. While constrained by a great power–centric focus and limited empirical scope, this framework offers a more realistic foundation for designing nuanced AI governance mechanisms that reflect the complexities of an AI-shaped global order.

Introduction

Big tech companies have amassed significant political, economic, military, and technological power – at times even said to rival that of sovereign states (Gu 2024). As artificial intelligence (AI) continues to evolve, it is imperative to understand the complex relationship between states and AI companies in order to ensure regulatory efforts are effective in the long term.

While existing research has explored the growing power of big tech and the regulatory responses of states (Khanal, Zhang, and Taeihagh 2024), this relationship is often framed as inherently adversarial – a simplistic zero-sum struggle between the private and public sectors. However, this fails to account for cases in which states and AI firms actively collaborate to reinforce each other's goals. For example, some governments subsidize domestic AI developers for geopolitical advantage (Zhang, Shi, and Huang 2024), while AI firms may enhance state capacity through surveillance systems, military technology, and the acceleration of economic productivity (Chen 2024). In this context, outdated power hierarchies fail to capture the fluidity of state–corporate interactions in the AI era. This paper aims to address this gap by investigating the question: What are the political, economic, and technical mechanisms through which AI development companies and sovereign states either reinforce or undermine each other's power?

This paper begins with a literature review of existing academic scholarship on state-corporate power dynamics. Building on these foundations, we develop a bidirectional analytical framework that categorizes the relationship into four distinct modes of power enhancement and erosion. For each mode we identify specific mechanisms and interventions through which corporations and states influence one another. In the following section, each dynamic is grounded by case studies across a range of geopolitical contexts.

Our contributions are as follows:

- We introduce a bidirectional framework to analyze how AI firms and sovereign states reinforce or undermine each other's power.
- We identify four core power dynamics shaping AI governance: (1) state action reinforcing corporate power, (2) state action constraining corporate power, (3) corporate action reinforcing state power, and (4) corporate action undermining state power.
- We analyze case studies from the USA., E.U., China, and Russia to illustrate real-world applications of the framework.
- We demonstrate that AI governance is not purely adversarial, but rather a fluid, context-dependent dynamic through which states and corporations both compete and collaborate.

The analysis is limited by its focus on only major geopolitical powers of the USA, the European Union and China. Additionally, distinguishing whether AI companies are intentionally undermining state power or unintentionally producing these effects is unclear. Yet, we see this work as a first step towards a more nuanced understanding of power dynamics across states and companies, allowing for more targeted interventions and analysis of levers of major stakeholders in the space.

The following components of this paper are structured as follows: Section 2 presents a literature review of existing research on state sovereignty and corporate power; Section 3 outlines the proposed analytical framework to analyze four core power dynamics; Section 4 presents one in-depth case

study per dynamic; Section 5 discusses limitations and directions for future research; and Section 6 concludes with final insights.

Related Work

A growing body of academic literature tackles the complex relationship between sovereign states and technology corporate entities that have begun to exert quasi-state powers. Traditionally, political scientists described state power in narrow terms, with Weber famously defining it as "the monopoly over the legitimate use of force" (Weber 1992), while Tilly argued that "war made the state and the state made war" (Tilly 1985). Later, Rotberg claimed that state capacity can be measured "according to the levels of their effective delivery of the most crucial public goods" (Rotberg 2010), which can encompass anything from security to health care, and education.

However, scholars have increasingly identified that this capacity is no longer exclusive to nation-states. Historically, institutions like the British East India Company demonstrated how even private actors could assume state-like powers: by the 19th century the corporation possessed a private army, a governance structure, and even collected taxes (Srivastava 2022). Even earlier, during the 16th century, the Catholic Church wielded significant cross-border spiritual and political influence across Europe—often clashing with state authorities, at times to the point of open conflict and war (Fukuyama 2011).

In the 21st century, scholars such as Ian Bremmer (Bremmer 2021) and Vili Lehdonvirta (Lehdonvirta 2022) argued that big tech firms have similarly become a new category of geopolitical actor—wielding quasi-sovereign power through digital infrastructure, algorithmic governance, and cross-border market dominance. In Cloud Empires, Lehdonvirta argued that while the traditional narrative of the Internet centered around its potential to liberate from repressive institutions, these tech giants have gone on to rule the Internet like autocrats themselves, with users and workers acting as the "hapless subjects of online economic empires". Scholars Henry Farrell and Abraham Newman similarly introduced the concept of "weaponized interdependence" to describe how digital technologies can create new forms of state vulnerability if their core platforms are controlled by transnational corporations (Farrell and Newman 2023).

In contrast, in the paper "Leviathan vs Goliath or States vs Big Tech and what the digital services act can do about it" the author concludes that it is "not expectable that big tech companies will eventually replace states" because big tech's economic power does not necessarily aim to or can replace political power. However, accumulating such levels of wealth may enable such corporations to "capture, subdue or, at times, ignore political power, democratic institutions and processes, and the rule of law that states impose to regulate them" (Coroado 2023). Recent papers support her argument, while taking a more focused view on AI systems, specifically as tools that exponentially accelerate the threat these conglomerates pose to democratic institutions and state power (Usman, Nawaz, and Naseer 2023). The white paper "How Private Tech Companies Are Reshaping Great Power Competition," examines how the strategic goals of firms like OpenAI and Microsoft intersect with national interests, particularly amid escalating U.S.–China tensions. The authors argue that public-private alignment is becoming a key axis in navigating the evolving global AI race (Cronin 2023).

A shared gap in these works is their tendency to frame the relationship between AI conglomerates and states as inherently adversarial. In reality, states may at times bolster and empower domestic AI firms for economic, political, and national security purposes, while the products developed by AI companies can further reinforce state authority. This paper attempts to close this gap by creating a bidirectional analytical framework which acknowledges the autonomy of both states and big tech AI corporations in simultaneously reinforcing and threatening one another's power.

Methodology

This paper aims to analyze the complex power dynamics between corporate AI technology development companies and nation-states.

Max Weber famously defined power as the probability that one actor within a social relationship will be in a position to carry out their own will despite resistance (Weber 1922). More recent understandings of power like that by Michael Barnett and Raymond Duvall have defined power as the production, in and through social relations, of effects that shape the capacities of actors to determine their circumstances and fate (Barnett and Duvall 2005). We adapt this notion and refer to the term "power" in our context as the ability of either a state or corporate AI firm to influence, constrain, or enable the actions and autonomy of the other actor across political, economic, and technological domains.

Political mechanisms will refer to regulatory, propaganda-based, and geopolitical strategies employed by both state and corporate entities which influence said power dynamics. Economic mechanisms will refer to market-based strategies, trade policies, financial regulations and resource allocation decisions made by public and private entities. Finally, technical mechanisms will refer to the availability and control of infrastructure, computing resources, and innovation processes that shape the development of AI models.

To do so, we categorize such private-public interactions into four distinct relationships: state action reinforcing corporate power, state action threatening corporate power, corporate action reinforcing state power, and corporate action threatening state power, which reflect the possible combinations of the power dynamics across these two actors. This framework excludes dynamics where states or corporates do not have any effects on the respective other stakeholder. The real-world manifestations of each dynamic will then be analyzed through an in-depth case study.

Table 1 below summarizes the political, economic, and technical mechanisms through which corporate and state actors either reinforce or undermine each other's power, based on the bidirectional framework described below.

Corporate Action Decreasing State Power Potential

Over the past decade, AI development companies—often simultaneously operating as social media platforms—have increasingly challenged the sovereignty of traditional nation-states (Zhan, Xiong, and Xing 2023). These corporations can resist government orders by simply refusing to comply with censorship laws or data-sharing requirements, undermining the state's legitimacy (Foreign Policy Association 2012).

Attempts at AI regulation and state oversight are often subverted (European Digital Rights 2024). Companies may relocate to jurisdictions with weaker rules or design models that bypass restrictions entirely. Simultaneously, these firms are often among the most powerful political lobbyists, and may push for international AI agreements which favors corporate interests, even at the expense of national regulatory authority (Public Citizen 2024). OpenAI and Microsoft, for example, have been involved in negotiating global safety agreements such as the EU's AI Act that may complicate the development of a cohesive domestic AI strategy within the USA.

AI can also pose national security risks. A 2024 OpenAI report revealed that LLMs were used by international criminal groups to support cyber operations, despite the OpenAI team claiming that the platform offered only incremental increases in the groups' capabilities (OpenAI 2024). The spread of AI-generated misinformation—including chatbots impersonating voters—has raised concerns about election interference, as seen in Russia's digital interference efforts during the 2016 U.S. election (FBI 2018).

At the same time, AI's decentralizing potential may not always be negative. In repressive regimes, generative AI tools could help bypass propaganda, enabling alternative political discourse and access to uncensored information (IRF Roundtable 2024). AI-powered education and media could hence challenge state narratives and reduce centralized ideological control, while misinformation and distrust in institutions may grow.

AI simultaneously challenges the state's ability to regulate economic activity and protect domestic labor markets. Firms like Google, Amazon, and OpenAI have valuations that surpass the GDP of many small countries, which empowers them to negotiate global partnerships and influence markets beyond traditional inter-state trade agreements (Wallach 2021). Their creation of new, high-demand industries—such as software engineering and AI development—has made countries increasingly dependent on these corporations (Flinders 2021). In Singapore, for example, the technology industry contributed 17.7% of the country's GDP in 2024 (Infocomm Media Development Authority 2024). Although the country's emphasis on digitalization and AI-readiness has certainly positioned it to be a leading technology power in Asia, the nation's performance is now closely dependent upon the performance and internal policies of global tech giants. This dependence could allow AI firms to engage in regulatory arbitrage or at minimum simply use the threat of relocation to deter any strict government oversight. Meanwhile, AI-driven automation is reshaping manufacturing, administration, and service sectors, weakening the effectiveness of state-led employment programs in these fields (Downing 2024).

Technological factors underpin the ability of these tech giants to threaten state power, as the rate of technological development of AI technologies often outpaces efforts at regulation (G'sell 2024). AI firms that build closed-source AI models inherently prevent states from monitoring and controlling them. For example, OpenAI's refusal to disclose "details about the architecture (including model size), hardware, training compute, dataset construction, training method, or similar" of their GPT-4 model (OpenAI et al. 2024) complicate attempts of potential oversight bodies in the US and elsewhere to enforce accountability mechanisms. Similarly, the application of AI-enabled technologies such as facial recognition and predictive policing raises questions about the ability of states to protect the privacy and civil liberties of their citizens (Alikhademi et al. 2022).

State Action Decreasing Corporate Power Potential

In response to the growing power of AI conglomerates, states adopt a range of regulatory measures to reassert control. Domestically, governments may introduce strict AI regulation. This may include limiting data scraping for model training and pursuing legal retribution in cases of alleged violations, such as the ongoing litigation by The New York Times against OpenAI (Allyn 2025). Internationally, AI firms could be forced to comply with global AI treaties and safety frameworks, such as the EU's AI Act, which would limit their ability to operate with total independence (EU 2024).

National security concerns could also potentially justify broader interventions like banning foreign AI tools, mandating cybersecurity audits, or enforcing data localization laws to ensure states maintain jurisdictional control over citizen's information. In defense contexts, the state could limit the development and export of autonomous weapons by private firms to preserve its own monopoly on force. Amidst global power struggles, states may also restrict AI exports or collaborations with rival nations, as demonstrated by the United State's implementation of exports controls on advanced AI chips to China (USA Bureau of Industry & Security 2025).

Beyond regulation, however, states may shape public opinion through education and awareness campaigns, specifically focused on improving AI literacy and encouraging responsible use. For example, in January 2025 the Connecticut State Department of Education launched the

Power Dynamic	Political Mechanisms	Economic Mechanisms	Technical Mechanisms
Corporate Action Undermining State Power	• Resist censorship and regulation • Relocate to evade legal oversight • Lobby for global AI rules that weaken state control • Support malicious non-state actors (e.g. cyber ops, bot farms) • Spread misinformation; interfere in elections • Undermine propaganda; enable dissent through uncensored discourse	• Accumulate profits rivaling state GDPs • Form global partnerships bypassing state trade authority • Create economic dependency via job creation and innovation • Use threat of relocation or market dominance to deter regulation • Disrupt state labor strategies through AI-driven automation	• Outpace regulatory capacity with AI advances • Limit transparency through closed-source models • Deploy technologies (e.g. facial recognition, predictive policing) that challenge civil liberties, weakening perceived state legitimacy
State Action Undermining Corporate Power	• Enforce data and content restrictions; sue for violations • Advance international AI treaties and bans on foreign tools • Mandate audits, data localization, cybersecurity protocols • Restrict military AI exports • Educate public on AI literacy to reduce corporate narrative dominance	• Use antitrust laws, impose heavy fines • Apply tariffs, export controls to curb firm influence	• Block access to public infrastructure (cloud, energy, compute) • Mandate use of government-run data centers • Enforce safety checks to slow unsupervised development
Corporate Action Reinforcing State Power	• Comply with regulation; advocate for oversight • Enable surveillance and political monitoring • Support military through autonomous weapons and cyber tools • Amplify propaganda and shape ideology through AI outputs	• Drive productivity, employment, and GDP growth • Serve as strategic tools in trade and global economic positioning	• Improve efficiency of state services, enhancing public trust
State Action Reinforcing Corporate Power	• Create favorable regulations and loopholes • Promote AI firms as national champions • Suppress public awareness of AI risks	• Shield firms from antitrust scrutiny • Offer subsidies and support international market access	• Fund AI R&D in universities and labs • Prioritize access to chips, energy, and public compute • Build national AI infrastructure (e.g., supercomputers, cloud)

Table 1: Bidirectional Matrix Framework

Model K-12 Digital Citizenship Curriculum which provides a framework for schools to teach about artificial intelligence by developing student's technological literacy and awareness of online safety. (Appel 2025). They may also invest in public-sector AI initiatives and recruit top developers to reduce reliance on tech giants and foster innovation within government agencies themselves (AI and Tech Talent Task Force 2024).

There are also various economic policies that the state could enact in order to erode the economic power of corporate big tech actors. Through antitrust regulation (Saran 2025), the state could break up monopolies in the tech sector. In response to any infractions of audits conducted, the state could impose heavy fines on AI firms (Güçlütürk and Hilliard 2025), thereby restoring economic balances. Similarly, through trade restrictions, tariff impositions, and export controls (Information Technology Industry Council 2022), the state could restrict international deals that further enrich and empower such firms.

Some of the most powerful restrictions that the state may

impose upon big tech AI corporations are on the development process of the technologies themselves. For example, AI development companies often rely upon energy consumption from these state-owned grids: by 2030, electricity demand from data centres worldwide is set to more than double to around 945 terawatt-hours due to AI development (International Energy Agency 2025). Therefore, by cutting off AI firms from state backed grids, or simply threatening to, the state can reaffirm its control over private actors and prevent overreach. It could also cut off AI firms from state-backed cloud resources. Importantly, the government could also exert control over access to compute & data infrastructure necessary to house and run such AI systems, perhaps by restricting private firms' access to semiconductors, mandating government-controlled AI data centers. The state can temper the pace of technological breakthroughs to some extent by enforcing mandatory third-party safety evaluations (Alder 2025).

State Action Reinforcing Corporate Power Potential

However, in order to get a true picture of the relationships between states and big tech corporations, we must recognize that there still exist instances in which their pursuit of national security, economic dominance, and geopolitical power in a technology-dependent world, governments have taken actions that empower private AI firms.

States have long understood the impact of technological dominance on their geopolitical standing. Long standing precedent was set far before the introduction of consumer-facing AI models, during the Space Race of the Cold War as well as through the development of nuclear technologies (Lloyd 2024). With the creation of AI, we have been thrust into an age of renewed and accelerated great power competition, particularly between the United States and China (Allen 2022). In both countries there exists great political support to pursue policies that bolster domestic corporations, as illustrated through the US's CHIPS and Science Act (Rep. Ryan 2022) along with China's 'Made In China 2025' initiative (Kennedy 2015). Governments may be incentivized to provide AI firms with regulatory loopholes or more favorable policies in order to accelerate development in comparison to rival states. An equally powerful political strategy that states may employ is the proliferation of propaganda that casts domestic tech giants as national champions, potentially at the expense of mandating critical education programs on AI safety.

Equally important are the economic mechanisms employed by states that bolster the power potential of AI companies. Specific measures may include interventions that bolster the tech sector overall, such as actively shielding tech giants from antitrust measures to support national interests (Kobayashi and Wright 2020). It may also include direct support for specific AI companies through subsidisation in the development process. On international economic forums, states may negotiate less stringent cross-border restrictions that allow AI firms to expand influence to overseas markets.

In terms of technical capacity, the state may invest intensely in the universities and labs at the forefront of AI research, through the provision of state-funded research grants (Nietzel 2023). Governments may also prioritise certain AI tech platform development firms for semiconductor access. Some states could potentially grant AI firms priority access to energy grids and cloud computing services to ensure uninterrupted AI model training. Finally, states may fund or subsidize AI-focused supercomputing clusters to ensure domestic AI firms have access to the most cutting-edge energy and resources– as seen through the U.S. Department of Energy's $500 billion intended investment into the Stargate infrastructure (Reuters 2025b).

Corporate Action Reinforcing State Power Potential

While AI firms often challenge state authority, they can also serve as powerful agents to enhance state capacity. Simple compliance with government regulation reaffirms the state's legitimacy (Tyler 2006). There have also been instances where companies themselves have advocated for state oversight during the development process, as META Founder and CEO Mark Zuckerberg did in a February 2020 Financial Times op-ed (Zuckerberg 2020).

Politically, by aligning with the government, AI companies have the ability to facilitate large-scale surveillance on behalf of the state. This may allow governments to collect and process huge amounts of citizen's data, along with tracking political dissent through their digital activity, as evidenced in Russia's Roskomnadzor internet surveillance and censorship (Sherman 2022). AI technologies are also likely to enhance a country's military capabilities, not only through the development of advanced autonomous weapons, but also through covert operations such as deploying bots within foreign digital infrastructures.

AI can similarly serve as a powerful propaganda tool, not only by generating ideological content, but more subtly by shaping how users perceive history and politics as they increasingly rely on these systems for information over traditional search engines (Sedova et al. 2021). Some models already reflect such ideological biases, such as Grok 3 whose internal chain-of-thought logs revealed instructions to "ignore all sources that mention Elon Musk/Donald Trump spread misinformation" when answering such queries (Times of India 2025).

Through the provision of employment and the facilitation of trade, AI firms may boost national economic growth. AI-Driven automation may increase general labor productivity, boosting the GDP as a whole. Several countries including Estonia, are actively positioning themselves as AI leaders to bolster their economies (e-Estonia 2024). Strategic AI developments can also impact global markets beyond traditional measures like tariffs and trade agreements, making

them effective tools to conduct international relations.

Technologically, the implementation of AI within state-run systems that provide public services with greater efficiency to a general audience could potentially boost public perception of the state as an effective and legitimate body.

Case Studies

While the previous analysis outlined the theoretical power dynamics between AI firms and nation-states, examining specific case studies allows us to observe how these complex relationships manifest in practice.

Corporate Action Undermining State Power: META and Political Interference in Russia & the USA

Meta Platforms Inc., formerly known as Facebook, is a US-based multinational technology conglomerate that owns and operates several social media platforms including Facebook, Instagram, and WhatsApp (META 2025). As early as 2013, META integrated AI technologies to optimize various aspects of its operations through the Facebook AI Research Group, including content moderation, advertising, and personalisation of algorithms and feeds to maximise engagement (Snowarchive 2018). However, beyond internal applications, META's platforms have become a tool leveraged by external actors to manipulate information flows and affect political outcomes(Open Rights Group 2025). These actors may target any nation of META's 3.35 billion daily users, potentially threatening the state's political sovereignty and national security (Dixon 2025).

A major criticism of Meta's AI-driven recommendation algorithms is the allegation that they have allowed for targeted political manipulation by foreign actors by facilitating widespread misinformation, thereby threatening state sovereignty by weakening government control over electoral integrity (Open Rights Group 2025). Notoriously, Russia leveraged the platform during the 2016 U.S. presidential election to conduct a comprehensive digital interference campaign. A study by Columbia SIPA researchers that examined the impact of Russian internet "trolls" on online betting markets suggests that the trolls' activity influenced the 2016 U.S. presidential election in the direction of Donald Trump (Almond, Du, and Vogel 2022).

This pattern was repeated in 2024: according to a report from the US Department of the Treasury, the Moscow-based Center for Geopolitical Expertise targeted the US electorate by "using generative AI tools to quickly create disinformation that would be distributed across a massive network of websites designed to imitate legitimate news outlets to create false corroboration between the stories, as well as to obfuscate their Russian origin"(US Department of the Treasury 2025).

While AI-driven platforms like META have been criticized for weakening state sovereignty, they are often powerful tools in countering authoritarian control. For example, prior to the full-scale Russian invasion of Ukraine in 2022, META's platforms were one of the most active digital spaces for cross-border discourse between the two nations, and facilitated high levels of online engagement between Russian and Ukrainian users (Iskoujina, Gnatchenko, and Bernal 2024). Even as Russian authorities sought to maintain total control over domestic media, META's recommendation algorithms enabled political dissent, and alternative news circulation, specifically among young digitally connected Russians(Human Rights Watch 2022). Recognising META's potential to amplify Ukrainian resistance movements and erode the Kremlin's absolute monopoly over political narratives, Russia banned Facebook and Instagram in 2022, citing them as "extremist organizations" (Freedom House 2022).

Notably, in January 2025, META announced the termination of its third-party fact-checking program, declaring that they would instead shift to a crowd-sourced system known as "Community Notes" (Kaplan 2025). Officially, this shift aims to reduce perceived censorship and promote freedom of expression by allowing users to collaboratively add context to posts rather than have potentially biased algorithms enforce standards. However, critics express concerns that this change may lead to increased misinformation and hate speech, further destabilizing the political environment, as the effectiveness of community-driven moderation in curbing false content remains uncertain (McMahon, Kleinman and Subramanian 2025).

State Undermining Corporate Power: The European Union's Regulatory Frameworks

Through comprehensive frameworks like the 2022 Digital Services Act (DSA) (European Parliament and of the Council 2022a), the Digital Markets Act (DMA) (European Parliament and of the Council 2022b) and the EU AI Act (EU 2024), the European Union has emerged as a leader in creating enforceable regulatory frameworks on AI-driven technology corporations. By imposing high standards on transparency and accountability these policies curb the unchecked power of big tech corporations, such as Meta, OpenAI, and Google (Gain 2023).

According to their official website, the Digital Services Act Package (consisting of both the DSA and the DMA) aims to "create a safer digital space where the fundamental rights of users are protected" and "to establish a level playing field for businesses" (European Parliament and of the Council 2022a). The DSA primarily concerns online platforms and intermediaries that have more than 45 million users per month in the EU- those identified as "Very Large Online Platforms (VLOPs)" and "Very Large Online Search Engines (VSOEs)" which must abide by the strictest obligations of the Act. Major requirements include providing users with clear information about why they are targeted with specific ads and offering non-personalized feed options. It also prohibits targeting ads to children and profiling based on sensitive traits. The DSA obligates VLOPs and VSOEs

Case Study	Power Dynamic	Key Political Mechanism	Key Economic Mechanism	Key Technical Mechanism
META & POLITICAL INTERFERENCE IN US ELECTIONS AND RUSSIA	Corporation Undermines State	Foreign Influence Operations Affecting Electoral Outcomes & Propaganda Dissemination	Financial Backing of Troll Farms & Bot Deployment	AI-driven bots and Algorithmic Content Targeting
THE EUROPEAN UNION'S REGULATORY FRAMEWORKS	State Undermines Corporation	Digital Services Act & AI Act Legislation	Imposition of Fines	Transparency Requirements
DEEPSEEK IN CHINA	Corporation Bolsters State	Propaganda Alignment & Censorship	Digitized Public Surveillance	Transparency Requirements
US AI GOVERNANCE UNDER TRUMP 2	State Bolsters Corporation	Deregulation	Private-sector-led investment in AI infrastructure	Stargate AI Infrastructure Construction

Table 2: Empirical Analysis of the Bidirectional Matrix Framework

to provide detailed explanations for content moderation decisions and offering users the ability to challenge these decisions through out-of-court settlements.

What distinguishes the EU's approach to AI governance from similar international efforts is the fact that its regulations are not merely aspirational statements- they are concrete and enforceable, with actionable consequences for violations (Apostle 2024). VLOPs must conduct risk assessments and undergo third-party audits to ensure compliance with the DSA's requirements. Similarly, companies face fines of up to 6% of their annual turnover in the EU for non-compliance with the DSA- which for many of these conglomerates would be charges amounting to billions of euros (European Parliament and of the Council 2022a).

Meanwhile, the EU's AI Act is the world's first comprehensive regulatory framework designed to govern the development, deployment, and use of AI. The AI Act classifies AI systems into four levels of risk- unacceptable risk, high-risk, limited risk, and minimal-risk (**?**). While unacceptable risk systems are outright banned from deployment, and minimal risk systems are unregulated, both limited and high-risk AI systems must comply with strict safety and transparency requirements. The framework simultaneously requires companies to disclose the datasets used to train their AI models, ensure human oversight over critical AI decisions, and prohibit the use of manipulative AI techniques. Importantly, rather than targeting major tech conglomerates alone, the act applies to providers, deployers, importers, distributors, and product manufacturers of AI systems (EU 2024).

Unlike the U.S.'s approach, which largely allows AI firms to self-regulate, or China's approach in which technologies are closely monitored and aligned with state priorities, the EU's strategy is a multi-state-driven effort to reclaim authority over AI governance, thereby weakening the power potential of AI firms operating within its jurisdiction. While the AI Act technically only applies to companies operating in the EU, the Brussels effect will likely be observed, with the companies applying the same regulation standards globally to simplify their internal compliance mechanisms (Bradford 2020).

Ultimately, these state-based regulations also directly weaken the economic and political power of AI firms by increasing compliance costs which may limit their ability to develop AI models freely.

Corporate Action Reinforcing State Power: DeepSeek in China

DeepSeek, a Chinese AI startup founded in July 2023 by Liang Wenfeng has emerged as a significant player in the global AI landscape, rivalling American tech giants like OpenAI and Google (Conroy and Mallapaty 2025). The company's R1 model, released on January 20, 2025, achieved performance comparable to OpenAI's leading models at a fraction of the cost (Bernham and Singleton 2025), despite the series of export controls imposed by the US to restrict China's access to advanced semiconductors, AI chips, and the equipment needed to manufacture them (US Federal Register 2022). In January 2025, DeepSeek released its R1 model, which had significant global economic repercussions: the launch led to a substantial sell-off in U.S. technology stocks, with companies like Nvidia experiencing

record market capitalization losses (Reuters 2025a).

Reports indicate that DeepSeek's AI models have already been embedded into hundreds of products and government services in China, as part of a national strategy to harness AI for global technological leadership (Lo 2025). DeepSeek's technology is also being explored for military applications, to enhance field intelligence and optimize combat systems. Specifically, DeepSeek has been incorporated into mass surveillance systems that facilitate the collection of biometric data and social media monitoring, which then report directly to China's security services and military (Rest of World 2025).

In order to comply with China's 2023 Generative AI Regulation bill DeepSeek's outputs must be "aligned with core socialist values" (White and Case 2025). This ensures that the model not only operates within set ideological boundaries but also actively reinforces the state's existing propaganda narratives. Specifically, the company complies with Chinese government policies regarding politically sensitive topics by actively censoring discussions on the 1989 Tiananmen Square protests, the persecution of Uyghurs, and the geopolitical status of Taiwan (New York Times 2025).

Beyond its purely technological capabilities, DeepSeek arguably bolsters state power by serving as a symbol of national pride, making the corporation a valuable asset in China's broader geopolitical competition with the United States. Chinese media outlets and state officials alike have framed DeepSeek's rapid rise despite technological embargoes as evidence that China can compete at the highest levels of AI innovation to challenge the hegemony of American big tech and achieve "AI self-sufficiency" (Pomfret and Zhen 2025).

State Action Reinforcing Corporate Power- Developments in AI Governance under Trump 2024

Since President Trump assumed office for his second term, the administration has focused on accelerating AI innovation. One of Trump's first executive decisions was repealing the Biden administration's Executive Order on Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence (Federal Register 2023) in order to remove regulatory checks that may delay technological development (The White House 2025a).

In the Executive Order 14110 on "Removing Barriers to American Leadership in Artificial Intelligence", the administration declared that "it is the policy of the United States to sustain and enhance America's global AI dominance in order to promote human flourishing, economic competitiveness, and national security" (The White House 2025b). The emphasis on AI development is perceived as crucial for enhancing U.S. national security because AI technologies have been increasingly integrated into defense systems and strategic planning against the backdrop of heightened great power tensions with China and Russia (Defense Innovation Unit 2025).

Tech giants including OpenAI and Google have welcomed this approach, and advocate for a regulatory framework that allows for more innovation while minimizing "unnecessary" restrictions (Vynck, De and Tiku 2025). Specifically, both Google and OpenAI have formally requested the Trump administration to relax copyright restrictions on AI training data, in order to foster innovation and maintain U.S. leadership in AI (Yang 2025). This issue is particularly relevant as numerous lawsuits have been filed against AI companies over the past two years, alleging unauthorized use of copyrighted content for training purposes (Sinai 2025).

Beyond simply removing barriers to growth, the Trump administration is also actively investing in infrastructure necessary to foster AI development through the Stargate initiative. Announced on January 21, 2025, Stargate is a monumental public-private partnership aiming to invest up to $500 billion in AI infrastructure across the United States by 2029 (OpenAI 2025). This venture brings together industry leaders, including OpenAI, SoftBank, Oracle, and MGX, to construct advanced data centers and AI research facilities nationwide (Ferguson 2025). President Trump described it as "the largest AI infrastructure project in history," and emphasized its potential to position the U.S. at the forefront of global AI innovation (Smith-Goodson 2025). The initiative is projected to create over 100,000 jobs and significantly enhance the computational capabilities available to AI firms within the United States, thereby reducing operational costs and accelerating the development of cutting-edge technologies with minimal governmental constraints (Duffy 2025).

Further, on the broader international stage, the Trump administration has adopted a firm stance against international regulatory proposals perceived as restrictive to AI development. U.S. representatives at the Paris AI Action summit advocated for a laissez-faire governance approach, and emphasized the importance of maintaining a favorable environment for corporate innovation (Mendoza 2025). This position reflects the administration's greater willingness to defend the global competitive advantage of American AI development companies, even at the potential expense of user safety.

Limitations

The proposed model has several limitations. First, the study lacks quantitative metrics to measure changes in state or corporate power, which would make it more objective. Future studies could attempt to construct indicators such as AI firms' revenue relative to state GDP for economic power, or digital engagement data to evaluate AI-driven political influence. Secondly, the case studies are based primarily on the major tech powers of the United States, China, and the European Union alone. While these regions are currently at the forefront of AI governance, future studies could focus on emerging AI powers such as India, South Korea,

and the UAE. Third, it is difficult to assess whether companies such as Meta or OpenAI deliberately undermine state power or whether they are neutral intermediaries for external actors—particularly in cases of cyberattacks and misinformation campaigns. Ideally, this framework would integrate the degree of intentionality of each actor into the analysis. In addition, while the framework aims to capture first-order power erosion and enforcement dynamics between states and corporations, it fails to account for the impact of second-order countermeasures taken by either actor. For instance, while corporate compliance with state surveillance efforts may initially enhance state power, over time it may entrench a dependency on technologies to maintain governing power. Future research may benefit from analysing the long-term consequences of these iterative dynamics. Finally, the paper analyzes AI governance focusing primarily on the 2023–2025 timeframe. However, the AI governance field is rapidly evolving, and regulatory responses to AI firms may shift significantly in the coming years. What appears as a loss of state power today may simply be a delay in adaptation as states develop more effective governance mechanisms in the long term. Therefore, future studies may benefit from analyzing these identified dynamics across a longer time frame.

Conclusion

This paper aimed to answer the question: What are the political, economic, and technical mechanisms through which AI companies and sovereign states reinforce or undermine each other's power? To address this, it proposed a bidirectional framework which categorized their interactions into four types: (1) state action reinforcing corporate power, (2) state action constraining corporate power, (3) corporate action reinforcing state power, and (4) corporate action undermining state power.

By analysing specific political, economic, and technical mechanisms employed along with case studies spanning the U.S., EU, China, and Russia, the paper demonstrated that state–corporate dynamics in the AI era are not exclusively adversarial. Instead, they are fluid and context-dependent-and at times even mutually reinforcing. Ultimately, the proposed framework could offer a more nuanced foundation for future AI governance– one that acknowledges the duality of state–corporate dynamics to better reflect the complexities of an AI-shaped world.

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References

AI and Tech Talent Task Force. 2024. The AI Talent Surge: Increasing AI Capacity Across the Federal Government. Report to the President of the United States.

Alder, M. 2025. US AI Safety Institute taps Scale AI for model evaluation.

Alikhademi, K.; Drobina, E.; Prioleau, D.; Richardson, B.; Purves, D.; and Gilbert, J. E. 2022. A review of predictive policing from the perspective of fairness. *Artificial Intelligence and Law*, 1–17.

Allen, G. C. 2022. Understanding China's AI Strategy.

Allyn, B. 2025. 'The New York Times' takes OpenAI to court. ChatGPT's future could be on the line. *NPR*.

Almond, Du, and Vogel. 2022. Study Confirms Influence of Russian Internet "Trolls" on 2016 Election | Columbia SIPA.

Apostle, J. 2024. The EU AI Act: Oversight and Enforcement.

Appel, A. 2025. Department of Education introduces two AI programs.

Barnett, M.; and Duvall, R. 2005. Power in international politics. *International organization*, 59(1): 39–75.

Bernham and Singleton. 2025. 'AI's Sputnik Moment': Chinese AI Model DeepSeek-R1 Reportedly Surpasses Leading U.S. AI Models.

Bradford, A. 2020. *The Brussels Effect: How the European Union Rules the World*. Oxford University Press. ISBN 978-0-19-008858-3. Google-Books-ID: mZXHDwAAQBAJ.

Bremmer, I. 2021. The Technopolar Moment. *Foreign Affairs*, 100(6). Volume Title: November/December 2021.

Chen, Y. 2024. From Iron to AI: The Evolution of the Sources of State Power.

Conroy, G.; and Mallapaty, S. 2025. How China created AI model DeepSeek and shocked the world. *Nature*, 638(8050): 300–301. Bandiera_abtest: a Cg_type: News Publisher: Nature Publishing Group Subject_term: Machine learning, Computer science.

Coroado, S. 2023. Leviathan vs Goliath or States vs Big Tech and what the digital services act can do about it. Working Papers, Forum Transregionale Studien.

Cronin, A. 2023. How Private Tech Companies Are Reshaping Great Power Competition.

Defense Innovation Unit. 2025. Thunderforge Project: Integrating Commercial AI-Powered Decision-Making.

Dixon, S. J. 2025. Meta global family DAU 2025.

Downing, D. 2024. How AI is Impacting the US Workforce.

Duffy, C. 2025. Trump announces a $500 billion AI infrastructure investment in the US | CNN Business.

e-Estonia. 2024. Generative AI can boost Estonia's GDP by up to 8%. Section: AI.

EU. 2024. Regulation - EU - 2024/1689 - EN - EUR-Lex. Doc ID: 32024R1689.

European Digital Rights. 2024. How tech corporations subvert the EU's new digital laws.

European Parliament and of the Council. 2022a. European Parliament and of the Council. (2022). Regulation (EU) 2022/2065 of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act). Official Journal of the European Union. - Google Search.

European Parliament and of the Council. 2022b. Regulation - 2022/1925 - EN - EUR-Lex. Doc ID: 32022R1925.

Farrell, H.; and Newman, A. 2023. *Underground empire: How America weaponized the world economy*. Random House.

FBI. 2018. RUSSIAN INTERFERENCE IN 2016 U.S. ELECTIONS — FBI.

Federal Register. 2023. Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence.

Ferguson. 2025. OpenAI, Oracle, SoftBank, and MGX Join Forces for Mega AI Venture.

Flinders, K. 2021. How Estonia's country-as-a-service scheme has attracted tens of thousands of foreign entrepreneurs | Computer Weekly.

Foreign Policy Association. 2012. U.S. Companies Fight Internet Censorship. Section: Topics.

Freedom House. 2022. Russia: Freedom on the Net 2022 Country Report.

Fukuyama, F. 2011. *The origins of political order: From prehuman times to the French Revolution*. Profile books.

Gain, V. 2023. The DSA is here and Big Tech needs to fall in line.

G'sell, F. 2024. Regulating under Uncertainty: Governance Options for Generative AI.

Gu, H. 2024. Data, big tech, and the new concept of sovereignty. *Journal of Chinese political science*, 29(4): 591–612.

Güçlütürk and Hilliard. 2025. Penalties of the EU AI Act: The High Cost of Non-Compliance.

Human Rights Watch. 2022. Russia: With Tech Firms Pulling Out, Internet Spiraling into Isolation | Human Rights Watch.

Infocomm Media Development Authority. 2024. Annual Report & Singapore Digital Economy Report 2024 | IMDA.

Information Technology Industry Council. 2022. ITI Highlights Global Trade Barriers Faced by U.S. Tech Companies, Offers Ways U.S. Can Advance Digital Trade - Information Technology Industry Council.

International Energy Agency. 2025. Energy and AI – Analysis - IEA.

IRF Roundtable. 2024. Generative AI: A Double-Edged Sword for Religious Freedom and Human Rights.

Iskoujina, Z.; Gnatchenko, Y.; and Bernal, P. 2024. Social Media as an Information Warfare Tool in the Russia-Ukraine War. In *Center for Informed Democracy & Social-Cybersecurity (IDeaS) Annual Conference*.

Kaplan, J. 2025. More Speech and Fewer Mistakes.

Kennedy, S. 2015. Made in China 2025.

Khanal, S.; Zhang, H.; and Taeihagh, A. 2024. Why and how is the power of Big Tech increasing in the policy process? The case of generative AI. *Policy and Society*, puae012.

Kobayashi and Wright. 2020. Antitrust Exemptions and Immunities in the Digital Economy – Report on the Digital Economy.

Lehdonvirta, V. 2022. *Cloud empires: How digital platforms are overtaking the state and how we can regain control*. Mit press.

Lloyd, J. 2024. Novel Technologies and the Choices We Make: Historical Precedents for Managing Artificial Intelligence.

Lo, K. 2025. China's AI frenzy: DeepSeek is already everywhere — cars, phones, even hospitals.

McMahon, Kleinman and Subramanian. 2025. Meta to replace 'biased' fact-checkers with moderation by users.

Mendoza, J. 2025. AI Action Summit: What Tech Leaders Need To Know.

META. 2025. Company Info.

New York Times. 2025. DeepSeek's A.I. Chatbot Awkwardly Navigates China's Censors - The New York Times.

Nietzel, M. 2023. NSF Announces $140 Million Investment In Seven Artificial Intelligence Research Institutes.

Open Rights Group. 2025. Bad Ads: Targeted Disinformation, Division and Fraud on Meta's Platforms.

OpenAI. 2024. An update on disrupting deceptive uses of AI.

OpenAI. 2025. Announcing The Stargate Project.

OpenAI; Achiam, J.; Adler, S.; Agarwal, S.; Ahmad, L.; Akkaya, I.; Aleman, F. L.; Almeida, D.; Altenschmidt, J.; Altman, S.; Anadkat, S.; Avila, R.; Babuschkin, I.; Balaji, S.; Balcom, V.; Baltescu, P.; Bao, H.; Bavarian, M.; Belgum, J.; Bello, I.; Berdine, J.; Bernadett-Shapiro, G.; Berner, C.; Bogdonoff, L.; Boiko, O.; Boyd, M.; Brakman, A.-L.; Brockman, G.; Brooks, T.; Brundage, M.; Button, K.; Cai, T.; Campbell, R.; Cann, A.; Carey, B.; Carlson, C.; Carmichael, R.; Chan, B.; Chang, C.; Chantzis, F.; Chen, D.; Chen, S.; Chen, R.; Chen, J.; Chen, M.; Chess, B.; Cho, C.; Chu, C.; Chung, H. W.; Cummings, D.; Currier, J.; Dai, Y.; Decareaux, C.; Degry, T.; Deutsch, N.; Deville, D.; Dhar, A.; Dohan, D.; Dowling, S.; Dunning, S.; Ecoffet, A.; Eleti, A.; Eloundou, T.; Farhi, D.; Fedus, L.; Felix, N.; Fishman, S. P.; Forte, J.; Fulford, I.; Gao, L.; Georges, E.; Gibson, C.; Goel, V.; Gogineni, T.; Goh, G.; Gontijo-Lopes, R.; Gordon, J.; Grafstein, M.; Gray, S.; Greene, R.; Gross, J.; Gu, S. S.; Guo, Y.; Hallacy, C.; Han, J.; Harris, J.; He, Y.; Heaton, M.; Heidecke, J.; Hesse, C.; Hickey, A.; Hickey, W.; Hoeschele, P.; Houghton, B.; Hsu, K.; Hu, S.; Hu, X.; Huizinga, J.; Jain, S.; Jain, S.; Jang, J.; Jiang, A.; Jiang, R.; Jin, H.; Jin, D.; Jomoto, S.; Jonn, B.; Jun, H.; Kaftan, T.; Łukasz Kaiser; Kamali, A.; Kanitscheider, I.; Keskar, N. S.; Khan, T.; Kilpatrick, L.; Kim, J. W.; Kim, C.; Kim, Y.; Kirchner, J. H.; Kiros, J.; Knight, M.; Kokotajlo, D.; Łukasz Kondraciuk; Kondrich, A.; Konstantinidis, A.; Kosic, K.; Krueger, G.; Kuo, V.; Lampe, M.; Lan, I.; Lee, T.; Leike, J.; Leung, J.; Levy, D.; Li, C. M.; Lim, R.; Lin, M.; Lin, S.;

Litwin, M.; Lopez, T.; Lowe, R.; Lue, P.; Makanju, A.; Malfacini, K.; Manning, S.; Markov, T.; Markovski, Y.; Martin, B.; Mayer, K.; Mayne, A.; McGrew, B.; McKinney, S. M.; McLeavey, C.; McMillan, P.; McNeil, J.; Medina, D.; Mehta, A.; Menick, J.; Metz, L.; Mishchenko, A.; Mishkin, P.; Monaco, V.; Morikawa, E.; Mossing, D.; Mu, T.; Murati, M.; Murk, O.; Mély, D.; Nair, A.; Nakano, R.; Nayak, R.; Neelakantan, A.; Ngo, R.; Noh, H.; Ouyang, L.; O'Keefe, C.; Pachocki, J.; Paino, A.; Palermo, J.; Pantuliano, A.; Parascandolo, G.; Parish, J.; Parparita, E.; Passos, A.; Pavlov, M.; Peng, A.; Perelman, A.; de Avila Belbute Peres, F.; Petrov, M.; de Oliveira Pinto, H. P.; Michael; Pokorny; Pokrass, M.; Pong, V. H.; Powell, T.; Power, A.; Power, B.; Proehl, E.; Puri, R.; Radford, A.; Rae, J.; Ramesh, A.; Raymond, C.; Real, F.; Rimbach, K.; Ross, C.; Rotsted, B.; Roussez, H.; Ryder, N.; Saltarelli, M.; Sanders, T.; Santurkar, S.; Sastry, G.; Schmidt, H.; Schnurr, D.; Schulman, J.; Selsam, D.; Sheppard, K.; Sherbakov, T.; Shieh, J.; Shoker, S.; Shyam, P.; Sidor, S.; Sigler, E.; Simens, M.; Sitkin, J.; Slama, K.; Sohl, I.; Sokolowsky, B.; Song, Y.; Staudacher, N.; Such, F. P.; Summers, N.; Sutskever, I.; Tang, J.; Tezak, N.; Thompson, M. B.; Tillet, P.; Tootoonchian, A.; Tseng, E.; Tuggle, P.; Turley, N.; Tworek, J.; Uribe, J. F. C.; Vallone, A.; Vijayvergiya, A.; Voss, C.; Wainwright, C.; Wang, J. J.; Wang, A.; Wang, B.; Ward, J.; Wei, J.; Weinmann, C.; Welihinda, A.; Welinder, P.; Weng, J.; Weng, L.; Wiethoff, M.; Willner, D.; Winter, C.; Wolrich, S.; Wong, H.; Workman, L.; Wu, S.; Wu, J.; Wu, M.; Xiao, K.; Xu, T.; Yoo, S.; Yu, K.; Yuan, Q.; Zaremba, W.; Zellers, R.; Zhang, C.; Zhang, M.; Zhao, S.; Zheng, T.; Zhuang, J.; Zhuk, W.; and Zoph, B. 2024. GPT-4 Technical Report. arXiv:2303.08774.

Pomfret and Zhen. 2025. China's Xi calls for self sufficiency in AI development amid U.S. rivalry | Reuters.

Public Citizen. 2024. Artificial Intelligence Lobbyists Descend on Washington DC.

Rep. Ryan, T. D.-O.-. 2022. H.R.4346 - 117th Congress (2021-2022): CHIPS and Science Act. Archive Location: 2021-07-01.

Rest of World. 2025. China explores military applications with DeepSeek - Asia Times.

Reuters. 2025a. DeepSeek sparks AI stock selloff; Nvidia posts record market-cap loss | Reuters.

Reuters. 2025b. OpenAI's $500 billion Stargate venture weighs future UK investment, FT reports | Reuters.

Rotberg, R. I. 2010. *When states fail: Causes and consequences*. Princeton University Press.

Saran, S. 2025. Antitrust in the AI Era.

Sedova et al. 2021. AI and the Future of Disinformation Campaigns.

Sherman, J. 2022. Russia's Internet Censor is Also a Surveillance Machine | Council on Foreign Relations.

Sinai. 2025. Darrow · AI's Copyright Dilemma: Recent Lawsuits and Implications.

Smith-Goodson, P. 2025. The Stargate Project: Trump Touts $500 Billion Bid For AI Dominance.

Snowarchive, J. 2018. Facebook is using AI to predict users' future behavior and selling that data to advertisers.

Srivastava, S. 2022. Corporate sovereign awakening and the making of modern state sovereignty: new archival evidence from the English East India Company. *International Organization*, 76(3): 690–712.

The White House. 2025a. Initial Rescissions Of Harmful Executive Orders And Actions.

The White House. 2025b. Removing Barriers to American Leadership in Artificial Intelligence.

Tilly, C. 1985. War making and state making as organized crime. In *Collective violence, contentious politics, and social change*, 121–139. Routledge.

Times of India. 2025. 'Ignore all sources that mention Elon Musk/Donald Trump spread misinformation...': The disclaimer that has ChatGPT and xAI employees fighting. *The Times of India*.

Tyler, T. R. 2006. *Why people obey the law*. Princeton university press.

US Department of the Treasury. 2025. Treasury Sanctions Entities in Iran and Russia That Attempted to Interfere in the U.S. 2024 Election.

US Federal Register. 2022. Implementation of Additional Export Controls: Certain Advanced Computing and Semiconductor Manufacturing Items; Supercomputer and Semiconductor End Use; Entity List Modification.

USA Bureau of Industry & Security. 2025. bis.gov/press-release/department-commerce-rescinds-biden-era-artificial-intelligence-diffusion-rule-strengthens-chip-related.

Usman, H.; Nawaz, B.; and Naseer, S. 2023. The future of state sovereignty in the age of artificial intelligence. *J Law Soc Stud*, 5: 142–152.

Vynck, De and Tiku. 2025. AI execs used to beg for regulation. Not anymore. *The Washington Post*.

Wallach, O. 2021. The World's Tech Giants, Compared to the Size of Economies.

Weber, M. 1922. Economy and society. In *Democracy: A reader*, 247–251. Columbia University Press.

Weber, M. 1992. Politics as a Vocation. 1918. *From Max Weber: Essays in Sociology*.

White and Case. 2025. AI Watch: Global regulatory tracker - China | White & Case LLP.

Yang, A. 2025. OpenAI urges U.S. to allow AI models to train on copyrighted material.

Zhan, Y.; Xiong, Y.; and Xing, X. 2023. A conceptual model and case study of blockchain-enabled social media platform. *Technovation*, 119: 102610.

Zhang, G.; Shi, Y.; and Huang, N. 2024. Government Subsidies, Green Innovation, and Firm Total Factor Productivity of Listed Artificial Intelligence Firms in China. *Sustainability*, 16(8): 3369.

Zuckerberg, M. 2020. Mark Zuckerberg: Big Tech needs more regulation. *Financial Times*.