

ST. ANTONY'S INTERNATIONAL REVIEW

Volume 19, Number 2, Fall 2024

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LETTER FROM OUR MANAGING EDITOR

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Dear Reader,

Technological advances tend to leave their mark in unexpected and often unseen ways, requiring deeper investigation. As we continue to witness rapid transformations across the global landscape, technology stands at the forefront of the evolving relationships between nations, economies, and societies. In this issue, we explore the far-reaching implications of technological advances and their profound impact on international affairs. From the unseen infrastructure of hardware to the seamless functionality of software, the tools that shape our world are as integral to geopolitics as diplomacy, economics, or military power.

In recent years, the interplay between cutting-edge technologies and global governance has never been more pronounced. New technological capabilities are reshaping how states interact, how markets function, and how societies are organised. While the influence of technology on international relations has been long acknowledged, we are now witnessing a shift where the pace of innovation is accelerating, and its impact is deepening. Whether it's the way states strategize around economic competition, manage security threats, or navigate the complexities of global communication, technology is becoming a defining force in the 21st century.

In this issue, we examine how these developments are re-defining power dynamics and shaping the future of international cooperation and conflict. We invite our readers to consider how advancements in technology—both seen and unseen—are driving change on a global scale. As with all transformative shifts in human history, these technological changes bring both unprecedented opportunities and challenges. The questions we face are not just technical but deeply political and ethical, affecting how we relate to one another across borders and cultures.

The articles in this issue highlight a range of perspectives on the intersection of technology and global affairs, from the strategic positioning of states in an increasingly digital world, to the ethical dilemmas raised by new innovations. As the lines between hardware and software continue to

blur, it becomes ever more difficult to separate technological questions from questions of power, governance, and identity. It is our hope that this issue encourages critical reflection on the ways in which technology influences our shared global future.

We would like to extend our sincere gratitude to the authors, reviewers, and our dedicated editorial team for their contributions to this issue. Their insights and expertise have been invaluable in bringing this collection to fruition. We also thank you, our readers, for your continued engagement with STAIR—it is your curiosity and commitment to understanding the world that makes this publication thrive. In particular, we are grateful to the Oxford Semiconductor Society, and its leadership, particularly Tommy Hall, for giving STAIR the opportunity to publish a conference paper following the September 2024 conference from two outstanding scholars of National Taiwan University.

As the world becomes ever more interconnected through technology, it is clear that the question is not whether we can harness its potential, but how we will choose to shape it. We hope this issue serves as a thoughtful guide in navigating the complex, yet exciting, relationship between technology and international affairs.

I would like to extend my sincerest thanks to Brian Kot, the Theme Section Editor, for doing a phenomenal job soliciting original submissions for the issue, and taking leadership of our short-notice review of the Oxford Semiconductor Conference manuscript submission. Without your initiative and dedication well beyond your role, this issue would not have been possible.

Finally, I wish to thank Nicholas Brown for his tremendous service as Publications Director. Under your leadership, STAIR reformed everything from its submission management to peer review and author Outreach. The Editors of Issue 20.1 and 20.2 are in your debt for these efforts.

Sincerely,

Armin Safavi
Managing Editor

Theme Section

Technology has always been consequential in international politics. Innovations in military technology have altered the strategic balance of power and spurred new security dilemmas; the digital age has transformed the relationship between government and citizens; rapid advancement in emerging technologies has prompted urgent international discussions on mitigating technology's harms while harnessing its benefits. The articles in the Theme Section continue this rich field of inquiry by examining recent developments at the intersection of technology and international politics. They explore a range of technology's (geo)political implications, including the alliance politics of export controls, the geoeconomics of technology trade, the gendered experience of military technology users, and the challenges of governing digital technology and Big Tech companies.

The highly globalised technology trade has taken centre stage in recent years, as rising geopolitical tensions threaten to set back international economic interdependence. Closing out the Theme Section is a special submission by George Yin and Professor Phillip Hsu of National Taiwan University, whose paper examining the alliance politics of semiconductor export controls arises from learnings of the Oxford Semiconductor Conference held September 2024.

Their paper highlights a central dilemma in the U.S.-led export control strategy: how might the U.S. convince its allies and partners to reduce semiconductor trade with China, despite significant economic costs? Adopting a Prisoners' Dilemma framework, they argue that while the United States and its allies share security and ideological interests in hindering China's technological advances, their individual rational calculi often lead to non-cooperative outcomes. To reduce its allies' incentives to defect, the U.S. has employed two strategies. First, it has taken a "minilateral" approach by negotiating with a select group of nations occupying key nodes in the global semiconductor supply chain, rather than pursuing a broad multilateral approach like the Wassenaar Agreement. Second, the U.S. has granted exemptions to allies with deep economic exposures to China, alleviating the disruptions caused by the export controls. Together, these

measures increase the likelihood of establishing and maintaining an international regime of semiconductor export controls against China.

Iris Fiona Brauer explores a different aspect of technology trade, focusing on how the dual-use nature of semiconductors impedes efforts to impose multilateral technology export controls. Brauer examines two theoretical frameworks that illuminate the logic of the U.S. technology export controls against Russia and China: Abraham Newman and Henry Farrell's "weaponized interdependence" and Albert Hirschman's theory on trade and national power. She argues that both frameworks understate the challenges posed by the controlled technology's dual-use nature and ubiquity in global trade networks. First, the diffuse global supply chains of semiconductors make enforcement challenging and susceptible to circumvention. Second, since the technology serves both military and commercial purposes, the U.S.'s assertion that the controls target military capabilities—not commercial interests—are often viewed sceptically, sparking concerns of economic warfare. As a result, Brauer contends, the central dilemma of export controls has become starker: how can great powers exploit international economic interdependence without driving others away from interdependence?

Beyond its international economic significance, technology also shapes the dynamics among domestic political actors. Imelda Wei Ding Lo and Hannah-Sophie Weber's articles discuss the challenges to democracy in the digital age. Lo reviews major social media platforms' policies on restricting the spread of conspiracy theories, critiquing these content moderation practices for potentially creating a "regime of truth" that stifles dissenting viewpoints and curtails intellectual diversity. She proposes an alternative framework aimed at minimising restrictions to freedom of speech while allowing social media companies to tackle conspiracy theories online. The framework is anchored on three parameters: 1) the potential harm posed by the conspiracy-related post, 2) the poster's seeming intent, and 3) the post's context. Lo contends that social media companies should only remove conspiracy theory-related content after carefully considering these factors.

Weber addresses a more fundamental problem in governing social media and the Internet: a democratic legitimacy gap.

Weber explains how private companies have maintained an outsized influence on Internet governance through control of digital infrastructure, information, and lobbying. Hoping to bolster democratic legitimacy in Internet governance, policy practitioners have resorted to ideas such as ‘multistakeholderism’ and ‘digital sovereignty’, but these notions face significant challenges. The way forward, Weber argues, is a pragmatic approach that recognises the multiple dimensions of a ‘democratic legitimacy gap’. Focusing on the cases of the 2017 ‘Tech Accord’ and the 2024 ‘AI Elections Accord’, Weber illustrates how different facets of legitimacy intersect in practice.

Importantly, technology’s domestic impact varies across different social groups. Bibi Imre-Millei addresses the gender aspect of military technological innovation, with a focus on the portrayal of drone operators in the Russia-Ukraine war. As drones have become central to modern warfare, media depictions of female drone operators often perpetuate gender biases. Drawing on feminist theories on violence, Imre-Millei argues that Western media portrayals women’s violence as exceptional, contextualises women’s service in relation to men and motherhood, and frames them as incompatible with the masculine military culture. While these portrayals reinforce gendered narrative tropes, they also reveal how women assert political agency in shaping discourse around female violence in Western media.

The Theme Section contributions offer a timely reflection on technology’s impact on pressing political issues. Together, they enrich our understanding of how technological advances shape the interactions between actors to influence international and domestic political outcomes.

Brian Kot,
Theme Section Editor

General Section

Alongside this Issue's Theme Section on Hardware & Software, we present a diverse collection of articles that examine the intersection of global security, economic transformation, and global governance through the lens of key geopolitical and socio-economic developments.

On the topic of economic governance, Jodie Bradshaw's "Beware The Informal Sector Bogeyman: A Critique of Formalisation" challenges the dominant view that formalising the informal sector is the key to addressing social inequalities and economic precarity. Drawing on case studies from various global regions, Bradshaw critiques the notion that informality inherently represents dysfunctionality or lack of social protections. Instead, the article argues for a more nuanced understanding of informality as a complex, interwoven component of both formal and informal systems that supports livelihoods and contends that rather than pushing for formalisation, policymakers should focus on integrating the strengths of informality into broader socio-economic policies, recognizing its permanence and potential for fostering social mobility.

Meanwhile, Siheon Choi and Ernest Zhanaev provide a nuanced analysis of the Collective Security Treaty Organization (CSTO), focusing on how smaller member states like Kyrgyzstan navigate the alliance. By examining the agency and tangible benefits smaller states derive from the organization and demonstrating Kyrgyzstan's ability to leverage CSTO membership to address its security concerns within a Russian-dominated framework, they challenge conventional views of the CSTO as merely a tool of Russian influence.

To explore the complex relationships between stakeholders in resource extraction projects, Cordelia Ponczek examines the failure of Rio Tinto's lithium mining project in Serbia due to local resistance and environmental concerns. The paper critiques the traditional triangular paradigm - focusing on ruling elites, local populations, and investors - arguing that it fails to capture the evolving dynamics involving external actors like international NGOs, aid organizations, and foreign governments. Hence, the author advocates for adopting a Principal-Agent framework to better understand the nuanced interactions among these groups, highlighting how local protests, geopolitical rivalries, and environmental concerns can shift project outcomes.

Finally, Sean Tan and Markus Markert disputed the popular view that Xi Jinping alone is responsible for China's authoritarian shift, arguing instead that Hu Jintao laid the groundwork for this transformation. By examining Hu's economic and internal security policies, the study reveals how his ten-

ure reversed China's nascent democratic transition, and offers a broader critique of global assumptions that increasing geopolitical power leads to democratization, showing instead that China's rise has reinforced its authoritarianism.

These articles explore a diverse range of pressing issues that are central to current global debates. What is striking across the contributions is their collective effort to connect immediate challenges - such as geopolitical tensions, economic transformation, and governance reforms - with broader, long-term structural trends. By grounding their analyses in a rich mix of historical context and contemporary developments, these articles underscore the importance of rethinking traditional assumptions and adapting theoretical frameworks to better understand the complexities of today's global order. Together, they contribute to a deeper understanding of the evolving interplay between power, policy, and socio-economic change.

Julia Hoffmann,
General Section Editor

THEME SECTION

DOUBLE-EDGED INTERDEPENDENCE: TECHNOLOGICAL EXPORT CONTROLS AFTER GLOBALISATION

Iris Fiona Brauer, Carnegie Endowment for International Peace, 2023-24 Junior Fellow

Abstract

As international competition and conflict rise, the US is navigating a turn away from the globalised and interdependent economic system it helped establish. Consequently, a new question plagues the US and other states: How might they exercise influence in the global system in service of national interests without undermining the system itself? This paper examines how the US has navigated this tension through an analysis of US technological export controls. Technology has been declared critical to US national security and economic strength and the US has sought to block technology to key rivals, most prominently through export controls on technology to Russia and China. Simultaneously, the US has framed and justified these export controls as limited in scope, focused on military applications, and not intended to inflict broader economic harm on Russia and China. Through applying two parallel theoretical frameworks of economic coercion and interdependence—that of “weaponized interdependence”, and an earlier framework, from Albert Hirschman, emphasising the consequences of dependence and trade on military capability—this article considers the barriers to enforcing the export controls. These same challenges in enforcement, particularly the critical importance of technology for both military and commercial uses, has undercut the US’s attempt to politically de-emphasise the goals and scope of the controls. Technology itself remains deeply embedded, physically, politically, and economically in the web of globalisation even as the US attempts to use technology to its advantage in an increasingly fragmented global order.

The process of globalisation has increasingly shifted geopolitics toward a competitive posture. While the interconnected economic structures of globalisation persist, they are under increased strain as the US and others turn inwards to address domestic economic and national security concerns.

Technology plays a starring role in this competition, seen as central to both national and economic security. Under both the Trump and Biden administrations the US has prioritised key technologies domestically through trade barriers and industrial policy, but have also signalled technology's centrality to its foreign policy aims. An expression of technology's key role is the US's efforts to prevent rivals from accessing critical technologies it controls. Most notably, the US has instituted export controls on technology to Russia and China, attempting to cut off access to a wide range of dual use components and equipment in Russia's case and to block advanced semiconductors in the case of controls to China.

In this piece, I examine two theoretical frameworks that describe the relationship between economic coercion and interdependence, applying them to the US's export controls. With the export controls as a case study, I assess the role that technology, particularly dual use technology, plays in the shift from an interwoven global economic system to one of heightened geopolitical tension and economic competition. The first being the contemporary framework of "weaponized interdependence," (WI) which views globalisation as rife with opportunities for interstate coercion, where linkages do not mutually constrain, but asymmetrically serve as weapons. While weaponized interdependence can describe the context of technological export controls—and the general turn towards coercion—the framework is best suited for the weaponization of centrally controlled, single-purpose software. In contrast, the targets of the export controls are diffuse, privately manufactured, dual use hardware (with both commercial and military applications).

Secondly, I consider the export controls under a framework offered by Albert Hirschman, who examines similar questions of economic coercion and interdependence but with an emphasis on bilateral trade of physical goods. An intellectual predecessor of WI, Hirschman conceived of his theory during and after the Second World War, before the embrace of globalisation and before the US fully championed the neoliberal economic order. Hirschman highlights the potential of using economic coercion to hinder an adversary's military capability. The recognition that economic measures can impact military outcomes, I suggest, allows us to more fully appreciate US technological export controls. These controls are linguistically framed such that the US government may claim

that the controls intend to restrict military uses of technology, no more, no less. This limited scope has attracted scepticism from Russia, China, and the international community, with many seeing the controls as being primarily aimed at causing broad economic damage to Russia and China by denying key technologies. The export controls have been somewhat more successful at creating economic harm, but their circumvention has ensured that neither country's military capabilities remain largely unscathed. Hirshman's framework can be applied to highlight the gap between the political rhetoric of the controls, the potential secondary, implicit goals beyond military uses of technology, and the difficulties of implementing the controls.

Together, weaponized interdependence and Hirschman's framework help to reveal the full dilemma of the export controls, in their framing, their implementation, and their circumvention. To successfully enforce the export controls, the US must convince private companies and industries that the controls are limited and will not be expanded to the point of undercutting the technology's economic utility. To maintain the effectiveness of the export controls, the US must convince Russia, China, and other states that the controls are targeted and narrow, delaying the pivot towards building an alternative technological supply chain that cuts the US out. While Russia and China have long pursued policies to reduce dependencies on Western technologies, the US's blatant weaponization of technology would only hasten this transition and encourage greater collaboration between Russia and China.

The intensity of the trade-off between maintaining dependence and ensuring enforcement depends on the characteristics of the controlled good. In the case of the export controls to Russia and China, the technology itself unavoidably complicates the dilemma. The components targeted by the export controls are the products of a global supply chain, physically diffuse, and economically important. The ubiquitous components blocked from Russia are used in not only weapons systems but also a vast range of non-military uses, from cars to household appliances. The advanced semiconductors blocked from China could be used to create sophisticated military systems, but their primary use across the world has been to develop artificial intelligence, widely seen as a technology that could make or break states' future economic competitiveness. The technology's dual use nature thus makes it both critical to national and economic security and uniquely politicised.

There are efforts to theorise the relationship between globalisation and coercion. Recent and influential literature describes these dynamics and tactics of economic coercion through the lens of “weaponized interdependence.” As articulated by Abraham Newman and Henry Farrell, through WI, states use their authority over nodes of international economic networks, both digital and physical, to exert power.

This weaponization is possible because the economic relationships of the global economy are not symmetrically decentralised or perfectly mutually beneficial. Farrell and Newman offer a structural account of this interdependence, drawing upon network topography to reveal the “enduring power imbalances among states.” Goods, money, and information moving through a global network can be used in two ways by states with political authority. Through the “panopticon effect,” a state with political authority uses a central node to acquire strategic information. Through the “chokepoint effect,” a state limits another’s access to the network [1].

A key example cited by Farrell and Newman is the US’s use of the global financial system SWIFT. Particularly after political pressure in the wake of 9/11, the US secretly used SWIFT to monitor global transactions for its counter-terrorism operations and at times blocked states from access to SWIFT, for instance, as a component of broader sanctions against Iran. This use demonstrates not merely the simultaneous use of the panopticon and chokepoint effects, but another key feature of weaponized interdependence: in addition to occupying a central network node, a state needs suitable political institutions (in this case, the US Congress and the US national security agencies) to assert state control over other members in the network and to politically direct this power.

Although the US pioneered and practised WI with great efficacy, it is also increasingly concerned that other states might follow suit. Fears that the Chinese government could use TikTok to obtain sensitive information led to legislation attempting to force the sale of the platform. Sanctions against Huawei sought to slow the creation of a 5G network that China could potentially weaponize. Physical infrastructure, including China’s Belt and Road Initiative and Russia’s control over Eurasian gas pipelines, have also drawn increasing

concern from US officials. Dan Drezner, writing on uses of weaponized interdependence, describes these examples as, “emblematic of mounting U.S. concerns that great power rivals such as China and Russia are weaponizing rising levels of economic interdependence” [2].

As the US is increasingly attuned to potential uses of WI by other states, the scope of what is deemed “weaponization” also expands. In its original formulation, WI specifically refers to the weaponization of a structural asymmetry in a network. In popular discourse, the meaning of “weaponization” has been stretched to denote broader concerns about economic fragmentation and competition regardless of network structure. Mounting concerns about weaponization not only reveal a heightened awareness of the vulnerability resulting from global networks, but also demonstrate that the WI view of the world has permeated thinking on geopolitics and competition. This includes the rise of Farrell and Newman’s specific vocabulary and framing and its use by key policymakers. As Jake Sullivan, US National Security Advisor, framed it in April, 2023, the “premise that economic integration would make nations more responsible and open,” has given way to the realisation that key economic dependencies, from energy to semiconductor supply chains, “could be exploited for economic or geopolitical leverage” [3]. At the same time, Farrell and Newman warn that the eager reception of their argument may dilute the theoretical framework they offer, and that, “already, the term weaponized interdependence is escaping from our original meaning, to refer to a multitude of different forms of what some have called *geo-economics*” [4].

US Export Controls Under Weaponized Interdependence

Given the influence of WI as a framework within Washington, the US’s efforts to cut off technology to Russia and China seem to clearly be an instance of such weaponization: the US leverages control over supply chains and companies to attempt to restrict access by rival states. In the wake of Russia’s invasion of Ukraine, the US instituted export controls on a wide range of critical components, including common microelectronics such as the reprogrammable, legacy semiconductor chips used in both consumer products and Russian drones. These export controls were motivated by investigations of Russian weapons and systems which found that a high percentage of components were from Western companies, particularly US companies [5]. Given the lack of

Russian domestic manufacturing of these components and the country's reliance on imports, hopes ran high that the controls would significantly weaken Russia's military capabilities, and that the US and partners would be able to choke off access to the technology through control over key nodes in the global supply chain [6].

Responding to a different set of national security concerns, in October, 2022, the US Commerce Department released export controls restricting trade of advanced semiconductors and advanced semiconductor manufacturing equipment to China. Whereas the Russia export controls responded to the invasion of Ukraine, the China export controls came in the context of more expansive, simmering political and economic tensions. As the Biden administration's National Security Strategy described prior to the controls, "out-competing China" is a major priority for the US. In particular, the administration detailed concerns that China could acquire global leverage through technological development, as it "us[es] its technological capacity and increasing influence over international institutions to create more permissive conditions for its own authoritarian model, and to mold global technology use and norms to privilege its interests and values." Thus, countering China requires not merely competing economically, but countering the potential weaponization of economic relationships, given that "Beijing frequently uses its economic power to coerce countries," and seeks to increase global dependence on China even as China reduces its dependence on other countries [7].

Both these export control policies thus identified points of control within a network—in this case, the physical supply chain for technological hardware—and sought to choke off access to Russia and China as part of the US's national security goals. Farrell and Newman, in a piece warning of potential consequences of the controls on advanced chips to China, declared, "now the U.S. has weaponized interdependence. American technology, which extends like a fishing trawler's long line through the entire global semiconductor production system, is being reeled back in, with allies and adversaries alike wriggling on the hook" [8]. The export controls on technology to Russia can similarly be viewed as an instance of WI and a continuation of U.S. trade policies during the Cold War. Michael Mastanduno, writing in a volume on the "uses and abuses" of WI, examines a historical case

of export controls closely paralleling the controls on Russia. Mastanduno writes that postwar trade in dual use technology, including hardware such as integrated circuits, was restricted to the Soviet Union, with the US as the “central hub in this network” of trade, cooperating with allies to exploit the chokepoint effect as an exercise of weaponized interdependence. In both examples, of controls on technology to Russia and China, the US’s asymmetrical advantage and use of the chokepoint effect seem clear.

Yet Farrell and Newman’s note of caution as to the dilution of the term “weaponized interdependence” invites us to consider the aspects of the technological export controls that do not map neatly into the WI framework. Firstly, the panopticon effect described as a key pillar of weaponized interdependence operates only in certain types of networks. The internet, SWIFT, TikTok, and other key examples identified in the literature are forms of financial and digital communication which allow for information gathering by controlling states. In contrast, the export control on technology to Russia and China are focused specifically on hardware: the ubiquitous microelectronics and other components used in Russian military systems, and the advanced semiconductors and semiconductor manufacturing equipment sought by China. In contrast to digital networks like SWIFT, neither sets of technology targeted by the controls allow for the continuous and often covert gathering of information for national security purposes through WI’s panopticon effect.

Farrell and Newman suggest that physical networks and supply chains can be weaponized, that not merely finance and information flows but the flow of “physical goods across borders create both new risks for states and new tools to alternatively exploit or mitigate these risks” [9]. Yet there are some clear limitations to the full application of WI to the movement of physical goods, which understate the physical ubiquity of the hardware targeted by the US export controls—and thus the difficulty in controlling it.

Douglas Fuller, examining US export controls targeting Huawei through the lens of weaponized interdependence, suggests that the theoretical framework of WI, “works well with information networks, such as the internet or SWIFT, but less well for the world of physical goods” [10]. Specifically, weaponized interdependence highlights power asymme-

tries in certain networks but “is not fully applicable to many global supply chains where the control of the hub is much more diffuse.” Fuller elaborates on the theory of WI by suggesting that for weaponization of physical goods and supply chains—such as in export controls on Huawei that targeted specific tools and machines used to manufacture semiconductors—a “global value chain” (GVC) analysis is more suited than a network topography approach. In his GVC analysis of the Huawei controls, Fuller concludes that the weaponization of a chokepoint based on US equipment is likely to be less durable, largely because of the relationships and linkages between different companies in the relatively diffuse value chain, with multiple points of control—including those held by private companies—over the hub dispersed around the globe. This diffuse value chain highlights the double-edged sword of interdependence, as the complex trade of goods among both private companies and states surfaces more opportunities for controls to fail.

Weaponized interdependence describes the conditions under which countries can successfully choke off access to a network. Yet WI is tailored for a narrow set of conditions, i.e., the existence of a central node in an asymmetric network and the utilisation of effective political institutions to enable weaponization. In a globalised political economic system, truly central nodes are perhaps rarer than they appear and rarer than governments seeking to wield WI would wish. As a framework, WI’s limitations in describing the weaponization of hardware help to illustrate some of the difficulties and, arguably, the failures of US technological export controls. As Fuller suggests, hardware and physical goods can be diffuse in ways that do not allow for a central hub of control. In controls on technology to both Russia and China, the diffuse nature of the technology in question has posed serious barriers to full enforcement of the controls. These barriers highlight the gap between theory and practice, as policymakers can often misjudge network structures as they seek to apply the alluring framework of weaponized interdependence.

Export controls on technology and components to Russia aim to cut off access to a remarkably wide range of goods, including technology that is ubiquitous and far from cutting-edge. Much of the controlled technology is made by US companies, but in practice are manufactured across highly globalised supply chains, making them susceptible to di-

version and re-export. Intermediaries across the globe ship these components to Russia, particularly from China, which has proven eager to support Russia throughout the war, but also from neutral countries such as Turkey and the UAE. Evidence suggests that even in US allied South Korea and Taiwan, components and equipment that are subject to export controls are shipped to Russian military end users [11].

For instance, machine tools—large equipment used for precision manufacturing in a wide range of commercial sectors—continue to be diverted to Russia despite US pressure on China and other countries to enforce the export controls [12]. These machine tools pose an additional problem: their ubiquity in commercial applications results not only in a globalised supply chain replete with points for diversion, but also an existing stock of machines that can be drawn upon even after controls are implemented. Evidence points to second-hand markets for machines as a source of Russian procurement for its war industry [13].

In the case of SWIFT and other digital networks, the US could fully and instantly choke off access, due to both the nature of the technology as software and the overwhelming US control over the network. In contrast, the hardware targeted by the export controls is more physically dispersed. Due to both its globally dispersed supply chain and the US's lack of complete control over the network, the hardware is at risk of export control circumvention. These barriers to cutting off access to Western technology has led to the import of thousands of controlled components—in 2022, 70% of these components were manufactured by US owned companies [14]. Recently acquired components ostensibly covered by the controls have been discovered in sophisticated Russian weapons more than a year into the conflict [15].

US controls on advanced chips and semiconductor manufacturing equipment to China encounter similar problems. China retains its existing equipment (including US technology), capable of producing highly sophisticated chips and potentially keeping up with US advancements [16]. Like technology in Russia, the physical presence of chips and equipment within China significantly limit the US's ability to choke off access. And despite the US and its allies' (like the Netherlands and Taiwan) dominance in chip design, fabrication and equipment production, China plays its own role in

the semiconductor supply chain. The country dominates the production of raw materials and inputs such as critical minerals, diffusing control over key production stages and even empowering China to launch its own export controls [17]. As the US continually expands its export controls, Chinese companies continue to stockpile advanced chips [18].

The limitations of the export controls, and of weaponized interdependence as a framework for the export controls, are also reflected in the behaviour of private companies. As Fuller points out, the weaponization of supply chains for physical goods must account for the behaviour and incentives of the companies involved. These companies are crucial to successful weaponization. In the case of both Russia and China, private companies have helped to undercut US attempts to choke off access to technology. Shell companies and companies obscuring military end users have helped to divert technology and equipment from their manufacturing source in the US and EU to Russia. In the case of China, US companies have publicly undercut controls, such as when major US chip maker Nvidia introduced new versions of semiconductors that fell just under the technical specifications detailed in the export controls [19]. Similarly, Google, Microsoft, and other US companies have continued to lend Chinese companies access to servers powered by the same advanced semiconductors targeted by the controls, effectively skirting the restrictions [20].

Dual Use Technology

Weaponized interdependence cannot completely account for the weaponization of hardware, including the role of non-state actors and private companies in the overall network. The nature of the technology targeted in export controls to Russia and China—diffuse, commercially important hardware—explains some of the US's corresponding failures in weaponizing the technology's chokepoint. The US's node of control is relatively easily circumvented, often with the help of companies, due to the diffusion of controlled technology.

The technology's military application provides an additional impetus for the US controls. The controls' initial framing and justification emphasise this specific national security concern. In the case of Russia, the role of Western technology in the war in Ukraine was a clear catalyst, and the technologies targeted for control were seen as critical to the Russian

defence industry. As the press release from the Bureau of Industry and Security described them, the controls on technology to Russia aimed to “severely restrict Russia’s access to technologies and other items that it needs to sustain its aggressive military capabilities” [21].

The export controls on China are aimed at slowing China’s economic and technological advancement broadly, given the role of the controlled semiconductors in AI and other emerging sectors. According to Chris Miller, the main aim of the controls is “to throw sand in the gears of China’s AI development” by making it difficult to build large clusters of advanced chips capable of training AI systems [22]. As scholars Madison Cartwright and Guillaume Beaumier describe, semiconductors have become a site of economic competition across the globe and “a significant tool of Weaponized Interdependence (WI)—chiefly by the US” [23]. China has taken a similar view, that the US has “weaponized” export controls to unfairly affect trade and business [24].

Yet the US has emphasised that the controls on semiconductors are instead to limit their military applications. In the Bureau of Industry and Security’s account, the controls aimed to “prevent sensitive technologies with military applications from being acquired” by the PRC. As articulated in the initial press release, these restrictions are driven by concerns that advanced semiconductors will fuel China’s military modernization and that they “are used by the PRC to produce advanced military systems including weapons of mass destruction; improve the speed and accuracy of its military decision making, planning, and logistics, as well as of its autonomous military systems; and commit human rights abuses” [25].

Critically, the framework of weaponized interdependence does not touch on the relationship between weaponization and military applications and implications of a given network. Traditional examples of WI concern items that are purely commercial, or unlikely to have military applications. WI is less suited for interpreting networks with military uses. As Lorian Bodamer and Kaija Schilde explore, in attempts to exploit the chokepoint effect to “weaponize weapons,” such as the F-35, the technological complexity of modern weapons and the complex public-private networks of interdependence effectively raise the costs of weaponization [26]. States encounter greater push back from companies and experience

greater challenges in enforcement because of companies' commercial interest in the network. The US export controls thus doubly push on the bounds of WI's framing. The controls are primarily concerned with hardware, which, given the technology's physical diffusion, is less neatly described by WI compared to digital networks. Secondly, the explicit goals of the controls are specifically to limit the military uses of technology, whereas WI is oriented primarily towards networks of commercial products.

Albert Hirschman's Supply and Influence Effects

Farrell and Newman's weaponized interdependence framework describes state coercion and power in the present moment, as the effects of globalisation on interdependence and state rivalry are re-evaluated. However, earlier articulations of weaponization and interdependence that predate 20th century globalisation and neoliberalism offer a parallel characterization of the intersection of geopolitics and the global economy. A particularly influential predecessor to weaponized interdependence examines these same themes with a focus on trade in physical goods and on the effect of trade on military capabilities, offering a useful alternative framing of the export controls. Albert Hirschman's 1945 book, *National Power and the Structure of Foreign Trade*, frames trade as inherently politicised, much as Farrell and Newman see global networks as points of leverage.

Hirschman examines tools of trade policy as they relate to states' concerns about relative power and dependence on other states, particularly in potential conflicts. As Walter Hudson writes, in Hirschman's view, "trade between countries is not simply about the provision of goods, but about competitive national advantage fraught with both economic and political consequences. Trade is not simply about the goods you trade... it is also about your ability to influence whom you trade the goods with" [27].

Hirschman further differentiates between the effects of economic coercion. The "goods you trade" can have a direct impact on national power particularly if they have military applications. Hirschman identifies the use of trade to impact military capability as the "supply effect" of foreign trade [28]. Through the supply effect, trade of desired goods allows a country to build up its military power. To reduce vulner-

ability to the supply effect, a state might stockpile key goods or minimise the risk of being cut off from global supply by coordinating trade with allies. To exploit the supply effect, a state with greater control of key military goods might introduce export controls—much as the Biden administration has framed the export controls on technology to Russia and China. In contrast, “influence effects” involve the broader “power to interrupt commercial or financial relations with any country,” and in Hirschman’s conception, form “the root cause of the influence or power position which a country acquires in other countries” [29]. Influence effects in particular parallel weaponized interdependence’s chokepoint effect, in using a position of control to choke off a network with the aim of coercing a rival country. Beyond individual imports or exports, influence effects incentivise the creation and the maintenance of trade dependencies, which serve as useful tools in navigating geopolitics with rivals and allies alike. Like Farrell and Newman, Hirschman suggests that these dependencies and dynamics can both help stabilise the global order and conversely provide opportunities for coercion and destabilisation.

Unlike weaponized interdependence, which emphasises network hierarchies, Hirschman’s framework is focused on bilateral trade. This simplified, bilateral view does not perfectly capture the complex supply chain of technology. But in other ways, Hirschman’s framework offers a closer match to the conditions of the US’s technological export controls. Hirschman focuses on the physical trade in hardware, where weaponized interdependence skews towards digital networks. Export controls are themselves a more traditional, bi- or multi-lateral form of economic statecraft, one that involves an official and concrete government policy. In contrast, weaponized interdependence, particularly through the panopticon effect, often operates with a level of covertness as it attempts to preserve dependencies despite weaponization. In the case of US export controls, while the transparency of the controls can help facilitate compliance, the public release of the official details of the controls have also affected their implementation and subversion, as with Nvidia undercutting the technical specifications for semiconductors.

Finally, Hirschman’s supply effects allow for analysis of the US technological export controls as geared towards impacting military capability. The framing of the controls empha-

sises the military uses of controlled technology. Whether the controls are genuinely tailored to only impact military applications or whether the framing seeks to de-emphasise the broad economic impact of cutting off technology, Hirschman's theoretical framework more fully considers both facets of dual use technology.

US Export Controls Under Supply And Influence Effects

Attuned to the military utility of trade, Hirschman's framework helps to disentangle the successes and failures of the US technological export controls. As mentioned, US export controls have not been very successful at keeping physical components out of either Russia or China. With the military uses of the hardware in mind, the stakes for the export controls are also higher compared to the commercial networks that WI centres. Rather than to damage Russia's or China's economy or demonstrate US power, the controls seek to completely block the technology from being used in a military capacity. If microelectronic, machine tool, or semiconductor slipped through the export controls, Russia will be able to make more drones and cruise missiles to attack Ukraine. In the case of China, the semiconductors targeted by the export controls aren't directly used in weapons systems, but the stakes of an individual piece of hardware are still high. These advanced chips are so powerful and coveted that Chinese actors have created complex, elaborate webs to acquire a single controlled chip [30].

Given the stakes of these military applications, the export controls' failure to stop the movement of controlled technology into Russia and China demonstrates an inability to fully exploit supply effects. Are the controls more successful when considered as part of a broader move of economic coercion, as some suggest is their primary intention?

In the case of Russia, the US has used tools beyond export controls to target the Russian economy, including through economic and financial sanctions. Russian sovereign assets held in European owned clearinghouses and banks have been frozen with US support, in a weaponization of Russia's reliance on Western financial systems and networks. The export controls themselves have also at times been framed as targeting Russia's military, but through both direct and indirect means. As BIS put it, the controls would "atrophy key sectors of its industrial base, and undercut its strategic ambi-

tions to exert influence on the world stage.” The distinction between targeting military capabilities and the general weaponization of trade (what Hirschman describes as “influence effect”) is not a strict binary, and Hirschman describes how broader economic effects can filter down to affect military capabilities.

Whether the US export controls are intended to purely target military uses and supply effects of technology, or whether they seek to impact the Russian economy more broadly, the dual use nature of the technology subverts sharp differentiation, just as it subverted the framework of weaponized interdependence.

Given concerns about Russia’s civil-military fusion and the potential repurposing of restricted components from commercial uses, the export controls have restricted technology beyond military end users [32]. The wide range of controlled components impact far more than Russia’s defence industry. As scholar Julian Ringhof describes, “cloud computing centres, high-performance computers, aviation and defence technologies, and oil-refining machinery all require regular replacements and upgrades of microprocessors, controllers, sensors, and mechanical parts.” These industries may increasingly deteriorate as the export controls strangle Russia’s access to technology. The full impact of the export controls on Russia’s state capacity more broadly, beyond its defence industry, is not yet apparent. Russia’s increasing economic ties with China suggest that the export controls might not dent Russia’s capacity for war even indirectly. But compared to the inability of the controls to manipulate supply effects and stop military uses of the technology, the broader economic influence effects of the policy seem in comparison an effective tool. Although the hardware has kept flowing to military end users in Russia and China thanks to circumvention, the costs of circumventing controls and establishing alternative supply chains and networks of procurement may weigh on the two countries over the longer term. The high economic importance of the technology subject to controls reflects a profoundly dual use nature, one which is de-emphasised in the controls in favour of a focus on military applications.

As with the technology slipping through US controls to Russia, the hardware restricted to China has been a key component of the global economy and is highly diffuse. While an

older bilateral model of trade may have been conducive to effective export controls (and effective supply effect restrictions), the distributed supply chains and the incredibly wide-ranging applications of critical technology today undermine such a model. The economic impacts of the semiconductor export controls on China are unclear since China has invested intensely in circumventing export controls while establishing of a domestic sector to reduce reliance on the US [33]. While technological innovation, including in the defence sector, may be impacted over time through the controls, evidence suggests that the controls harm the US's own semiconductor industry more than China's in the shorter term [34].

Despite US attempts to de-emphasise the goals of the export controls, framing them as narrow and targeted, both China and private actors involved in the semiconductor industry have clearly interpreted broader goals and implications of the controls. Hirschman's supply and influence effect categories emphasise the US's own attempts to disaggregate the role of technology in interdependence and in conflict. The controls are framed as having a limited scope, aimed to prevent military uses of the hardware. Carving out distinctions to differentiate this set of technology from a more expansive list becomes both politically and practically important, to assure US companies that the export controls are limited, and to prevent openly signalling to Russia and China that the only path forward is to reduce dependence on US technology.

Conclusion

Weaponized interdependence and Hirschman's model of economic coercion offer two distinct lenses onto the US's technological export controls. Each framework points to key tensions in the controls themselves, tensions which feed circumvention and allow critical components into Russia weapons and advanced semiconductors to military end users in China. The dual use nature of the technology invites circumvention by companies, including US companies. The commercial importance of the technology has further its diffusion across the globe, and as hardware, the US faces a much more difficult task in physically choking off access.

The two interpretations of the controls, weaponized interdependence and Hirschman's framework, concur that the global economic system is constituted of interdependencies and

of actors ready to use dependencies to their advantage. The US publicly championed an interdependent global system, which, as Farrell and Newman point out, has always been rife with covert forms of weaponization. As the US and the world as a whole turn towards more open competition, the central dilemma of weaponized interdependence remains and the stakes grow higher: how to weaponize without driving other states away from dependencies?

In the case of the export controls, the US has navigated this tension by limiting, in theory, the scope of the controls. By emphasising that the primary goal is to prevent military uses of US technology, the US signals a more restrained approach. Clearly, China and Russia themselves remain convinced that the US has broader aims with the controls, including more significant economic impacts wrought by blocking access to technology. Yet the technology targeted by the controls is deeply embedded in highly complex, globalised economic structure: physically diffuse and controlled by private companies, with opportunities for circumvention at every step on the supply chain. For effective enforcement, the primary audience of the US's export control framing is more the players in the global supply chains than Russia or China. As evidenced in the persistent problems with enforcement, both in preventing technology from being used for military purposes and in effective weaponization for economic impact, the US has largely been unsuccessful at navigating these tensions. Instead, technology has proven uniquely embedded in the globalised economic system. The interdependencies of the global technology trade has instead spotlighted US attempts to exploit control of technology, undermining enforcement of the controls and hastening the shift away from dependence on the US.

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‘FIGHTING FOR OUR PEOPLE’: FEMININITY AND VIOLENCE IN PORTRAYALS OF WOMEN WHO USE DRONES IN UKRAINE

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Abstract

Men outnumber women as military drone operators, both in media narratives and in reality, as prominent Western militaries such as the US and the UK have far more men than women in their ranks. In recent years, Russia's invasion of Ukraine has brought newfound attention to the use of drone warfare; specifically, how the media overwhelming spotlights male drone operators. However, portrayals of women in drone operations have always lurked at the margins, with institutes such as the School of Pilotesses teaching women to utilise drones for the Ukrainian cause. This paper examines how militarised Ukrainian women who use drones have been portrayed in Western media. I conduct a reflexive thematic analysis of news reports on Ukrainian women drone operators, grounding my analysis in feminist theory on characterisations of female violence. I argue that the portrayal of Ukrainian women paints women's violence as exceptional, positions their service in relation to men and motherhood, and showcases a nationalist pride in service that situates their daily lives as oppositional to the masculine military system. Despite reinforcing these narrative tropes, these portrayals also show instances of women's political agency, hinting at changing dynamics in how women's violence is discussed in Western media.

Considerable media attention has focused on drone warfare during Russia's second invasion of Ukraine. Coverage ranges from Russia's deployment of Iranian Shahed drones to Ukraine's use of improvised drones, armed and unarmed. Drone operators—not just in Ukraine—but throughout the world and beyond military spaces, are overwhelmingly men; there are fewer women than men in militaries [1].

This article follows a feminist curiosity [2] to investigate how Western [3] media portrays Ukrainian women who undertake aerial drone operations. In this exploratory piece, I ignore the men who are often centred in news portrayals of drone operators and focus on the women who participate in Ukraine's defence. Using reflexive thematic analysis [4], I argue that the portrayal of Ukrainian women both follows

and deviates from narratives that women's violence is exceptional. The portrayal follows nationalist scripts of pride in serving their country (militarily or otherwise), positions service in relation to motherhood and men and situates women's daily lives as oppositional to the masculine military system. However, there are also instances where women are portrayed as subverting old scripts and asserting their political agency.

The paper begins with a discussion of the literature on gender and drone warfare and media characterisations of women's participation in war, with a specific focus on Ukraine. Next, I briefly discuss the method of reflexive thematic analysis, before moving on to outline the content of the news reports. I then analyse how women's drone use is portrayed in Ukraine. Finally, I conclude by noting the limitations and future implications of this analysis.

Literature

There is a rich literature on gender and drone warfare, including various studies on the gendered portrayal of drone operators [5]. This literature review seeks to synthesise that literature with studies on women's participation in militaries, especially the Ukrainian military, and on women who commit violence. Many articles on gender and drones seek to apply feminist perspectives to the figure of the drone operator, exploring the ways in which war and violence are gendered and queered through the use of drones [6]. Although these articles mention how US and UK militaries have attempted to recruit women, they largely overlook the figure of the woman as a drone operator. Research on women as drone operators can be quite theoretical and based in fiction, as there are few real women drone operators. To date, no analysis has focused on how actual women drone operators are portrayed [7].

Most militaries—including their respective drone units—are dominated by men, so it is understandable that less attention has been given to women drone operators [8]. In the Ukrainian military, Martsenyuk, O'Sullivan, and Trisko Darden all discuss how women's historic involvement and consistent marginalization go hand in hand [9]. Feminists have also problematised women's underrepresentation in state militaries for decades [10]. As various authors note, women have been prominent in militarised movements

in Ukraine, but their participation has been conditioned on traditional femininity (participating in support roles and as nurses) and has often been underestimated [11]. Acknowledging Ukrainian women's sustained participation in militia, nationalist, and independence movements, these authors outline how women have been mobilised for military work from the first Russian invasion in 2014. Martsenyuk highlights that—according to a 2023 survey—64.3 percent of Ukrainian women are willing to engage in armed resistance to defend Ukraine (compared to 77.4 percent of men) [12]. Martsenyuk and Trisko Darden both discuss a slow opening of the military to women, as women of certain professions have been subject to a semi-voluntary conscription [13].

As Trisko Darden illustrates, while women are encouraged to serve, they are often assigned non-combat roles, and their service remains unenforced. In contrast, men are impressed into service, and their reluctance to contribute is often ridiculed as cowardice and leads to social ostracization [14]. O'Sullivan observes a similar phenomenon within some feminist circles; in 2014, women who sought peace over militarization were marginalised in mainstream narratives of women's contributions during the first invasion. Martsenyuk also outlines how women were considered incapable of combat roles by the military and society, although this perception is rapidly changing as the second invasion continues [15].

Trisko Darden also discusses the expectation that women must "be motherly and caring, even as they become battle-hardened" [16]. This ties to the broader feminist discussions of what it means to be a woman during conflict. Building on this body of literature, Gentry and Sjoberg explore how women's violence is portrayed in stereotyped images: the mother, monster, and/or whore [17]. The trope of 'women as mothers' is the idea that women who willingly serve in militaries or commit violence are unnatural, monstrous because women, perceived through their 'natural' role as mothers, are supposed to be sympathetic and gentle. 'Women as whores' refers to the trope whereby women's portrayal is sexualised for men's pleasure, and the idea that sexual deviancy and women's violence are linked to each other and aberrant. Women's bodily processes, such as their menstrual cycles, pregnancies, and motherhood, have also been cited as evidence of their suitability for combat, as has women's supposed emotional volatility [18]. Clark explores

the idea that women's maternity affects them emotionally during military service, particularly in operating drones [19]. She analyses how fictional and real drone operators are constructed by narratives as overly emotional, violent women, with aberrant femininity portrayed through emotion. For Clark, these portrayals demonstrate "a woman failing in her role as a warrior because of her status as a mother" through either physical or emotional weakness [20].

The figure of the woman as drone operator, as both Clark and Moon note, is deemed disruptive in military settings due to the bodily and emotional disruptions outlined above [21]. This is reflected more broadly in the literature on women's integration into militaries, where countless studies have analysed how the hierarchy of masculinity and femininity functions [22]. For Gentry and Sjöberg as for Clark, women who are violent or seek military service are perceived as overly emotional and extraordinary, as properly feminine women would not perpetrate violence [23]. This has relegated women to support roles away from the frontline [24]. In the overview of military masculinity that begins her chapter, Moon describes how femininity is used to shame and discipline, noting "[t]hose epithets ['lady,' 'pussy,' 'faggot'] constantly remind young recruits that a true 'warrior' stands in contrast to femininity" [25]. Women's presence is then argued as disruptive within these masculine spaces, precisely because of the sexualised and shameful connotations of feminine expression [26].

But both Clark and Moon note that these perceptions are troubled by the woman as drone operator. Clark notes there are few physical requirements to pilot a drone, and even pregnancy, supposedly women's biggest weakness in military spaces, does not prevent women from performing drone duties except during labour and birth. Women's stereotyped role is instead re-signified through emotional failings [27]. Moon on the other hand argues (like Dagget) [28], that drone warfare blurs the boundaries between war and home front and between omnipotence and cowardice. It therefore queers and genders war experience in new ways. Moon claims that "drone warfare, which is remote yet aggressive, gestures towards what was unimaginable—a genderless warrior" [29].

The woman drone operator in the play *Grounded*, forced to pilot drones after pregnancy ended her career as a fighter

pilot, is certainly not a genderless warrior [30]. The play documents *The Pilot's* journey operating drones for the US military, and her eventual breakdown as her use of drones clashes with her everyday life and creates tensions. While Harrop, like Clark, interprets *The Pilot's* breakdown in *Grounded* as caused by a lack of emotional control, Harrop compares this loss of control to men's rage in ancient myth [31]. Evans, on the other hand, describes *The Pilot's* descent into mental breakdown as an overwhelming surge of empathy, distinguishing her from her militarised men counterparts and showing the feminised failure to control feelings, as Clark also discusses [32]. Comparing *The Pilot* to men also echoes Grewal's reading of this play, who, like Clark and Moon, points out that women's success in military institutions hinges on their ability to embrace a queer masculinity as exemplified in *The Pilot's* camaraderie with military men [33]. By the end of Moon's analysis, the woman drone pilots portrayed in *Good Kill* and *Eye in the Sky*, are not so gender neutral. While the plays attempt to portray an egalitarian military life, the women pilots are not the main characters. Portrayed in sexualised scenarios, they are merely the 'co'-pilot to the 'real' protagonist pilot [34].

Applying the literature on the portrayal of women's violence and building on the literature on drone operators, I want to chart how Western media portrays real Ukrainian women who use drones in the context of Russia's second invasion, disentangling the continued relationship to gendered norms that are attached to the women who are presented to Western audiences in these narratives.

Methods

As Enloe notes: "To be a sceptically critical, feminist-informed military analyst requires [...] us to become energetically curious about women's varied and dynamic roles vis-à-vis the constructions and reconstructions of masculinity" [35]. After seeing the portrayal of Ukrainian drone operators in the Western media I was consuming and using for my research, I became curious about the seeming absence of women drone operators and began to investigate. For me, portrayal is not distortion; it is simply what we, as media consumers, see, given that we do not have unmediated access to truth. While I do not believe that social construction necessarily supersedes objective truth, it is important to investigate

media portrayals as they shape and reflect evolving social truths. We cannot know for certain how accurately these portrayals align with the self-perceptions of the women depicted; we can only analyse what is presented in the media.

I use Braun and Clarke's approach to reflexive thematic analysis, which takes themes to be "stories about particular patterns of shared meaning across the dataset" [36]. Reflexive thematic analysis is qualitative by nature and centres subjectivity. It employs organic and recursive coding processes and requires deep reflection on and engagement with data. The approach is exploratory, iterative, and acknowledges the researcher's role in knowledge production, making it compatible with feminist curiosity. As in feminist theory, themes are developed through 'data, analytic process and subjectivity,' and are stories in and of themselves [37]. My approach also takes inspiration from digital ethnographic methods and visual data analysis [38], taking the stance of a casual Western viewer to see how Ukrainian women drone operators are presented to such viewers.

To begin, I conducted searches on Google and YouTube using an incognito window, combining the terms 'Ukraine,' 'women,' 'drone' in about five queries to cover different formulations. Instead of systematically searching news website databases, I chose to sample news reports recommended by Google's algorithms to explore which types of portrayals are presented to Western audiences. I also excluded Ukrainian or Russian outlets for this reason since my focus on Western media provides insights into how 'The West' positions its support for Ukraine in its portrayals of Ukrainian drone operators. I excluded any results that did not focus on women as drone operators in Ukraine but included those that focused on civilian women attending military drone operator training schools, as I decided to broadly look at militarised women, as opposed to military women only. Using this method, I found sixteen news reports from news websites and posts on YouTube from news publishers. Two of these reports were extended versions of a shorter report I found, meaning there were fourteen unique documents; however, the different editing and focus justified the inclusion of all sixteen.

The Western news outlets I found covering Ukrainian women drone operators include the Associated Press, the New York Times, Radio Free Europe, Sky News, Business Insider, the

Canadian Broadcasting Corporation (CBC), the Atlantic, the Times and the Sunday Times, the National Public Radio (NPR), the World, the Cable News Network (CNN), Defense One, Le Monde, and an independent organization for women's empowerment, WOW WOMAN, which ran an extensive profile on a Ukrainian woman drone operator. I started with a close reading of these written, audio-based, image-based, and video reports to determine an initial set of themes informed by the literature on women's military participation and media tropes about violent women. Then I re-read each document, adjusting the themes until I ended up with three 'stories' as per reflexive thematic analysis [39]: Pride and Preparation, Battling and Reinforcing Stereotypes, and Troubling Civilian Status. Before addressing these themes, I outline the trends about the news reports' content.

News Report Content

Most of the news reports focus on a particular school that trains women to operate drones [40]. This school has different names, including the school for/of Pilotesses, the school for women/female drone operators, the female/women pilots of Ukraine, or simply Pilotesy. The founder of the school, Vitaliy Borovyk, is quoted in multiple news outlets discussing the school. He notes in one article that he founded the school because he "recognised the need for more women drone pilots months ago after struggling to help a friend who was looking to get in contact with a female drone pilot for a feminist organization" [41]. Multiple articles quote Borovyk as having recruited women from the fashion industry, many of them models [42]. Pilotesy is the most prominent organization throughout the news reports, but there are other organizations and initiatives mentioned. Victory Drones, for example, trains drone operators more broadly, including women [43]. The women who are part of Victory Drones are often repairing drones to send to the front line as civilians, but also learn to fly drones themselves [44]. Ukrainian Valkiriya is another group mentioned in one news report, but they train women for various wartime skills and do not focus on drones [45].

Beyond organizations, many articles feature discussions of what women contribute to the Ukrainian military, citing statistics on women's participation and evidence of discriminatory practices [46]. These articles often discuss

how the Ukrainian military seeks to attract women, as men suffer increasing casualties on the battlefield and become more reluctant to join. A few articles are profiles of women who pilot drones for the military [47]. These women are usually young, except for one article which profiles a Ukrainian ‘grandmother’ who wanted to pilot drones because she was too old for the infantry [48]. A few articles also focus exclusively on women who have chosen to contribute to the war by building drones [49].

Two linked news reports by the Associated Press in March 2024 describe a program where primary and high school children learn how to pilot and repair drones [50]. This initiative is meant to prepare children for war and help them learn useful skills like first aid training. The reports discuss multiple types of drones. The most prevalent models are quadcopters (both armed and unarmed), which are assembled, created, or modified domestically by Ukrainians. Those who help assemble drones usually conceal the explosives (e.g. grenades or similar devices) that will be attached to the drone, although some acknowledge that the drones will be used to deliver lethal payloads. Although these drone makers are removed from the frontlines, they are aware and supportive of using drones for lethal purposes, as this is essential to achieve victory.

Thematic Analysis

During thematic analysis, I identified three broad themes or stories emerging from the news portrayal of Ukrainian women. The first is Pride and Preparation, which concerns women’s logic of involvement with respect to drone warfare. These narratives tended to highlight the national pride and the motivation to resist Russian aggression experienced by Ukrainian women, and their perceived need to be prepared in case they were asked or forced to participate in military action. The second theme is Battling and Reinforcing Stereotypes, which depicts military spaces as contentious for women. However, both the news reports and the women themselves at times reify and reinforce gendered stereotypes. The final theme is Troubling Civilian Status. It shows how women’s roles, motivations, and stereotypes point to a crucial but unaddressed question: in the Ukrainian context portrayed by Western media, who is a civilian? In sum, Western media portrays women’s participation in the Ukrainian war effort

along gendered lines and reinforces stereotypes linking women's violence to motherhood and other gendered roles.

Pride and Preparation

This 'story' begins at a school in Lviv in March 2024, when the Associated Press filmed an instructor teaching high school students how to operate a drone. When he was interviewed, he said "The war is ongoing, whether we wish it or not, and we must be prepared. We must stay abreast of current events. While new technologies may emerge, the fundamentals remain the same, so we provide students with foundational knowledge" [51]. This foundational knowledge includes more benign and obviously useful skills such as first aid, but also includes classes on surveillance drone operation for children as young as six. A high school girl commented that the training is directly useful to boys due to potential future conscription, adding that "for girls it is just as important, because they should also be able to act in some extraordinary situations and know what to do" [52]. The idea that for boys training is almost a given, but for girls, it is extraordinary, is the core of this story, echoing Gentry and Sjoberg's argument that women's violence breaks and distorts 'normal' femininity, which requires women to remain in more peaceful roles [53].

The reasons women gave for using drones illustrate the narrative of preparation. It is particularly true for civilian women, as they have chosen to prepare (as opposed to military drone operators who have chosen to fight), as one woman says in an interview with NPR, "just in case" she must be a combatant (in this case through Pilotesy) [54]. In an interview with the New York Times, one woman claimed it is inevitable that women will have to fight. She noted that women want to study combat drones so that when they are eventually in the military, they may want to participate in roles other than support roles [55]. This implies women are usually relegated to support roles (as has historically been the case in the Ukrainian military) [56], and drone use is portrayed as a way to subvert these gendered expectations.

But some women who use drones are already military personnel; preparation is behind them. A female drone unit commander interviewed by Sky News explained her motivation as part of a nationalist stance against Russian oppression: "We are fighting for our land for our history for

our culture for our freedom for our sovereignty and fighting for our people” [57]. This type of ideological positioning was common throughout the news reports. An older woman whom Business Insider portrayed as a spunky grandmother was serious about the honour she felt defending her country, asserting that the motivation to fight “must be love for your country and a strong desire to destroy the enemy so that they never want to set foot on our land again” [58]. A nurse and drone operator in the military interviewed by WOW WOMAN had a similar stance, noting “Ukraine is the last outpost that holds this plague back, away from the rest of the world. We need help. We need victory. We need your support. Girls are taking up assault rifles and going to defend their unborn children. I am proud to be part of this fight, but we all need help” [59]. Gentry and Sjoberg describe this kind of maternal nationalism as a genuine stance that women may adopt, but it also reflects a broader pattern of portraying women as a nation’s mothers, fighting for liberation based on a gendered relationship with their people [60].

This collective pride in maternal nationalism is reiterated in the news reports. When the woman profiled by WOW WOMAN spoke of taking up arms, she did it also on behalf of other women engaged in the conflict and expressed the pride she has in them. The founder of Pilotesy in one interview noted his surprise and pride that 80 percent of his students go to the front line; he stated that women want to protect the country in other interviews as well [61]. This sentiment is not exclusively addressed towards and echoed by military women, as news reports showcase a variety of ways to have pride in resisting Russian aggression through drones. In a New York Times interview, a civilian woman noted that she wants to protect her country, and that a course on drones could help her do that [62]. The civilian women at Victory Drones also are portrayed with a strong ethic of resistance. A woman said, “now we do anything we can to resist because Russians want to kill us: this is genocide,” as another woman nodded next to her [63].

Some women in the news reports exhibit pride and protection specifically when it comes to their relationship with men serving on the frontline. I identified three instances of this explicitly in the news reports. One woman claimed she helps her brothers and father who are deployed to the front. She was inspired to start making and repurposing drones after she

tried to supply drones to her family members. She found that drones were expensive and time-consuming to procure [64]. Another woman working with Victory Drones expresses pride in making drones for herself and her husband [65]. Finally, a woman refugee in Latvia who assembles drones destined for Ukraine explained that her work provides support to her brother who is on the frontline [66]. These media reports illustrate the rationale behind Ukrainian women's use of drones. They emphasise these women's need to feel safe and prepared, reflecting a narrative of maternal nationalism prevalent in spaces where many men have died, and women must step in to provide security. Additionally, they highlight women's resistance to occupation, which is potentially a more concrete motivation tied to their political agency [67]. The portrayal of prepared and patriotic women—fighting for national freedom in a symbolically maternal role and for their families and children on a personal level—reveal the division between frontline and home front that women must navigate when participating in militarised activities [68].

Battling and Reinforcing Stereotypes

"I understood that in addition to the war with russia [sic], there is also a war for equality, which in a broad sense should have ended somewhere in the last century, no? And that if a woman wants to defend her country, her family, her own rights, it should be normal for men. But most of them ask me the real reason for my decision to join the Armed Forces. As if the well-known fact is not enough. In general, I have a little more work to do" [69].

This quote from a woman drone operator profiled by WOW WOMAN reflects her difficulties in joining the military. Women who serve in the Ukrainian military feel proud of defending their families and country, but they also experience the tension between the pride of military service and the realities of life as a military woman. Women's participation is discussed as necessary and important in the Ukrainian military, this is particularly true when they are contrasted to men who dodge the draft [70]. As Trisko Darden notes, women are seen as substitutes for these men, but perhaps not quite the real thing [71]. This sentiment is reflected in how women speak about their troubles during military service, and how news reports discuss women's military service more broadly. A Le Monde interview of a

woman drone operator illustrates this when she says: “I tried to join the army, to learn how to defend myself, how to shoot a gun.” But recruiters at multiple locations turned her away. Some of these recruitment offices questioned her about her whereabouts in 2014, implying that volunteering only now during the full-scale invasion was not good enough [72]. While these narratives of gender inequality in the military may reflect women’s real experiences in militaries and are important to portray, they also reinforce the narrative that women cannot be seen as equals in organizations they join, and that they must endure discrimination, harassment, violence, or prove themselves in order to gain acceptance from men who control their access [73].

But many women interviewed were portrayed as forging their own path and as advocates of women in the military. One woman, the founder of Ukrainian Valkiriya staunchly proclaimed: ‘Women are able to fight on an equal footing with men and at the same time remain feminine [...] The gender of a warrior makes no difference’ [74]. Most women profiled and interviewed, however, disagreed that gender did not matter, although most women did believe that drones in some way levelled the playing field. This subverts the narrative militarised and violent expressions of womanhood are viewed as unnatural. Rather, as this Ukrainian woman asserts, femininity and violence are compatible [75].

At Pilotesy, a woman student noted the unique nature of the school, claiming ‘Women can do this’ and implying that it is harder for women to access other roles in the Ukrainian defence [76]. One article describes women learning how to operate and repair drones as “civilian soldiers” who were “busting stubborn myths” [77]. In another article, a drone trainer noted that women feel second class in the military, but that she joined to fight, “not shuffle papers” (be in a support role) and that drones enabled her to do this. On women in general, she noted “They are physically weaker and there are things they cannot do,” but that they could be seen as equal when piloting drones [78]. This reflects Moon’s description that the role of the woman drone operator can be liberatory, albeit still within gendered parameters [79]. In the article which profiled the grandmother who pilots drones, the authors note that women have complained that the military was not inclusive enough. The article describes how the grandmother came to work with drones because of

her age and gender: “She said her age ruled her out of infantry service—joking that she wasn’t allowed to run and jump like its soldiers” [80].

Another woman training woman drone pilots noted “This is a technological war, [...] It’s not so important to be very physically strong, you have to be strong in your mind” [81]. Women’s emotional and mental strength was linked to motherhood, in contrast to the belief, documented by Clark, that motherhood makes women too emotional for the stress of war [82]. While the portrayal of women’s emotional strength somewhat contradicts Clark’s argument, it fits with how Gentry and Sjoberg’s state portrayals of women as mothers allow for the possibility that women can be violent through upholding and subverting traditional expressions of femininity [83]. There are examples throughout the news reports of women being described in relation to their (grand) motherhood when they are first introduced in articles. It is unclear whether it was the women themselves who wanted to be described this way, or the journalists who asked these questions. However, there are also other links to motherhood throughout the news reports.

One woman interviewee connected women’s strength to the desire to protect their families, claiming that even women who would not hurt an insect would defend their country to protect their family and that people do not understand “how strong women are” [84]. This idea aligns with Gentry and Sjoberg’s view that women’s violence is deemed inconceivable within a patriarchal paradigm and must be explained by exceptional circumstances. In this case, it is explained by the idea that, while women are usually pacific (e.g., would not hurt an insect), they could, in a perversion of their motherly role, resort to violence to protect their families [85]. Another woman notes that she thinks “that every woman must understand that whatever happens she is able to protect her kids, her family” [86]. The links between patriotism and protecting family were further underscored by the woman profiled by *WOW WOMAN*. She noted, “Girls are taking up assault rifles and going to defend their unborn children” [87]. Ultimately, a quote from the *Le Monde* article profiling a drone operator sums up how motherhood, albeit seen as a strength, is still incompatible with the image of a soldier: “When a photo of her little daughter, [...] appeared on the

screen [of her phone], Zalevskaya suddenly burst into tears. A long moment passed before the fighter's mask regained possession of her features. No suffering could distract her from her task: to find and destroy" [88]. This positioning of motherhood is counter to Clark's argument of over-emotionality ascribed to motherhood [89], but the narrative continues to essentialise women when their strengths are linked their roles as mothers. As Gentry and Sjoberg note, sometimes women who commit violence are portrayed as in some way less woman and human because they can act in ways that distort feminine expectations (here: putting on a "fighters mask") [90].

Despite the equality when using drones, the news reports acknowledged that few women undertook this role, and that initiatives like *Pilotesy* aimed to change that [91]. The few women who pilot drones continue to face discrimination. The *WOW WOMAN* profile describes a culture of "frenzied sexism." This drone operator was refused front line tasks, labelled as one of those "overly smart girls' meddling in other people's business" [92], and punished with performing menial tasks which had no impact on the mission. She was also consistently mocked for her desire to do "real" work [93]. Notably, both drone pilots profiled at length (*Le Monde* and *WOW WOMAN*) were at first nurses, as this is one of the only acceptable ways women can be involved in the military despite official policies which state otherwise [94].

While news reports and the profiled women criticised the military's discrimination against women, they also perpetuate certain stereotypes throughout the articles. One example was the repeated connection between women's drive to fight and motherhood and family, as outlined above. Other stereotypes also persist. The *Le Monde* article posits a contrast between the drone operator's "slender figure," youth, and motherhood and "her machine-gun-like voice and martial tone," describing her "unusual journey" to military life [95]. As previously noted, the reporters found it important to note that Borovyk started *Pilotesy* by recruiting models [96]. The contrasting of women's appearance (and attractiveness) as in the examples above with the violence resonates with the 'whore' narrative described by Gentry and Sjoberg, which understands women's violence through their (ascribed) sexuality [97].

A report by Sky News consistently characterised a 23-year-old woman drone unit commander as childlike, implying that her youth and supposed innocence made her unfit to fight war [98]. In reality, twenty three is a typical age for joining the military, and the report's portrayal reflects a persistent tendency to conflate women with children, thereby stripping their agency [99]. Both women military drone operators profiled (Le Monde and WOW WOMAN) also separated themselves from other military women. One noted that while she loved using drones, other women found them too complex or dangerous. The other noted that some girls in the military are happy to "do nothing and be proud of it" [100]. These sentiments support both Moon's and Clark's argument that military women must distance themselves from femininity in order to fit into the masculinised environment [101]. But there were also example of women expressing solidarity with others. One such example features in the Le Monde article, when the woman profiled notes that instead of going to a funeral—which she no longer feels emotionally able to endure—she visits the wives of her comrades and keeps in touch to facilitate mutual support [102]. This solidarity in caring also re-signifies women's roles as carers (mothers) and supporters in conflict, even when they are the ones committing violence [103].

Troubling Civilian Status

The news reports provide multiple examples of moments when civilian and combatant status intermingle, undermining the gendered binary highlighted by Clark, Moon, Runyan, and Shepherd. Obvious examples are the 'civilian' women live inside Ukraine and work with various organizations to create and modify drones to send to the front.

Victory Drones, for example, states in one report that it encourages civilians to participate in "forging victory" [104]. One publication calls the women involved "civilian soldiers" [105]. and one of the interviewed women noted they must do anything to resist, despite not being officially part of a military [106]. The mingling of civilian and military during training at schools like Pilotesy, where the stated goals are preparation for military action [107], begs the question of when civilian action crosses the threshold of military action. Further from the front, the women who build drones to send to Ukraine from Latvia, also hope their actions contribute to victory [108]. The most controversial of these examples is

the Associated Press reports about children being taught to use drones. This education is run by the Centre of National and Patriotic Education and is taught by primarily military members, giving young children a taste of military life [109]. Both civilian and military women describe their use of drones as a form of patriotic and militarised (though not necessarily military) service to their country during wartime. Considered alongside the association of women's service with motherhood, the presence of women as drone operators not only blurs the distinctions between civilian and combatant, home front and battlefield, but also troubles 'normal' ideals of femininity during war. As Clark, Kunashakaran, Dagget, and Moon all contend, drones trouble the binary between home front and battlefield by placing the operator far from the fighting and close to their own home, while also intimately positioning soldiers to engage the enemy [110].

The distance-intimacy described by the authors above does not line up with how women drone operators are portrayed in the news reports. The women who pilot military drones are portrayed as experiencing the harsh reality of war up close [111], whereas the women who build, modify, or train with drones are more physically distant from war. However, both groups of women are united by their public and material support for a war effort incredibly close to them. Sometimes, this portrayal conforms to the narratives critiqued by Gentry and Sjoberg, which frame women's agency in relation to men and motherhood [112]. Other times, the articles explicitly highlight women's political agency without references to these narratives. Rather than a simple binary between the women on the home front and the men on the frontline, Ukraine's war effort comprises a spectrum of women supporting the war in several ways that weaken their claims to protected civilian status. Yet, unlike men, most of these women are permitted to leave the country, and some are protected from being drafted if they later decide not to participate in the war [113]. The implications for Ukrainian women and their constructed civilian status—along with how assumptions of male belligerence might create vulnerabilities for Ukrainian men—could be the subject of future feminist curiosities.

Conclusion

This reflexive thematic analysis illustrates broad patterns in how Ukrainian women drone operators are portrayed. While

the small sample size and interpretivist approach limit my argument's generalizability, "stories" [114] are nonetheless emerging from the news reports surveyed. These portrayals are deeply tied to narratives about gender, and in particular gendered guidelines about who is supposed to produce care and violence. While some of these portrayals deviate from the narrative of women as either mothers, monsters, or whores and offer space for women to exercise political agency (particularly through the expression of national pride and resistance), they still sometimes link women's violence to ideas of motherhood and women's dependence on men. While many women training to be drone operators are determined to fight on the frontline, the journey is not always so easy, as shown in the portrayals of women who "make it" to these spaces. Women who are learning to create, repurpose, repair, and operate drones are portrayed with varying degrees of sensationalism. Actual women soldiers, who perform formal military duties, are even more sensationalised and exceptional in these media portrayals.

However, as programs such as *Pilotesy* and the teaching of Ukrainian girls to pilot drones in schools ramp up, portrayals of women operating drones in combat may become more common. In early 2024, Euromaidan Press reported that a volunteer "all-female drone unit" is being set up in Ukraine, noting that the recruitment and training process will be "competitive" and "rigorous," and that the drone use skills which women have been acquiring to prepare as described in my analysis, will be "a plus" [115]. Future research could explore how these developments might reinforce or challenge the gendered constructs governing our conception of how and why women participate in violence.

Appendix: News Reports Analysed

1. AP Archive, dir. 2024a. Ukrainian Children Taught to Use Combat Drones at School. <https://www.youtube.com/watch?app=desktop&v=ndMa7ZT-xxA>.
2. ———, dir. 2024b. As War Grinds on, Ukrainian Children Are Learning How to Use Drones at School. <https://www.youtube.com/watch?v=kfvvsr9zoW0>.
3. CNN's Christiane Amanpour reports, dir. 2023. Female Ukrainian drone operators are retrofitting cheap drones, enabling them to destroy Russian weapons worth millions. <https://www.cnn.com/videos/tv/2023/08/31/the-lead-christiane-amanpour.cnn>.
4. Grynszpan, Emmanuel. 2023. "On the Ukrainian front, kamikaze drone pilot Yana's mission: Destroy." *Le Monde*, December 30, 2023.

- https://www.lemonde.fr/en/international/article/2023/12/30/on-the-ukrainian-front-kamikaze-drone-pilot-yana-s-mission-destroy_6387205_4.html.
5. Kramer, Andrew E., and Maria Varenikova. 2023. "If Not Me, Who?": As Ukraine Seeks Troops, Women Prepare for the Call." *The New York Times*, November 8, 2023, sec. World. <https://www.nytimes.com/2023/11/08/world/europe/ukraine-war-army-women.html>.
 6. Radio Free Europe/Radio Liberty, dir. 2024. This Ukrainian Woman Was Once A Jeweler. Now She Makes Military Drones. <https://www.youtube.com/watch?v=LrJBVRs9MQU>.
 7. Skove, Sam. 2023. "Deadly but tricky to fly, suicide drones have Ukraine putting thousands of soldiers through pilot training." *Defense One*, December 3, 2023. <https://www.defenseone.com/threats/2023/12/loitering-munitions-use-rises-across-ukraine-pilot-training-becomes-new-key-task/392433/>.
 8. Sky News, dir. 2023. Ukraine War: The Young Soldiers Hunting Russian Troops with Kamikaze Drones. <https://www.youtube.com/watch?v=Sxyu94xOSLw>.
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 11. Taylor, Alan. 2023 "Photos: Ukraine's Battlefield Drones," *The Atlantic*, May 24 2023. <https://www.theatlantic.com/photo/2023/05/photos-ukraine-war-drones/674160/>.
 12. Temple-Raston, Dina. 2023. "Ukraine's drone pilot school for women," *The World*, March 27, 2023. <https://theworld.org/segments/2024/04/04/ukraines-drone-pilot-school-for-women>.
 13. *The Times and The Sunday Times*, dir. 2023. Ukraine's Female Drone Pilots Learning to Fight Russia. <https://www.youtube.com/watch?v=L1zgi3F-ihU>.
 14. Westerman, Ashley. 2022a. "A New School in Kyiv Is Training Women to Pilot Drones." *NPR*, November 2, 2022, sec. Europe. <https://www.npr.org/2022/11/02/1133477911/a-new-school-in-kyiv-is-training-women-to-pilot-drones>.
 15. ———. 2022b. "Ukrainian Women Have Started Learning a Crucial War Skill: How to Fly a Drone." *NPR*, November 26, 2022, sec. Ukraine invasion — explained. <https://www.npr.org/2022/11/26/1135633681/ukraine-women-drones-russia-war>.
 16. WOW WOMAN. 2023. "Inside Ukraine - Tetiana Oliinyk, Drone Pilot, Armed Forces, Nurse, Undisclosed Location." <https://www.wowwoman.com/inside-ukraine-tetiana-drone-pilot-armed-forces-undisclosed-location>.

Notes

1. Lindsay C Clark, *Gender and Drone Warfare: A Hauntological Perspective* (New York: Routledge, 2019); Peter Lee, *Reaper Force: The*

- Inside Story of Britain's Drone Wars (John Blake Publishing, 2019); Wayne Phelps, *On Killing Remotely: The Psychology of Killing with Drones* (Little, Brown and Company, 2021); Joanne Kuzma and Kate Dobson, "Gender Diversity in the UAV (Drone) Industry," *International Journal of Gender, Science and Technology* 10, no. 3 (2018): 366–77; Sarah Shoker, *Military-Age Males in Counterinsurgency and Drone Warfare* (Cham: Springer International Publishing, 2021); Jessica Trisko Darden, "Ukrainian Wartime Policy and the Construction of Women's Combatant Status," *Women's Studies International Forum* 96 (January 1, 2023): 102665, <https://doi.org/10.1016/j.wsif.2022.102665>.
2. Cynthia Enloe, "The Recruiter and the Sceptic: A Critical Feminist Approach to Military Studies," *Critical Military Studies* 1, no. 1 (February 2, 2015): 3–10. <https://doi.org/10.1080/23337486.2014.961746>.
3. I use the terms 'West' and 'Western' to denote the shared approach by European, UK, and North American media in portraying this conflict. However, I understand this is not a perfect term, and could potentially be read as another way to reify hierarchies between the Global North and Global South, and specifically for this piece, because Eastern and Western Europe. While I believe that 'Western' news outlets do have a particular lens when covering this (and other) conflicts, this is not meant to cement any hierarchies or binaries.
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6. Bayard de Volo, "Unmanned?"; Cara Daggett, "Drone Disorientations: How 'Unmanned' Weapons Queer the Experience of Killing in War," *International Feminist Journal of Politics* 17, no. 3 (2015): 361–379; Sumita Kunashakaran, "Un(wo)manned Aerial Vehicles: An Assessment of How Unmanned Aerial Vehicles Influence Masculinity in the Conflict Arena," *Contemporary Security Policy* 37, no. 1 (2016): 31–61; Mary Manjikian, "Becoming Unmanned: The Gendering of Lethal Autonomous Warfare Technology," *International Feminist Journal of Politics* 16, no. 1 (2014): 48–65; Cristina Masters, "Bodies of Technology: Cyborg Soldiers and Militarized Masculinities," *International Feminist Journal of Politics* 7, no. 1 (2005): 112–132.
7. Lauren Wilcox, "Drones, Swarms and Becoming-Insect: Feminist Utopias and Posthuman Politics," *Feminist Review* 116, no. 1 (July 2017): 25–45, <http://dx.doi.org.proxy.queensu.ca/10.1057/s41305-017-0071-x>.
8. The drone industry, like aviation more broadly, is dominated by men. As Joyce, Anderson and Bartolo note, even the terminology used in the industry—terms like 'unmanned' and 'drone' (a male honeybee)—centres masculinity. They, along with Kuzma and Dobson, advocate for a more diverse and inclusive workforce, arguing that gendered language

is a disservice to women in the industry. Kuzman and Dobson also highlight the underrepresentation of women in the drone industry, which is comparable to that in the fields of sciences, technology, and engineering, where women tend to work in 'operations, human resources, marketing, and public relations' and 'only hold five percent of the programmer roles.' Kuzman and Dobson argue that exclusion of women from piloting, technical, and managerial positions slows women's career progression while reinforcing stereotyping. The articles referenced here are included in the bibliography.

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CORPORATE CONTROL IN INTERNET GOVERNANCE: A DEMOCRATIC LEGITIMACY GAP?

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Abstract

As a domain initially characterised by civil society empowerment, decentralised networks, and cross-border structures, today's Internet faces concurrent attempts at asserting democratic and corporate control. Politics itself is increasingly technological, making tech firms tools and obstacles for government. Despite the increasing eminence of private actors, scholarship on their influence remains fragmented. Analytical insight into the notion of a democratic legitimacy gap in Internet governance is scarce. The super-election year 2024, coinciding with the rise of Artificial Intelligence (AI), prompts opening this technopolitical black box. This article advances a new account of private actors in digital era government and politics. Considering implications for democratic legitimacy, it first conceptualises how companies shape Internet governance through (I) infrastructure, (II) information and (III) corporate political activity. In the 2024 election context, the last dimension is salient and warrants in-depth analysis. Linking the April-June 2024 elections in India and the June 2024 European elections, notable similarities surface. Secondly, the article makes sense of fragmented scholarship on legitimacy.

Facing theoretical muddles around 'multistakeholderism' and 'digital sovereignty', this article points to the practical limitations of both discursive notions. Zooming in on the cases of the 2017 'Tech Accord' and the 2024 'AI Elections Accord' illustrates how different dimensions of legitimacy interact and intersect in practice. The third part problematises existing Internet governance efforts, prompting a more pragmatic understanding of legitimacy. Departing from normatively defining democratic legitimacy as an attribute that is either present or absent, this article frames the notion of a 'democratic legitimacy gap' as rooted in actors' interest-driven perceptions. This extends the scope of research on how tech companies interact with democratic states and societies. This article contributes to filling a timely gap in Internet governance research by innovating scholarly debates on legitimacy and situating these in the contested context of elections and AI.

How do large technology companies shape Internet governance, and what does this imply for ‘democratic legitimacy’ in the digital era? Data-driven large technology companies with business models drawing on algorithm-powered information gathering are already enmeshed in daily life. Emerging as increasingly influential political actors, however, tech firms simultaneously become entwined with global politics [1]. Their prominence in the public domain and unmatched resources challenge state sovereignty and shed light on concentrations of corporate control and technology dependency. Take the two examples of digital service provision or communication infrastructure [2]. A handful of corporations dominate cloud computing, which states depend on for providing vital public services. Concentrated ownership of communication infrastructure like cellular networks similarly disadvantages independent regulation of these resources. Put simply, Internet governance poses unanswered questions on the new ‘digital’ means of political behaviour and democratic legitimacy. Debates on the interaction of politics, government, and technology challenge political science scholarship. Once traditionally slow-moving political institutions and norms catch up with fast-paced modern technologies, the ‘grand challenge’ of governing them remains [3]. This is linked to scarce systematic knowledge—and data, for that matter—about the big platforms. As tech giants become potential facilitators and obstacles for government in the digital era, politics itself is increasingly technological [4]. Contemporary techno-political developments raise sceptics and celebrants. Researchers have tried to work around or collaborate with the tech firms at stake. Yet, just like for regulators, both paths prove to be rocky.

In a similar vein, notions of a perceived ‘democratic legitimacy gap’ are subject to heated political debates. Most recently, these rally around the ‘revolutionary’ rise of generative Artificial Intelligence (AI). Meanwhile, elections throughout 2024 are set to cover over 40% of the population globally – what some call “Democracy’s Superbowl” [5]. Private-owned Large-Language-Models (LLMs) and bots powering deep fakes or disinformation are at risk of driving democracy’s erosion [6]. Scholars translate related concerns about democracy in the digital era, such as the privatisation of democratic spaces [7], into a myriad of approaches. Concepts include digital constitutionalism [8] and (neo)

corporatism While the former refers to varying expressions of constitutional takes on Internet-based technologies [9], the latter conceptualises routinised consultation and active cooperation of policymakers and societal stakeholders [10]. Surveying extant scholarship, pessimistic concerns about digital era elitism clash with techno-optimistic ideas of co-governance bridging sectoral divides. In line with Schmitter, discussing a democratic legitimacy gap in this setting is unsurprising. He contends that “legitimacy usually enters the analytical picture when it is missing or deficient” [11].

Eager to link the analysis of private players in Internet governance with a reflection on legitimacy, this article argues that answering the question raised above requires a three-step approach. Unpacking the role of the largest, US technology companies in Internet governance (Part I) is essential for making sense of the concept of ‘democratic legitimacy’ in digital era government and politics (Part II). Firstly, tech firms undoubtedly shape the governance of the Internet in numerous ways. As one of the first attempts to offer a more comprehensive analysis, this article identifies the three dimensions of tech companies’ influence on Internet governance: infrastructure, information, and corporate political activity. Viewing it in the empirical context of the 2024 election year, I conceptualise ‘corporate political activity’ as an overarching category comprising lobbying, norm entrepreneurship, and corporate activities around elections (Figure 1).

Norm entrepreneurship, as attempted by private sector actors in global cybersecurity, is a notion advanced by a train of works (inter alia, Eggenschwiler, Eggenschwiler and Kulesza, Fairbank, Glen, Gorwa and Peez) [12]. In the second part of the article, I assess the implications of companies’ roles for ‘democratic legitimacy’, building on a critical appraisal of extant theorising and a transfer of the notion to the digital era. ‘Multistakeholderism’ and ‘digital sovereignty’ emerge as discursive buzzwords worth focusing on. Contrasting their ideational promises with empirical reality, a caveat surfaces. ‘Legitimacy,’ as an ill-defined attribute, may turn into a mechanism reinforcing elitist practices [13]. Put bluntly, both buzzwords may be misappropriated to undermine democratic legitimacy. On this alerting note, the article's final section synthesises the prior two by providing a critical review and outlook on tackling emerging challenges

through untapped avenues for more ‘legitimate’ governance in the digital era. This may, for instance, involve partnerships bridging global divides and underexplored processes of democratisation from within platform companies.

Technology Companies in Internet governance

“Corporate cronyism and collusion between lobbyists and lawmakers have worked to give unbridled power and profit to a few players, while undermining consumer interest, and preventing small players from entering the arena” [14]. Khan’s recital of McChesney’s stark view on the dynamics shaping Internet governance polarises [15]. It challenges us to contextualise the origins and dimensions of such critique. Corporate actors are anything but ‘alien’ to government and politics. With many policy fields as their stomping grounds, lobbying and governmental affairs are part of firms’ daily bread. Private influence was historically more muted in national security policies. However, patterns of security privatization increasingly pervade Internet governance. The implications of such patterns for democratic legitimacy are, for instance, illustrated by digital infrastructure corporatisation and accountability gaps in their public-private governance [16].

Today, the major tech firms shape Internet governance through three key dimensions: (I) infrastructure, (II) information, and (III) corporate political activity (Figure 1). As this article refers to Internet governance a great deal, an operational understanding of the concept is critical. Internet governance is considered a ‘semi-privatised’ and transnational field with its own non-traditional hierarchical asymmetries [17]. Understood broadly, the term summarises all necessary tasks, functions, and components for the Internet to remain operational, as well as the policy issues surrounding them [18].

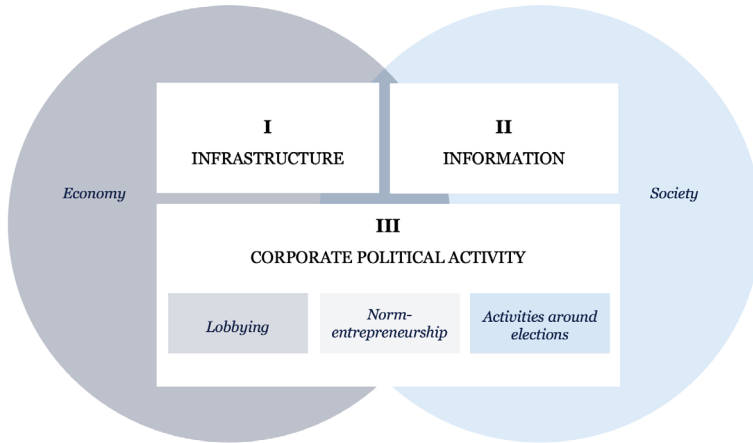


Figure 1. Large technology companies in Internet governance (Figure created by the author).

Infrastructure (I) and information (II) are distinct yet intertwined. The latter dimension pertains to the spread of dangerous online content, ideological propaganda, and misinformation [19]. The interaction of large tech companies and online media outlets, for instance, can significantly influence the spread of false information [20]. This includes identifying and managing viral misleading online information, which tends to peak around elections [21]. Meanwhile, contemporary societies operate on often invisible social, physical, and digital infrastructure. This includes systems, tools, and social institutions [22]. Indisputably, 21st-century socio-economic and political structures critically depend on Internet infrastructure for their basic functioning. The intersection of social institutions and digital infrastructure, however, is characterised by private-owned platform ecosystems [23]. Jungherr and Schroeder illustrate how information and infrastructure are intertwined [24]. They draw attention to how such virtual infrastructure, e.g., social media platforms and cloud services, may direct or revamp how all information, including politically sensitive data, is transmitted [25]. Committed to increasing efficiency, however, governments often outsource information infrastructure and public service provision [26].

Considering the implications for national security, related corporate “practices of algorithmic governance and platformisation” prompt rethinking what Internet governance can and should be like [27]. These practices

challenge existing models of social ordering, spanning corporate-public and government-public relations [28]. In fact, governments may feel inclined to adapt to the digital era by mimicking or integrating corporate governance practices. Introducing the concept of ‘platform governance,’ Gorwa advocates for a more substantial appreciation of “how platforms govern” and how this interplays with “external political forces trying to shape those practices and policies” [29]. Cath’s recent work skilfully illustrates how this infrastructure shapes contemporary politics and, more substantially, democracy. She challenges us to ensure that (digital) infrastructures “sustain us, rather than consume us” [30]. Large technology companies direct an “increasingly ubiquitous computational architecture of smart devices, things, and spaces” [31].

Corporate Political Activity

Revisiting Figure 1, the third dimension of tech companies’ influence in Internet governance is corporate political activity. Recent technologies and the tech companies controlling them reshape civic engagement and participatory processes [32]. This in turn changes how the public, as both consumers and citizens, engage with tech companies and political authorities. Notably, scholars remain hesitant to measure the online domain’s effects on offline politics. Addressing this shortcoming, Freelon et al. attempt to operationalise and measure “social media power” through three theory-based metrics [33]. Distinguishing between commitment, numbers, and unity, they are among the first to look at over-time effects. Highlighting the commitment metric’s influence, Freelon et al. pioneer a falsifiable model to highlight how social movements successfully use social media (in their study of Twitter) to “attract elite attention.” While Freelon et al. analyse “connective” civil society movements and the case of Black Lives Matter through their quantitative lens, Kreiss and McGregor look at the “other side” [34]. Departing from an explosion of studies on Internet-organised political activism, they analyse how different players, namely Twitter, Microsoft, Facebook, and Google, shape political communication. A finding worth stressing is that individual corporate representatives function as increasingly active and eager agents in the political space (e.g., providing digital advice to competing parties). Kreiss and McGregor make their case by examining how different tech champions engage with electoral campaigns within the

2016 US presidential campaign. Their observations, however, are surprisingly topical in the 2024 “super-election-year,” recalling polarising concerns linked to AI and disinformation on social media [35].

Yet, the most critical example in this 2024 election-year conundrum remains: The Republic of India, the world’s largest democracy, held its elections between April and June 2024, prompting intensified engagement with the role of digital technologies and their deployment around elections. Mainstream media tends to operate in silent complicity with the re-elected prime minister, Narendra Modi, and his Bharatiya Janata Party (BJP). A lack of legislation allows the incumbent government to aggressively micro-target potential voters [36]. Exceeding India’s worrying state of press freedom and highly concentrated journalist outlets, however, social media intermediaries are heavily regulated. The 2023 ‘Digital Personal Data Protection Act’ [37] illustrates how India perceives information gathered and extracted from its citizens as a rich national resource – “societal commons” [38]. Nonetheless, with 7 of 10 citizens owning mobile phones, communication and content platforms like WhatsApp and YouTube are equipped to have significant influence, let alone through algorithms and vast user bases [39]. “Computational propaganda” is how Woolley and Howard label automated manipulation algorithms and disinformation campaigns that political parties and regimes increasingly use [40]. Put boldly, these are state-sponsored activities supported by social media platforms and tech companies’ sophisticated software. To make sense of any content of such disinformation, however, one must follow Coleman and first look at the technologies to understand how companies behind these respond to the systemic information landscape themselves [41].

Having pointed to related corporate political activity and companies’ roles in shaping, amplifying, supporting, or manipulating political campaigning or elections, I turn to the two remaining avenues: norm entrepreneurship and lobbying. While lobbying activities explicitly aim to influence the legal prerequisites underpinning government and politics, the social constructivist ‘norm entrepreneurship’ framework sheds a new, softer light on how tech companies may shape Internet governance. The most studied among them is Microsoft. Microsoft is not just any large tech

company as it draws on both “platform and productivity” technologies [42]. Norm entrepreneurship, as an analytical framework, helps us understand changes in Internet governance. It does so by targeting the advanced norms, as well as the key constraints in the “role and identity of their promoters” [43]. Naturally, most extant analyses look at one or multiple selected actors and their activities on a global scale. Zooming in on the regional EU level of technology companies’ influence, the picture is different – however, not as different as many assume. Regardless of dedicated EU regulation to “rein in Big Tech” [44], the reality is that even when it comes to enforcing existing legislation that somehow managed to surpass technology companies’ lobbying efforts, like the Digital Markets Act (DMA), the EU officials tasked with enforcing compliance are widely outnumbered and outmatched by “Big Tech’s army of experts” [45].

To summarise, private technology companies’ roles in Internet governance may take different forms. By providing this critical appraisal of extant attempts at making sense of how such firms may shape Internet governance – through infrastructure, information, and corporate political activity – I define the scope for discussing its implications for democratic legitimacy in the following part.

Democratic Legitimacy in the Digital Era

Understanding the implications of control asserted by large technology companies for democratic legitimacy depends on two prerequisites. Firstly, an operational definition of what is considered democratically legitimate and, secondly, an understanding of how this resonates with ‘civil society’ and the state as respective counterparts in Internet governance. This second part of my article proceeds in three steps. Starting with a critical appraisal of conceptual turmoil around the term ‘democratic legitimacy,’ I analyse how it may (or may not) transfer to the digital era. Secondly, I turn to multistakeholderism. Finally, the polarised EU context tempts discussing discursive contentions of digital sovereignty and how these illustrate friction around what really is ‘legitimate’ in ‘third wave’ digital era government and politics [46]. This move prompts the discussion of whether ‘democratic legitimacy’ as underpinned by detailed yet static platform regulation or, new models of ‘good governance’ can genuinely drive a more just and equitable digital era.

Democratic Legitimacy

Firstly, any attempt at defining democratic legitimacy is inherently normative. Looking at Google's and Facebook's challenges to representative government, for instance, Rodrigues calls tech companies "digital gangsters" [47]. His argument is simple: Economic concentration drives technological determinism. In other words, it encourages technology to be the "primary cause" of social change [48]. Technological determinism subverts democratic principles as soon as non-elected tech firms wield regulatory power [49]. Rodrigues' notion illustrates how attributes such as economic distribution may affect democratic legitimacy, or the lack thereof. Drawing from different democratic ideals, however, this hardly provides a comprehensive framework sufficient for analysis. Acknowledging this caveat, structured understandings of different forms of legitimacy promise to be more robust. Integrating these with the notion of a 'democratic legitimacy gap,' however, is the most productive.

A democratic legitimacy gap implies that the reality falls short of the ideal. Increasingly privatised and closed-door decision-making processes in Internet governance, for instance, are considered "the opposite of what we expect of legitimate decision-making" in democracies [50]. This requires a specification of the ideal (what democratic legitimacy should look like) and empirical realities in Internet governance (how they fail to meet theoretical standards). Existing literature provides a wealth of multi-disciplinary approaches to related questions of political-economic realities and their interplay with the Internet's promises. Scholars link old debates on democratic principles, surveillance, freedom of expression, and good governance to new system-level challenges in the digital realm [51].

Since defining democratic legitimacy is inherently normative, it may even amount to a political act. In his seminal 'A Preface to Democratic Theory,' Dahl famously argued that among the "difficulties one must face at the outset is that there is no democratic theory – there are only democratic theories" [52]. Discussing the many approaches to defining democracy is not this article's aim. Notably, however, the notion of democratic legitimacy is still under-explored in most regulatory debates. Traps of oversimplification should be avoided for legitimacy to become both an analytically rich term and helpful tool. When it comes to the restriction of free speech, for example,

both private firms and public censoring bodies are at risk of having too little independent oversight and checks and balances between involved stakeholders [53]. Readers' awareness of the key elements (e.g., elections; freedom of expression) and the different types (e.g., representative; elitist; direct) of democracy, however, is essential for the following line of argumentation (for a detailed discussion see Bernholz et al.) [54]. Next to democracy and power, legitimacy is a similarly tricky concept to define, let alone operationalise. Weber's territorial notions of "stateness" and jurisdictions of legitimate coercive power, for instance, face evident tensions in the digital era [55]. Meanwhile Weber's work on legitimacy is surprisingly fruitful. "Weberian legitimacy" locates the sources of legitimacy with a variety of actors, thinking beyond the nation-state and traditional understandings of democratic or territorial consent [56]. Schmitter assesses how the asymmetric conversion of "power into authority" introduces both an "obligation to obey and a right to rule" [57]. This reaffirms how different normative expectations underpin different emerging understandings of legitimacy in the digital era.

Mechanisms to exclude public participation in Internet governance may differ from other forms of social and democratic exclusions. However, they are no less present or effective, due to new filter mechanisms and gatekeepers. Hindman explains how Internet governance likely nurtures "some democratic values at the expense of others" and pluralism hardly wins when "vast swaths of the public are systematically unheard in civic debates" [58]. Ess, for instance, points to examples of "Facebook rebellions," which he views as civil society uprisings against the company's censoring practices, protesting Facebook's detrimental activities "against legitimate freedom of expression" [59]. Arguably, the most vigorous early intervention in scholarly discourse around the Internet and society is McChesney's contention that "capitalism is turning the Internet against democracy" [60]. Translating extant anti-capitalist and elite-critical scholarship (e.g., Carroll and Carson) [61] to the digital domain, he criticises the surprising neglect of salient economic incentives underlying any technological innovation and societal organisation. Zuboff shares his critical sentiment, coining the term "surveillance capitalism" [62]. In a similar vein, Flyverbom et al. talk about an "internet-industry complex" [63].

Pointing to the ever-troubled relationship between capitalism and democracy, McChesney links this to his assessment of how political regimes have cultivated today's monopolistic tech companies. A counterfactual he suggests is a decentralised system of many different ventures. But how realistic is this today? The EU AI Act presents a timely example. Increased concerns regard the legitimacy of external standard-setting bodies in the process of "specifying norms directed at protecting fundamental rights" and democracy [64]. In line with this, Roberts points to digital sovereignty over AI and the lack of (democratic) legitimacy of the big hyperscalers [65]. Conceptualising large-scale structural dependencies of cloud infrastructure and the AI ecosystem on major firms, van der Vlist et al. coin the understanding of an "industrialisation of AI" [66].

Further conceptualising legitimacy, McChesney draws on Franck's view of legitimacy as "property of a rule or rule-making institution which itself exerts a pull towards compliance on those addressed normatively" [67]. The former points to public input on decisions behind (in)formal institutions. Fuchs et al. argue that such input must be accountable, transparent, and participatory [68], while Rosanvallon believes it must be proximate, impartial, reflexive [69]. The latter part of Franck's definition (i.e., exerting a pull towards compliance) captures potential benefits for society—the output. This may include reducing inequality in digital access, for instance. Putting McChesney's framework into practice in Internet governance, a gap surfaces [70]. Pointing to the case of AI, Roberts agrees that tech companies possess a "questionable amount of output legitimacy" while facing severe deficiencies on the input side of things [71].

Aiming to understand democratic legitimacy in relation to the EU, Scharpf provides yet another framework [72]. Analysing negative and positive integration, he discusses democratic legitimacy's normative underpinnings and points to structural asymmetries between legal instruments which impede effective "multi-level problem-solving" [73]. Of the many scholars drawing from Scharpf's thinking, Schmidt's take is the most fruitful. She innovates the understanding by proposing an additional dimension of "throughput legitimacy" to describe the quality of governance and policies based on accountability, inclusiveness, and efficacy [74]. Haggart and Keller translate her enriched taxonomy into a

framework for analysing democratic legitimacy in platform governance as input, output, and ‘throughput’ legitimacy [75]. Looking at the Facebook oversight board, alongside statutes like the 2019 UK Online Harms White Article, they draw attention to another often-neglected issue. It is only by understanding the different dimensions of legitimacy, rooted in democratic accountability, that democratic legitimacy deficits in Internet governance can be addressed.

Secondly, only holding corporate players accountable to other elites challenges the idea of legitimacy as a phenomenon rooted in democratic accountability. Instead of promoting equal participation, even multistakeholderism is at risk of reinforcing pervasive structural inequalities, elitism, and looming exclusion in the digital era. Put differently, pluripartite multistakeholder governance as a ‘fiction’ may take different forms in practice [76]. Let me illustrate this with the notion of ‘e-democracy’ or, relatedly, “digital democracy” [77]. Digital technologies share the potential to increase civil society engagement through e-participation [78]. Notions of ‘digital democracy’ are advanced by community engagement online or even Internet voting [79]. Indeed, better transparency and participation may foster democratic legitimacy, which is recognised by scholars (inter alia by Adams, Berg and Hofmann, Pernice) [80]. Mahrer, alongside Bekkers and Homburg however, criticises concepts of e-democracy, arguing that what we observe is, at best, electronic government: ‘e-government’ [81]. Nonetheless, Hofmann recognises the potential of multistakeholderism to shift political authority from criticised multilateral policy agreements to more inclusive and participatory networks [82]. Rethinking legitimacy beyond nation states could institute a global-level “stakeholder democracy,” drawing on “non-electoral, non-territorial” forms of democracy [83]. It is my contention that, despite this potential, practical limitations to the related collection of necessary data or capacity-building likely prevail. Different stakeholders pursue different interests, driving different conceptualisations of what should ideally be considered legitimate. Hence, in any discussion of which model of democratic legitimacy ought to be the Internet governance standard, normativity prevails.

Multistakeholderism

Multistakeholderism is often considered a consensual middle ground between more contested models of public or private

(self-)regulation [84]. Gaining traction in the global Internet governance discourse, however, the term also faces criticism [85]. Notably, Sylvain is an early critical voice, expressing her concern that existing power imbalances and elitism will likely be mirrored online [86]. Additionally, tech companies mostly retain the ultimate authority to control infrastructure, data, and access [87]. Fast forward more than a decade, Griffin reinforces the longstanding calls for reforming elitist Internet governance models [88]. She convincingly criticises how policies aimed at holding today's most prominent technology firms accountable neglect the nature of equal (i.e., 'truly multistakeholderist') participation. On Griffin's account, reinforcing existing structures, today's Internet governance models can hardly be perceived as genuinely democratic [89]. She makes sense of the longstanding debate by differentiating between, firstly, marketised forms of accountability (tech companies adhering to other private actors' discipline) and, secondly, 'rule of law' approaches where principles traditionally applied to public institutions are reinforced in the private domain.

Taking a practical stance, democratic legitimacy in Internet governance is inextricably tied to balancing non-elected actors' influence. The legitimacy of private firms in global governance, for instance, is shaped by interconnectedness, legitimisation and (de)centralisation [90]. The underlying notion of 'non-elected' actors, however, stretches to other societal sectors. In Internet governance this prominently includes non-governmental organisations (NGOs), activists or journalists. This raises a wealth of critical yet unanswered questions on the Internet's future character and governance, challenging those in charge of policymaking [91]. It may inspire us to rethink to what extent joint governance models including different societal sectors are truly a middle ground between public and private regulation. While this clearly exceeds the scope of this article, a notion worth raising is how states' digital era policymaking is challenged with incentivising firms "within their jurisdiction to act in accordance with their geopolitical goals" [92].

Digital Sovereignty

Finally, observing the deliberations around yet another Internet governance buzzword, 'digital sovereignty,' this article proposes re-evaluating large technology companies' contested role. There is no singular definition of digital

sovereignty, and this article does not aim to weigh in on the definitional and conceptual debates. Importantly, the current debate is embedded in the context of rising corporate influence and the simultaneous return of sovereignist, state-centric ambitions. Digital sovereignty is often framed as a way for governments to safeguard democracy against private firms' outsized control of the Internet. While this framing has some merits, it risks conflating sovereignty and democracy. States that do not own their digital infrastructure can still, to an extent, govern democratically and effectively. Even when Internet governance suffers from "democratic deficits and ineffectual policies," states' legitimacy to control technologies by means of (much-criticised) over-regulation remains flawed [93].

Despite scepticism, there continues to be a surge in "demands for regulation in the name of preserving democratic rights—indeed, democratic polity itself" [94]. Surprisingly, the EU has been the most vocal champion of digital sovereignty [95]. The discussions on "Europe's cyber-power" [96] illustrate this, pointing to the EU's own geopolitical ambition for more influence and relevance in the digital era. Nearly 4,000 miles of air distance from Brussels, India, the world's most populous democracy also tries to extend its nation-state sovereignty "into the digital realm against the US-based global tech firms" [97]. Like Brussels, New Delhi is also targeting large US tech companies. A notable difference, however, is how the burgeoning Indian sovereignty project includes both geo- and 'biopolitical' elements. 'Aadhaar,' India's biometric ID card, exemplifies this [98].

One may argue that the EU and India share yet another important contextual similarity 'offline.' Their mutual geopolitical position in between the United States and China reaffirms how interlinked tech companies' role in Internet governance and traditional geopolitics are. Most importantly, it shows how the EU and India's related, and to some extent mutual, interests may influence changing perceptions of 'democratic legitimacy.' Digital sovereignty was long ascribed to contested authoritarian endeavours at asserting state-centric control. Now, in the context of the 2024 elections, the EU and India each promote their own vision of digital sovereignty [99]. Jointly aimed at enhancing perceived democratic legitimacy, pragmatically thinking about legitimacy as a tool holds conceptual promise. Indeed,

such a tool may enable democratic regimes to simultaneously challenge geopolitical powers and private actors over (Internet) governance.

Perceived Legitimacy Gaps

Synthesising the two prior parts, this third section calls for departing from both utopian and dystopian visions of tech companies' sway in Internet governance. There is no singular democratic legitimacy gap in contemporary Internet governance. Instead, a range of different perceived gaps (plural) coexist. Any notion of a gap fundamentally depends on which of the key dimensions (i.e., input, output, throughput) of legitimacy is prioritised. Different actors in Internet governance pursue different interests and align with eclectic definitions of what is legitimate. Given that any definition of democratic legitimacy is inherently normative, this results in perceived gaps of varying sizes and shapes. This is especially true in Internet governance, due to the dominant role of private actors. The notion of a democratic legitimacy gap in Internet governance cannot be disentangled from the different interests and perceptions by different public, private, and societal stakeholders. Answering what tech firms' role implies for democratic legitimacy depends on what perception, and thus dimension, of legitimacy is normatively highlighted.

Ciglic and Hering, for instance, enthusiastically envision “a multi-stakeholder foundation for peace in cyberspace” [100]. Notably, both authors are executive-level Microsoft public affairs representatives—hardly unbiased authors on the topic at stake—yet publish their work as an academic article in Chatham House's *Journal of Cyber Policy*. Claiming that multistakeholder governance is still too scarce, with state control remaining all too exclusive, they criticise the eleven UN norms for responsible state behaviour in cyberspace as “derivate [...] of expectations for other domains of conflict” [101]. Repeatedly citing Ciglic's very own ‘Microsoft On the Issues’ blog on “The next chapter of cyber diplomacy at the United Nations” [102] they contemplate how “voices with deeper and different expertise on cybersecurity” are largely excluded. Based on this, they call for several changes at the UN level that are targeted at strengthening private actor influence. Meanwhile, Haggart and Keller suggest how (for now) democratic states are, without doubt, still “the

entity most able to deliver accountability and legitimacy to its citizens” and that “without democratic accountability, constitutional forms at the transnational level lack legitimacy” [103]. They draw on the three dimensions of input, output, and throughput legitimacy of Internet governance initiatives across public and private domains [104]. Nonetheless, they acknowledge that states may not remain the only source of legitimacy. Indeed, future “transnational democratic forms” may emerge in the digital era [105].

The Tech Accord

The digital economy and the large technology companies dominating it shape Internet governance, positively and negatively. The question remaining is: is it about good morals, or good business [106]? As stated earlier, this article contends that answering what tech companies’ role implies for democratic legitimacy depends on what dimension of legitimacy is perceived as the most important. Acknowledging this helps assess the future trajectories our governments and democracies may face in Internet governance. Hence, it is more nuanced approaches like the multi-dimensional categorisation of legitimacy that hold potential for a depoliticised comparison of identifiable strengths and weaknesses in each of the categories. Haggart and Keller’s three-dimensional framework helps us examine the earlier note of Microsoft as a potential ‘norm entrepreneur’—more precisely, the company’s 2017 call for a ‘Digital Geneva Convention’ in response to the global cybersecurity threat landscape at the San Francisco RSA Conference [107].

Recalling that input legitimacy is considered an indicator for involving “rule by the people,” the Convention’s original claim is weak as it is conceptualised and initiated by one private company. This signals unilateral self-regulatory practices instead of drawing from public consultation processes or surveys. However, Microsoft did strategically invoke the legacy of the International Committee of the Red Cross (ICRC) in support of the call [108]. Adding to this, state actors were initially sceptical, seeing little necessity nor ‘added value’ in this corporate call for a new Convention, while pointing to the many existing partnerships and initiatives [109]. Underlining Wallace and Visger’s claim, one may indeed contend that Smith’s long-unthinkable call “overlooks the need for States to agree to adopt such a treaty” [110].

Output legitimacy is about what is in it ‘for the people.’ Subsequent processes aimed at more comprehensive corporate responses indeed resulted in the wider industry familiarising itself with Microsoft’s initiative. By the 2018 iteration of the RSA, Microsoft had collected just over thirty industry players to function as signatories. However, they signed an industry pledge, the ‘Cybersecurity Tech Accord,’ instead of the originally proposed ‘Convention.’ Building on principles of stronger protection, like-minded partnerships, and user empowerment, this ‘alliance’ claims to “defend and advance technology’s benefits for society [...] to act responsibly, to protect and empower users and customers, and help create a safer and more secure online world” [111]. While this narrative may indicate that there is a lot ‘in it’ for the wider public, discrepancies surface between a legally non-binding industry-only pledge and its practical implementation amidst scaling data-driven business models. The tech companies’ pledged willingness to incorporate practices aligned with democratic legitimacy and user empowerment remains driven by profit motive.

Finally, throughput legitimacy regards the quality of policymaking and may indeed be the most potent claim of Microsoft’s policy-engagement project here. This is exemplified by the vision of “an independent organisation that spans the public and private sectors [...] that can investigate and share publicly the evidence that attributes nation-state attacks to specific countries” [112]. Once having a closer look at the ‘Tech Accord’ (Facebook and Microsoft among the signatories), the (original) absence of other large tech firms, including Amazon, Google, and Apple, weakens its sway. Celebrating over 150 signatories in 2021, however, the number of signatories points to an upward trend [113].

Empirically scrutinising these three types of democratic legitimacy illustrates the complexity of individual initiatives, just like the Convention-turned-Accord. While input legitimacy may be low, throughput legitimacy holds higher promise. And, revisiting this 2017 call for a Digital Geneva Convention is highly timely: On 16 February 2024, at the 2024 Munich Security Conference, tech sector representatives of 20 companies jointly declared their new ‘Tech Accord to Combat Deceptive Use of AI in 2024 Elections’ [114]. Notably, both Microsoft and Google are now among the co-founding signatories. They declare seven ‘voluntary

principles' (e.g., prevention, detection, public awareness) and eight steps in their pursuit [115]. Most relevant regarding democratic legitimacy are steps six to eight. These explicitly state a shared commitment to (6) "providing transparency to the public", (7) "continuing to engage with a diverse set of global civil society organisations," as well as (8) "supporting efforts to foster public awareness and all-of-society resilience" [116]. This empirically illustrates how democratic legitimacy as a tool draws from its key dimensions—input, output, throughput—which may be strategically stressed in the different interests of and by different actors.

AI reinforces the urgency of addressing the underlying normative question: What may future digital era government and politics look like? And will we like it? Good governance should be mindful of perceived gaps regarding some dimensions of democratic legitimacy yet harness digital technology's potential to address other dimensions and facilitate what Roberts calls "more societally beneficial outcomes" [117]. Let us link the two earlier empirical examples of the 2024 elections in India and Europe and digital sovereignty. Deliberations on a renewed 'post-election' EU-India partnership regained traction around both elections [118]. Reinforced by the 2023 EU-India semiconductor memorandum, technology is one of the top three rationales for cooperation defined in 2022 – right next to security and trade [119]. This bilateral development is not just representative of broader geopolitical dynamics. It also draws attention to yet another, often underappreciated, dimension of global Internet governance. Mirroring a body of literature focussed on Western, either (North) American or European experiences, contemporary Internet governance risks of reinforcing a global North-South divide [120].

The main objective of this article has been to explain how private tech companies shape Internet governance and to examine the implications for democratic legitimacy in the digital era. Linking contemporary debates, on the role of large technology companies, and conceptual theorising of democratic legitimacy, this article stresses inherent normativity. Findings of different dimensions and perceived legitimacy gaps (plural), instead of one democratic legitimacy gap (singular), call for further research and discussion. This includes the timely challenge of coordinating concurrent corporate and sovereignist claims to legitimacy towards

‘good’ Internet governance. Preserving openness and interoperability, for instance, may alleviate industry’s compliance burdens while strengthening state-centric efforts to navigate large private technology companies [121]. Research should depart from analysing democratic legitimacy as an attribute that is present or absent. Conceptualising legitimacy as a multi-dimensional tool instead prompts timely analysis to explore interest-driven notions of democracy in the digital era.

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A THEORY FOR UNDERSTANDING THE PHENOMENON OF “CONSPIRACY THEORIES” ON SOCIAL MEDIA

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Abstract

Many current policies that attempt to regulate politicised conspiracy theories on social media platforms, such as those implemented by Meta, exhibit concerning tendencies by defining and censoring content based on subjective notions of ‘truth.’ This approach can create a restrictive environment where social media companies suppress dissenting voices in the name of promoting societal harmony or epistemological accuracy. Additionally, it neglects the critical problem of opportunistic actors who disseminate disinformation to serve their own political or financial interests. This paper addresses this multifaceted issue by critically examining the justification for social media companies to regulate politicised conspiracy theories. It then proposes a comprehensive framework designed to assist social media platforms in defining, identifying, and regulating politicised conspiracy theories effectively. The framework aims to mitigate the risks of overreach and censorship by promoting transparency, accountability, and respect for diverse perspectives. By adopting this balanced approach, social media companies can address the challenges posed by politicised conspiracy theories while upholding fundamental principles of free expression and speech.

In November 2020, former U.S. President Trump tweeted, “[Biden] only won in the eyes of the FAKE NEWS MEDIA. I conceded NOTHING! We have a long way to go. This was a RIGGED ELECTION” [1]. This conspiracy theory, commonly known as the “stolen election conspiracy,” propagated the belief that 1) there was widespread fraud in the 2020 election; and 2) the mainstream media and Democrats colluded to “steal” the election victory from Trump despite bipartisan affirmation that the election was fair. Nevertheless, Trump and his supporters continued pushing this narrative, cultivating a climate of distrust and disillusionment that culminated in the January 6th, 2021, U.S. Capitol attack.

However, not all conspiracy theories lead to such obvious displays of political violence. For example, what immediate danger does an Evangelical Young Earth Creationist preacher

cause by claiming that the U.S. government deliberately fabricated and strategically placed dinosaur bones to undermine Christian beliefs about the Earth's age and challenge their faith in God? While this claim could erode trust in science and medicine, potentially harming public well-being, it is unlikely to incite political violence, which is the primary focus of this paper. Given the difficulty of establishing a direct link between holding conspiratorial beliefs and engaging in dangerous actions due to such beliefs, scholars have argued against restricting the spread of conspiracy theories [2]. At the same time, in light of the stolen election conspiracy theory's large role in the January 6th Capitol attack, many legislators, scholars, and policy experts have proposed measures to curb the legality, profitability, and spread of conspiracy theories online [3]. Social media platforms, such as X (formerly Twitter) and Meta (the company that owns Facebook, WhatsApp, and Instagram) have also enacted policies to fight "synthetic and manipulated media" [4] and combat "misinformation" [5].

However, I argue that the current approach and policies for countering the negative effects of potentially dangerous conspiracy theories are insufficient. These policies censor content flagged as "misinformation," but do not address the mindset(s) (as well as attempts to formulate alternative explanations of the social world) that drive people to embrace conspiratorial thinking and conspiracy theories in the first place. Studies have suggested that specific mindsets and beliefs, such as feelings of being persecuted and an "us versus them" mentality can cause people to adopt conspiracy theories and cling harder to them when others try to challenge or "debunk" their beliefs [6]. While platform content moderation cannot directly address these underlying mindsets, it can mitigate their effects by controlling the spread of conspiracy theories that reinforce these beliefs, thereby reducing the likelihood of real-life harm. At the same time, platform content moderation may also be perceived as an attack by those entrenched in "us versus them" mindsets, potentially deepening their victim complexes. As can be seen on media channels as diverse as social media, traditional news, and the film industry, this "us versus them" mindset is now a monetised and lucrative aspect of the digital world—just think about the "culture wars" that have dominated Anglosphere discussion of politics and "wedge" issues such as religion, gender, and immigration [7]. Therefore, to fully

address the issue of underlying mindsets, broader social measures—such as education, community engagement, and fostering critical thinking—are necessary to combat the root causes of conspiratorial thinking.

I contend there are other flaws with social media content moderation policies. Specifically, many policies, such as Meta's, are concerning because they establish their own criteria for determining what is "true" and censor information that does not meet these criteria. This approach to tackling misinformation and conspiracy theories may lead to a slippery slope where social media companies can define anything they do not like as "fake," which can lead to a paternalistic regime where free expression and speech are stifled in the name of societal harmony or epistemological or scientific correctness [8]. Meta and other platforms have established third-party fact-checking partnerships [9] and outsourced some tasks to the user base (see X's "community notes") to address this issue, but concerns about bias remain. For instance, one of Facebook/Meta's fact-checkers, CheckYourFact.com, was accused of selective reporting in 2019. This criticism stemmed from the fact that CheckYourFact.com was wholly owned by The Daily Caller, which had been criticised for publishing climate stories that "create a false impression of the level of certainty about human-caused global warming within the climate science field" [10]. To navigate the complex landscape surrounding conspiracy theories and their potential impact, The first section establishes a theory for understanding the phenomenon of "conspiracy theories" [11]. The second section of this paper explores how scholars and social media platforms are tackling the problem of "conspiracy theories." The final section proposes a generalised framework that social media companies can use to define, identify, and regulate politicised conspiracy theories without creating a paternalistic regime that stifles free speech and expression.

Establishing a Theory for "Conspiracy Theories"

This section undertakes a comprehensive literature review of 1) the difficulties and nuances associated with defining the term "conspiracy theory" and 2) whether conspiracy theories are more accurately described as stand-alone theories or a mindset. I will build on this commentary in the later sections of this paper.

The Difficulties of Defining “Conspiracy Theory”: What to Avoid When Attempting to Define “Conspiracy Theory”

Various scholars have attempted to define “conspiracy theory,” but definitions often remain ambiguous and frequently carry political undertones. Philosophers like Dentith [12], Mandik [13], and Coady [14] tend to favour a minimalist approach to defining conspiracy theories, emphasizing core “neutral” elements such as a group of conspirators and secrecy. However, in the broader public and academic discourse, conspiracy theories often carry negative connotations. Psychologists, social scientists, and cognitive scientists typically view conspiracy theories as issues requiring resolution or manifestations of irrational behaviour [15], especially if they are conservative or right-wing ones or ones deemed “silly,” “dangerous,” or “paranoid” [16]. This perspective argues that conspiracy theories should be dismissed as epistemic flaws due to their inconsistencies or inaccuracies [17]. Most mainstream definitions of “conspiracy theory” reflect the specific goals of the platform or entities defining them [18]. For entities such as governments and social media companies aiming to challenge or debunk conspiracy theories deemed illogical, an epistemically non-neutral definition may seem appropriate. For example, a social media platform may categorise all conspiracy theories that go against mainstream political and historical narratives as false or irrational by default, irrespective of the evidence supporting them.

The implementation of such epistemically non-neutral definitions can lead to the creation of a “regime of truth” that stifles dissenting viewpoints and restricts intellectual diversity. Current policies often establish a singular truth narrative and fail to be epistemically neutral. For example, platforms have disproportionately targeted content that contradicts official narratives about COVID-19, stifling open discourse [19]. Ultimately, this method of regulating conspiracy theories risks creating a “regime of truth” that stigmatises beliefs and theories that challenge the boundaries of acceptable thought [20]. This can lead to the paternalistic regime that 19th-century thinker John Stuart Mill warned us against in his essay *On Liberty*, where he emphasised the importance of freedom of expression in fostering intellectual diversity and progress. Mill argued that even false or unpopular ideas should be allowed to be expressed and debated openly, as they contribute to the marketplace

of ideas and help society refine its understanding of truth and morality [21]. It should be noted, however, that the marketplace of ideas has come under considerable criticism in recent years. I will explore this concept in more detail in the latter section of this paper, when I detail my proposed definition of “harm” that social media companies can use to identify and, if necessary, remove potentially dangerous politicised conspiracy theories.

So, what can social media platforms realistically do to combat the potential harms associated with the proliferation of conspiracy theories? I contend that we should, as Hellinger suggests in *Conspiracies and Conspiracy Theories in the Age of Trump*, avoid dismissing conspiracy theories as “non-factual” [22]. To avoid tarring all so-called “conspiracy theories” with the same brush, we should treat the phenomenon seriously and listen to those with these mindsets, whether we believe there is merit to their opinions. Attempting to debunk them outright may inadvertently signal a dismissal of their worthiness for consideration, which could counter the principles of open dialogue and democratic discourse. There is also much evidence that conspiracy theories are fostered by growing inequalities, mistrust of political institutions and elites, and “a sense that the economy is no longer fair” [23]. Accordingly, people with conspiratorial beliefs will likely retreat further into their “echo chambers”—environments where people only encounter views that coincide with their own so that their existing beliefs are reinforced and alternative ideas are not considered [24]—if social media platforms or another authority decides to censor or severely limit the spread of their posts [25].

Are Conspiracy Theories Stand-Alone Theories or a Mindset?

Next, we must consider whether conspiracy theories are more accurately defined as stand-alone theories or part of a broader “conspiratorial” mindset. By stand-alone theories, I refer to the notion that conspiracy theories explain events or social phenomena through the actions of secretive, powerful groups, which can sometimes incite actions like those seen on January 6th, 2021. When I say “mindset,” I am referring to the idea that it is not the conspiracy theories themselves, but mindsets that drive people to embrace so-called conspiracy theories, which in turn drive people to engage in dangerous actions resulting in real-life harm. This distinction is crucial because it shapes how interventions are designed, whether

through targeting underlying cognitive and social processes (if viewed as a mindset) or through correcting specific false claims (if viewed as theories).

Based on the existing evidence, conspiracy theories can be understood as part of a broader “conspiratorial” mindset and as alternative explanations of social realities. To begin, Sutton and Douglas [26], along with Hellinger [27], have linked conspiracy beliefs to various components of a “conspiratorial” mindset—namely, anti-social beliefs and attitudes, such as paranoia, distrust, and anti-Semitism. Marwick further suggests that people often consume and share disinformation, including conspiracy theories, to signal their identity and allegiances [28]. This phenomenon can be explained through the concept of a “deep story,” as introduced by sociologist Arlie Hochschild in her 2016 book *Strangers in Their Own Land: Anger and Mourning on the American Right*. Deep stories are narratives that transcend factual accuracy and encapsulate the psychological and emotional experiences of a group of people they are “feels-as-if” narratives that individuals construct to make sense of their circumstances and environment.

Examples of deep stories abound in the American conservative media landscape, with the following common themes: 1) Conservative traditional American values are under attack from liberals (a broad term that can encompass transgender people, Democrats, immigrants, Black Lives Matter activists, feminists, Antifa, and other boogeymen); 2) Liberal urbanites ignore the needs and plight of rural conservatives; and 3) The mainstream media is dominated by unreliable left-wing elites who are corrupt and greedy and want to destroy traditional values. Ultimately, these deep stories reflect a cultural identity tied to rural blue-collar whiteness, creating in-group solidarity and reinforcing hostility toward out-groups, particularly “undeserving” liberals, thereby deepening socio-political divides and anti-social attitudes [29].

The environment and mindset of people who embrace such deep stories create fertile ground for the spread of conspiracy theories, such as the idea that a Jewish elite cabal is orchestrating a globalist agenda against White people and intentionally flooding America with immigrants to destroy American culture [30]. From the perspective of those who

embrace them, these narratives provide an explanation for the perceived loss of status and injustices experienced by people who identify with these narratives.

However, as mentioned at the beginning of this section, it is crucial to recognise that conspiracy theories are not just part of a broader mindset based on “deep stories.” They also function as alternative explanations of social realities, akin to certain critiques in the humanities and social sciences [31]. Social scientists have highlighted the similarities between reasoning in conspiracy theories and mainstream and academic discourse. As Quinn notes, conspiracy theories allow people to 1) show they are not deceived by the mainstream media despite their marginalised status, 2) critique mainstream narratives, and 3) regain a sense of control [32]. This means that while conspiracy theories can indeed reflect a broader “conspiratorial” mindset, they should not be reduced solely to this dimension. They are also an alternative, often speculative, but nonetheless significant way of critiquing the established social order.

Individuals’ decisions to consume and spread conspiracy theories and deep stories that appeal to their in-group loyalties and attitudes are a symptom rather than the direct cause of potentially dangerous behaviour [33]. In other words, conspiracy theories are part of a mindset as well as alternative explanations of social realities. This dual understanding is vital for addressing conspiracy theories’ proliferation and potential harmful effects. If we view and treat conspiracy theories as theories and direct causes of potentially harmful behaviour, we will focus on correcting false beliefs and debunking misinformation, thus falling back into the epistemically non-neutral definition of “conspiracy theory” that can lead to the creation of a “regime of truth.” On the other hand, if we recognise them as mindsets and alternative explanations of social realities, efforts may focus on targeting underlying cognitive biases, emotional factors, and social influences that contribute to conspiracy ideation. This approach is less likely to violate John Stuart Mill’s beliefs on liberal democratic freedom of expression.

While my approach includes identifying and suppressing potentially dangerous content through content moderation, it emphasises evaluating social context to understand posters’ intent. While these attempts to understand intent

and social context may not always be accurate thanks to Poe's Law—the internet maxim that online parodies are often indistinguishable from real instances—they are a good start and are better than doing nothing [34]. Ultimately, content moderation—if performed with a focus on posters' intent and the context of their actions—remains essential for curbing the immediate spread of harmful conspiracy theories. However, it must be paired with efforts to tackle the deeper reasons why people are drawn to these beliefs.

How Social Media Platforms and Scholars Have Attempted to Spot and Curb the Spread of Conspiracy Theories and Related Types of “False Information”

In this section, I explore the efforts taken by major social media platforms to identify and mitigate the spread of “false” or “misleading” information. Note that there are currently no social media policies directly addressing conspiracy theories. Part of the reason, I suspect, is that the delineation among diverse types of potentially misleading information, such as fake news, misinformation, disinformation, and conspiracy theories, is not always clear. Defining what a conspiracy theory is, as covered in the first section, is also epistemically contentious and challenging. This section is divided into two subsections. The first explores major social media platforms' existing policies on AI-manipulated content and fake news and misinformation. The second closely explores scholarly—including legal, political, and philosophical—perspectives on the regulation of conspiracy theories and other types of “false information.”

How Major Social Media Platforms Are Regulating Conspiracy Theories and Related Types of “False Information”

I examine the following social media platforms: X, Twitter, YouTube, Instagram, TikTok, and Mastodon. I chose X, YouTube, Instagram, and TikTok because they are some of the best-known social media platforms. With billions of active users collectively [35], these platforms serve as pivotal conduits for information dissemination, making their policies on AI-manipulated content and misinformation vitally important. I chose Mastodon because it is decentralised, which means it does not run under the control of a single authority. Instead, it is spread across a network and collectively controlled by its users [36]. There are thousands of Mastodon instances, ranging from large

general-interest servers to smaller niche-interest ones, such as bookwitty.social for “dedicated book lovers” [37]. By juxtaposing Mastodon alongside established centralised platforms, I seek to shed light on the evolving dynamics of digital communication and the evolving strategies to address misinformation. The following is a breakdown of major social media platforms’ policies on AI-manipulated content and fake news and misinformation, including each policy’s advantages and disadvantages.

Table 1: Cross-Platform Comparison: Platforms’ Policies on AI-Manipulated Content and Fake News, Misinformation, and Disinformation

Common Traits	X [38]	Meta [39]	Instagram [40]	TikTok [41]	YouTube [42]	Mastodon [43]
Definition of AI-manipulated content and fake news, misinformation, and disinformation	X	X		X	X	
Automated moderation		X	X	X	X	
Human content moderator teams	X	X	X	X	X	
Consultation and collaboration with third-party fact-checkers		X	X	X		
Platform labels generated or manipulated content (i.e., for “false” information or presence of AI)	X	X	X		**	
User-generated label sets for moderation (not reporting)						
Strike policy	X	X	X	X	X	
Definition or examples of harm mentioned	X	X	X	X	*	***
Truth-based definition of misinformation or falsity [44]	X	X	X	X	X	
Removal of AI-generated or manipulated content if they cause real-life or egregious harm	X	X	X	X	X	

* Does not specifically define “harm,” but does imply that “harm” only refers to egregious harm

** Only available in certain regions, countries, and languages. YouTube is working to bring information labels/panels to more places [45].

*** Does not specifically use the word “harm,” but requires Mastodon servers to engage in active moderation against -isms that can cause harm, specifically, sexism, racism, transphobia, and homophobia. Mastodon servers that fail to do this will not be listed in the Mastodon server directory [46].

Table 2: Cross-Platform Comparison: Platforms’ Definitions of Key Terms Related in Their Policies About AI-Manipulated Content and Fake News, Misinformation, and Disinformation

Platform	Definitions	Harm that warrants action	Distinction between banned and allowed content	Methods of containing false information	Rationale for removing content	Ways to determine if a post is in violation
X	media that: are deceptively and significantly manipulated, altered, or fabricated, or shared with false context or in a deceptive manner, and likely to cause widespread confusion on public issues, cause serious harm, or impact public safety [47].	Likely to cause widespread confusion on public issues, cause serious harm, or impact public safety [48].	Banned: Media as defined in first column [49]. Allowed: Satire, memes, animations, cartoons, illustrations, reviews, commentary, counter-speech, reactions, and opinions [50].	Post deletion for high severity violations and labelling in circumstances where X does not delete posts [51].	To ensure “healthy and safe conversations on X” and prevent serious harm and widespread confusion on public issues [52].	Uses its own technology or “receives reports through partnerships with third parties” [53].
Meta	Policy claims: “...no way to articulate a comprehensive list of what is prohibited [and defined as fake news and mis/disinformation]” because “the world is changing constantly... what is true one minute may not be true the next...” [54].	Imminent physical harm or public health emergencies [55].	Banned: Misinformation likely to “contribute to the risk of imminent physical harm.”; misinformation about health during public health emergencies; voter or census interference; misleading media that can go viral quickly; fake accounts, coordinated “inauthentic” behaviour, and fraud [56]. Allowed: Satire; humour; stories or posts that contain inaccuracies; deeply held opinions [57].	Removal of misinformation likely to risk of imminent physical harm; reducing the prevalence of such posts.	- Prevent and lower the risk of imminent physical harm [58]; reduce interference with political processes [59].	Partners with third-party fact checkers [60]; provides resources for increasing digital and media literacy [61].
Instagram	No definition.	None	Banned: False information. Allowed: Satire [62].	Making posts more difficult to find; using tech to locate posts; Adding warnings: removing accounts/content [63].	Reducing the spread of false information [64]	Third-party fact checkers, user feedback; technology to locate posts; resources for increasing digital and media literacy. [65].
TikTok	Climate change; medical; election misinformation; misleading AI-generated content; public safety issues; conspiracy theories [66]. Policy applies regardless of intent [67].	Significant harm to individuals or society [68].	Banned: “Inaccurate, misleading, or false content that may cause significant harm to individuals or society—regardless of the poster’s intent” [69]. Allowed: opinions, firsthand experience [70].	- Content ineligible for FVF - Adding warning labels to misinformation - Banning accounts that were made to intentionally bypass TikTok rules or their enforcement.	To make everyone feel confident they can access information and engage with authentic people [71].	- Partners with 18 IFCN-accredited fact-checkers [72]. - Media literacy resources [73]. - Community measures [74].

YouTube	"Misleading or deceptive content with serious risk of egregious harm" [75].	Serious risk of egregious harm [76].	Banned: Media that suppresses census participation; poses a serious risk of egregious harm by falsely claiming footage from a past event is current; manipulated content that misleads users and may pose a serious risk of egregious harm [77]. Allowed: Content that satirises, condemns, and disputes misinformation that violates YouTube policies [78]. Banned: Servers linked to from Mastodon's server picker commit must have active moderation against discrimination [82]. Allowed: each server/instance sets its own rules.	- Content removal and notification through email - Warning with no penalty to the channel first-time violation. - Content strike if not first time. - If 3 strikes in 90 days, channel terminated [79]. Each instance can set its own rules and policies, including banning certain types of content.	To prevent and lower the risk of egregious harm, including interference with democratic processes [80].	Partners with third-party sources to provide links to fact checks in search results [81].
Mastodon	N/A	N/A	Banned: Servers linked to from Mastodon's server picker commit must have active moderation against discrimination [82]. Allowed: each server/instance sets its own rules.	Each instance can set its own rules and policies, including banning certain types of content.	N/A	None, since Mastodon is decentralised.

Identifying Gaps in Social Media Misinformation Policies

In the preceding tables, I have delineated the efforts of various social media platforms to address the challenges of misinformation, disinformation, fake news, conspiracy theories, and the like. However, despite these attempts, I have identified two main weaknesses in their policies:

No real definition of “egregious” or “severe” harm: The existing policies lack a precise definition of what constitutes “egregious” or “severe” harm. While they often allude to these terms, they do not offer clear parameters for distinguishing between minor and major harms. Typically, it is implied that “egregious” or “severe” harm entails real-life consequences for individuals and societies, such as election interference and murder or attempted murder, but this assumption is not always explicitly stated or defined. As a result, the threshold for identifying and addressing harmful content is ambiguous. However, this ambiguity may be intentional and serve a practical purpose. Per Braun, platforms sometimes use broad, catch-all clauses to account for unforeseen harmful behaviours and ensure they can respond to actions that, while not explicitly prohibited, go against the intent of the rules. This flexibility allows platforms to address new and nuanced situations effectively. However, as noted above, this open-endedness can also empower platforms to act arbitrarily, which can potentially exacerbate mistrust among users and give rise to accusations of capricious enforcement [83]. Although platforms are justified to maintain a degree of flexibility to adapt to evolving challenges in content moderation, a more specific definition of severe harm could enhance clarity and fairness. Striking this balance between specificity and flexibility will empower platforms to protect user rights and maintain democratic norms.

Too much reliance on “truth” to determine whether something should be removed: Other than Mastodon, the surveyed social media platforms refer to some kind of regime of truth when determining whether something should be labelled, removed, or limited from circulation. This is especially true for Instagram and TikTok, which use the words “false” and “inaccurate” when defining the type of content they ban. As discussed in “Establishing a Theory for Understanding ‘Conspiracy Theories,’” this approach poses significant challenges. While facts can be established and distinguished from truth, evaluating truth claims purely based on “factualness” can

detract people from seeing the deeper social realities these claims may reflect. This is because many conspiracy theories, even when factually incorrect, may still resonate with certain groups by addressing their anxieties, frustrations, or perceptions of being marginalised. Consequently, an approach that overly prioritises factualness might miss the broader socio-political contexts in which these conspiracy theories are embedded, making it harder to understand why they gain traction and how to effectively address them [84]. For example, if a government or owner of a platform labels a view or opinion as “fake news,” “misinformation,” “conspiracy theory,” or any other similar label, it can censor dissenting voices that challenge mainstream narratives. This labelling can happen through overt decisions, such as explicit bans on claims about the coronavirus. However, it can also take the form of more subtle actions, such as algorithmically demoting (or promoting) certain kinds of content [85]. Accordingly, a focus on defining conspiracy theories as epistemically or logically faulty or inaccurate can lead to the slippery slope of platforms stifling legitimate discourse by categorising it as misinformation, without transparently addressing the nuanced issues associated with conspiracy theories. Therefore, it is crucial to ensure that platforms maintain clear and transparent criteria for content moderation, particularly when dealing with complex and controversial information.

Failure to address disinformation-for-hire: There is substantial evidence that social media platforms are rife with individuals and organisations spreading disinformation for political or financial gain. Investigations by intelligence agencies, academics, and journalists have revealed that Russia orchestrated cyberattacks and exploited social media during the 2016 election to create divisions and destabilise the U.S. and give Russia greater freedom to pursue its objectives [86]. Existing social media policies do not fully address the specific issue of disinformation-for-hire. Fact-checkers and automated moderation can limit the spread of disinformation-for-hire, but this is mostly aimed at general content rather than sophisticated disinformation campaigns. Meta, for instance, took a hard line against covert foreign and domestic influence operations that rely on fake accounts by using AI and human administrators to remove over 100 networks of coordinated inauthentic behaviour (CIB) and keeping the public informed about their

efforts via their monthly CIB reports [87]. However, these efforts primarily address overt and easily identifiable forms of disinformation, often missing the more sophisticated and covert operations of disinformation-for-hire. These campaigns can be highly targeted, using advanced tactics to evade detection—for example, they may employ bots that mimic human behaviour online or cyborgs, which blend human curation with automation [88]. Disinformation-for-hire schemes present a unique challenge because they are well-funded and designed to exploit platform algorithms to amplify spread. While I recognise the danger presented by these schemes, this paper focuses on the inherent limitations of content moderation in addressing the psychological and social factors driving non-state-sponsored individuals to embrace these theories. My framework may inadvertently help mitigate some disinformation-for-hire efforts, but that is not its focus.

How Scholars Have Explored Regulating Conspiracy Theories and Related Types of “False Information.”

To construct frameworks for regulating hazardous information on social media, legal, public health, and other types of scholars have utilised the harm principle as a foundational concept to develop laws and policies for overseeing actions [89]. Proposed by the British philosopher John Stuart Mill, the harm principle argues that no person or government should prevent or interfere with another person’s liberty to say or do anything. The only reason a government or person can interfere with another person’s liberty is to prevent harm to others. Accordingly, opinions that go against the mainstream or offend sensibilities should not be restricted unless they cause harm to others [90]. The harm principle is over 150 years old, so many believe it needs an upgrade for the age of social media. Harvard Law School Professor Cass Sunstein, for example, echoes Mill’s belief that free speech should be protected to the furthest extent possible. Focusing on falsehoods (which range from defamatory statements to deepfakes), he asserts that falsehood and truth play important roles in society [91]. He warns against the dangers of censorship, suggesting that censoring falsehoods could pave the way for government suppression of any speech it deems unfavourable or contradictory. Falsehoods can also provide other advantages, such as sparing people’s feelings, preventing embarrassment, and promote thinking that uncovers the truth [92].

He advocates for a response to falsehoods that prioritises correction over censorship or punishment, as he believes that censorship and punishment may exacerbate the proliferation of falsehoods [93]. Sunstein also proposes a framework for distinguishing which falsehoods should be censored and which should not be. According to this framework, institutions and individuals should ask the following questions when encountering falsehoods [94]:

1. What is the falsehood speaker's "state of mind"? Is the speaker reckless, a liar, negligent, or reasonable? "Reckless" is the least moral and justified, while "reasonable" is the least bad state of mind.
2. How much damage is caused by the falsehood? Is it grave, moderate, minor, or non-existent? Note that this question mirrors social media policies' use of the term "egregious" and "severe," but is more gradated.
3. What is the likelihood of harm? Is it certain, probable, improbable, or highly probable?
4. What is the timing of harm? Is it occurring immediately, occurring not soon but reasonably soon, or occurring in the distant future?

Sunstein's proposal appears to serve as a solid foundation for my framework. However, his focus on legal regulation contrasts with my broader exploration of what "conspiracy theories" are and how social media platforms can define, identify, and limit them, if needed. Hence, it is crucial to also consider Bell [95], whose interdisciplinary approach in her *Utilitas* article titled "John Stuart Mill's Harm Principle and Free Speech: Expanding the Notion of Harm," expands the conceptualization of harm within Mill's harm principle. Although Bell does not address defining or regulating falsehoods or "fake news," her proposal for expanding Mill's diffuse and unclear definition of harm proves useful [96].

By integrating insights from various disciplines, including moral philosophy, Bell offers a nuanced perspective on applying Mill's harm principle to delineate the boundaries of unregulated free speech. Pointing to how research has uncovered the tangible harms people suffer directly due to bigoted speech on social media, Bell proposes updating Mill's broad definition of harm to include bigoted insults, which have been proven to be psychologically harmful to sexual and racial minorities [97]. Bigoted insults also fail to express

a genuine opinion, so they do not deserve free speech protection. As Bell reminds us, the main purpose of free speech protections for Mill is to “safeguard a public space for opinions to be shared, for debate to take place, and for rational and reasonable people to both argue for and amend their viewpoints” [98]. Additionally, a “stringently protected marketplace of ideas is of far greater value to dominant members of society than to oppressed members” [99] so Bell argues that this is in the public’s interest. Philosopher Herbert Marcuse calls this phenomenon “repressive tolerance,” where absolute free speech leads to tolerating intolerant viewpoints and places the burden on marginalised people and communities [100].

While frameworks proposed by scholars like Sunstein and Bell offer valuable insights into the regulation of harmful information, they overlook certain critical aspects. Because Sunstein uses the word “falsehood,” his framework could potentially be used by social media platforms to enforce a subjective “regime of truth” as discussed in the first section. Sunstein’s implied priority on correcting falsehoods risks creating a slippery slope where the emphasis on epistemic correctness could potentially overshadow the need to understand the root causes driving individuals to embrace and spread harmful conspiratorial narratives. Additionally, Bell’s proposal, while valuable in expanding the definition of “harm,” is not specifically tailored to address conspiracy theories and the mindsets that foster their adoption. However, her nuanced perspective on harm will prove beneficial in the final section, where I outline my framework’s definition of “harm” and its implications for regulating harmful content on social media platforms.

My Policy Framework for Social Media Platforms’ Attempts at Regulating Politicised Conspiracy Theories

In this section, I propose a policy framework that social media platforms can use to define, identify, and mitigate the effects of potentially dangerous conspiracy theories on social media. This framework addresses the shortcomings covered in the second section, and is based on John Stuart Mill’s harm principle, which has been widely used in liberal democracies to justify limitations on individual freedoms when they pose a threat to public safety or well-being. Per this principle, the “only purpose for which power can be rightfully exercised

over any member of a civilised community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant” [101]. By building on Mill’s harm principle, the proposed policy framework seeks to strike a balance between promoting freedom of expression and mitigating the potential harms associated with the dissemination of dangerous conspiracy theories on social media. Before diving into the policy framework itself, I will first propose an unbiased (to the furthest extent possible) definition of the term “politicised conspiracy theory.” I will then propose a definition for “harm” that is less biased than the current definitions used or implied by social media platforms’ policies on AI-manipulated content and fake news and misinformation.

Definition of “Politicised Conspiracy Theory”

In this subsection, I will explore what an unbiased definition of “conspiracy theory” could look like. First, I will narrow “conspiracy theory” to “politicised conspiracy theory.” This is because not all conspiracy theories are likely to cause actual harm—a conspiracy theory claiming that giant alien lobsters created the Moon 10,000 years ago, while bizarre, is unlikely to harm anyone or cause someone to act violently. My definition does not distinguish between “bad” or “plausible” conspiracy theories because it does not matter whether a “conspiracy theory” is logical or epistemically sound—people are free to believe whatever they want in a democratic society and express such beliefs. Conspiracy theories, whether illogical or not, only require regulation when they are likely to cause real-world harm.

Accordingly, I have narrowed down the conspiracy theories that are the most likely to cause troubling mindsets that can lead to riots, insurrections, and other real-life forms of harm: politicised conspiracy theories. These claim a political event or situation resulted from secret collusion by real, identifiable influential people or groups seeking to undermine society or harm an opposing group. Examples of such theories include QAnon, which claims that Trump is fighting a secret war against Satanist paedophiles in government and business [102], and Cultural Marxism, which claims that Jewish intellectuals are intentionally subverting Western Christian conservative values through political correctness and progressive “woke” movements [103].

However, it is important to recognise that labelling certain theories as “politicised” can also be subjective and potentially contentious. This label should be applied with care and transparency, and users should provide clear criteria and context to ensure that the term is not used to dismiss or marginalise certain viewpoints without consideration. This nuanced approach helps distinguish between genuine political critiques and baseless, harmful conspiracy theories about political events and politicians, maintaining a balance between addressing dangerous misinformation and respecting free discourse. Similarly, assessing the likelihood of real-life harm also involves some degree of subjectivity. While no system can be completely unbiased, my definition will strive for fairness by getting social media administrators to correlate the potential for harm with documented instances of riots, insurrections, and other violent incomes linked to politicised conspiracy theories.

Now that we have narrowed the scope of what types of theories can be called “politicised conspiracy theories,” let us review what I have already established about defining the term in the previous subsections of this section. As discussed, an unbiased (to the furthest extent possible) definition of conspiracy theory should be neutral and objective, focusing on core characteristics and elements without making judgments about their merit or veracity. Additionally, conspiracy theories—including politicised ones—are more accurately defined as a mindset. Specifically, as Napolitano argues, conspiracy theories are not merely theories that involve conspiracies, but “a [self-insulating] way of holding a conspiratorial belief” [104]. Self-insulation refers to the cognitive tendency of people to actively resist viewpoints or information that challenge their worldview, even in the face of contradictory evidence [105]. People who believe in politicised conspiracy theories have this tendency because they believe that conspirators are orchestrating cover-ups, promoting alternative narratives, and spreading misleading evidence for the public to believe [106].

However, this does not mean that people who believe in politicised conspiracy theories are necessarily irrational and lacking in critical thinking skills or media literacy. Per Danah Boyd and Francesca Tripodi, adherents to conspiracy theories often boast excellent media literacy. They critically assess sources, question the information presented, and

maintain a healthy scepticism—though often directed towards mainstream sources and expertise [107].

The central issue is self-insulation, not a lack of critical thinking or media literacy. I argue that self-insulation constitutes a fundamental aspect of conspiracy theories. It not only prevents individuals from evaluating their beliefs from another perspective but also fosters an environment where dissenting viewpoints are dismissed or ignored. By acknowledging the significance of self-insulation, we can move beyond a narrow focus on epistemological correctness and recognise the broader socio-psychological mechanisms at play. This allows us to appreciate conspiracy theories not merely as explanatory frameworks but as manifestations of a particular mindset or worldview shaped by distrust, suspicion, and a propensity for interpreting events through the lens of conspiracy. By reframing our understanding in this manner, we can better grasp the complexities of conspiracy theorizing and its implications for society.

With all of this in mind, here is what an unbiased definition of “politicised conspiracy theory” could look like: A politicised conspiracy theory is a theory embraced by people who claim that a group of individuals—typically powerful or influential—are secretly behind or influencing a particular event or phenomenon. These beliefs often but not always contradict official narratives or mainstream understanding and may be “true” or “false” according to official narratives. Politicised conspiracy theories are characterised by self-insulation. In other words, adherents actively resist contradictory evidence or alternative perspectives that challenge their conspiratorial worldview. This self-insulation mechanism shields individuals from cognitive dissonance and reinforces their commitment to the conspiracy narrative, irrespective of its alignment with factual reality.

What about the politicised conspiracy theories that are not accompanied by a self-insulated mindset? My definition excludes these theories, even if they share the same content with ones that come with a self-insulated mindset. This is because conspiracy theories with a self-insulated mindset are more likely to cause real-life harm, often by tapping into the “us versus them” mentality that can be used by politicians and pundits to incite division and provoke political violence—think January 6th. Without this self-insulation, individuals

are more open to alternative perspectives, minimising the potential danger of their beliefs. You may be wondering how social media platforms can locate social media posts with politicised conspiracy theories that fit this proposed definition. I will address that in the third subsection of this section, “The Test for Determining Whether Something Should Be Removed, Labelled, or Limited from Circulation.”

Definition of “Harm”

In his 1859 essay *On Liberty*, Mill established a broad definition of harm that includes harm to others’ interests [108]. However, Mill does not delimit this definition, so it is unclear how scholars, policymakers, and legal experts can apply this definition to the identification and regulation of politicised conspiracy theories. Scholars have made efforts to clarify Mill’s concept of harm. Piers Turner, for instance, has a broad interpretation of harm and considers offensive speech a form of minor harm [109]. Conversely, Feinberg argues for a narrow interpretation of harm that only focuses on setbacks or problems caused by violating another person’s rights [110]. More recently, as mentioned earlier, Bell has re-interpreted and expanded on the Millian definition of harm to address modern-day issues such as bigoted speech on social media [111]. In my view, these definitions are too broad to address the harm that may arise from social media platforms’ inability to identify and regulate the dissemination of politicised conspiracy theories enabled by the so-called marketplace of free ideas. Bell’s definition is a good step in the right direction since she specifically focuses on the harms of uncensored bigoted speech on social media platforms, but she did not craft her definition with social media conspiracy theories in mind. This is where my definition of “harm” comes in.

I define “harm” caused by the unregulated proliferation of politicised conspiracy theories any real-life damage created through the creation, dissemination, or endorsement of conspiracy theories on social media platforms that result in real-life negative consequences for individuals and communities. These negative consequences include objective ones, such as bombings, insurrection, and violent threats (such as bringing a gun to a restaurant). Additionally, cumulative harm from coordinated online harassment, which can silence individuals and marginalised groups, should also be recognised as warranting intervention.

To avoid over-censorship, my definition of harm does not include “minor” harms such as short-term psychological distress and offense. Censoring such minor harms could lead to the stifling of free speech. In my view, offense is when someone feels uncomfortable for a brief period (i.e., a few hours or a week) due to seeing something on social media. For example, suppose you believe in the reptilian theory and are offended by a critique of said theory on X. However, this offence falls short of my definition of harm since this is not a major setback to your interests or well-being. On the other hand, suppose you argue with someone about the reptilian theory on Twitter, and they get so mad that they post your physical address and full name and tell their army of 100,000 followers to kidnap you. This is not merely an offence, even if you subjectively feel all right with it and nothing follows from these threats. According to my definition of harm, because there is a real chance of someone following through (due to the number of followers and the fact the other person posted your real name and address publicly), the post should be taken down for causing harm to you.

One might argue that all posts calling for violence, not just those involving conspiracy theories, should be addressed. However, I contend that conspiracy theories deserve special attention because they often radicalise individuals and increase the likelihood of violent actions. My proposed policy framework targets posts that, while not explicitly violent, may contribute to radicalisation within a particular context. My approach takes a cautious approach in distinguishing between minor and major harms. As can be seen in the last sentence of my definition of “harm,” I acknowledge that what might seem minor in isolation can aggregate into significant harm. This is particularly relevant in the context of networked harassment, where minor attacks can snowball into a silencing of marginalised voices [112].

The Test for Determining Whether Something Should Be Removed, Labelled, or Limited from Circulation

Now that I have established definitions for “politicised conspiracy theory” and “harm,” the next step is to outline the criteria for determining whether content should be removed. Building on Sunstein [113], this aspect of the framework will entail a set of questions for social media platform administrators to consider when encountering a post containing or alluding to a “politicised conspiracy

theory.” Here is the framework and my justification and explanation for each question and section I have included. Social media administrators should ask these questions in the order they are presented.

What is the potential harm of the post containing a conspiracy theory or theories? Is the dissemination of the conspiracy theory likely to incite violence, discrimination, or other forms of harm? How imminent is the danger?

Justification and explanation: The question examines whether the content is likely to incite violence, discrimination, or other forms of harm. By identifying the potential harm, administrators can determine the urgency of intervention. The likelihood of harm may depend on contextual factors addressed in Question 3, which considers the context and culminative effect of a post. These factors include the timing of a post, the poster’s identity, the language, and tone used, and the audience’s reaction. Additionally, posts containing politicised theories on “hot button issues” at the time of posting may warrant more caution and a lower threshold for potential harm. While it is challenging to quantify the exact threshold for potential harm (e.g., 10% likelihood of harm), platforms can apply a comparative approach by relying on historical patterns and data analysis. For instance, if similar content in the past led to “harm” as defined by my policy framework (for instance, public unrest or violence), a moderate likelihood of harm (such as 20 to 30%) may warrant action. This ensures decisions are not arbitrary but anchored in established patterns of harmful outcomes.

What is the seeming intent of the speaker? Is the speaker acting recklessly, knowingly spreading dangerous politicised conspiracy theories (as defined in the first subsection)? Or are they presenting information based on genuine beliefs or being satirical?

Justification and explanation: This question addresses the underlying motive of the content creator and their credibility. By evaluating whether the speaker is acting recklessly, knowingly spreading falsehoods, or presenting information based on genuine beliefs, platform administrators can gauge the level of potential harm associated with the content. Besides the clear influence from Sunstein [114], I was also inspired by the concept of “recklessness” in the common law

tradition. “Reckless” is defined as behaviour that is so careless that it is an extreme departure from how a reasonable person would behave in similar circumstances [115]. For example, a reckless speaker may disregard factual accuracy, knowingly disseminate false information, or promote unfounded claims without considering the consequences of their actions.

It should be noted that determining intent is challenging, particularly online. Marwick and Lewis note that promulgators of hate speech and lies are typically intentional about masking their intent—this serves not only to evade moderation but also to make their content more appealing to uninitiated potential followers. As such, determining which of these people are “ironic” or “serious” may be impossible [116]. While there are no clear answers to this issue, social media platforms can train AI models and human administrators to assess intent using a combination of contextual cues, the user’s history, and patterns of behaviour. For example, consider a user who makes ostensibly innocent posts about European architecture. However, if this user also engages with and follows far-right Catholic Monarchists who push for traditionalism, anti-modernism, “natural hierarchy of the sexes and races,” and “preserving cultural heritage” (as a wolf-whistle for racist and anti-immigrant sentiment), social media administrators may want to keep an eye on them, especially if the user retweets or makes posts referencing supremacist and exclusionary ideas, even if the content is framed as “satirical” or “ironic.”

However, it is vital to approach this with nuance. Simply holding politically questionable or outside-the-Overton-window views should not automatically warrant surveillance or flagging by a social media platform. Instead, online platform administrators should use a mix of AI and human analysts to carefully determine the threshold for monitoring and surveillance by considering the level and nature of engagement. For instance, a user who only occasionally likes or retweets politically volatile posts may warrant less scrutiny than one who actively creates, shares, and comments on such content daily. The difficulties associated with determining the seeming intent of a speaker tie into the third question, which is about the context of the social media post.

What is the context of the social media post? Was it and have other users amplified it? How likely is it to spread? Is the

conspiracy theory part of a larger pattern of disinformation or coordinated efforts to manipulate public opinion?

Justification and explanation: A lot of content still falls into the “grey zone” of permissibility versus impermissibility after the first two questions. This is where question 3 comes in. This question attempts to tap into my proposed definition of “conspiracy theory” as an insulated mindset or attempt to explain the world through alternative means. As discussed in the first section, when a conspiracy theory aligns with certain social or psychological factors, such as an insulated “us versus them” mindset that attempts explain the world in an alternative way, it can strongly resonate with individuals with similar mindsets. This resonance can cause the theory to attract many users, including 1) others with similar or the same beliefs who will amplify the post and 2) individuals without stakes in the matter who are part of a larger state-sponsored disinformation or coordinated effort to manipulate users’ opinions about a certain political phenomenon, politician, party, or event. If a social media platform administrator or AI agrees on all the following, they should consider censoring, deleting, or limiting the circulation of the post depending on its severity:

1. The dissemination of the conspiracy theory is likely to incite violence, discrimination, or other forms of imminent harm.
2. The speaker or social media user is acting recklessly, knowingly spreading dangerous politicised conspiracy theories rather than presenting information based on genuine beliefs or being satirical; and
3. The conspiracy theory is part of a larger pattern of disinformation or coordinated efforts to manipulate public opinion.

Deletion should be reserved for the posts that are the most likely to cause harm, have speakers that is acting recklessly or knowingly spreading dangerous conspiracy theories, and has been amplified by other users. If a social media platform administrator or AI does not agree with the statements above, further evaluation is necessary to determine the appropriate action. This may involve considering factors such as the credibility of the speaker, the potential harm caused by the conspiracy theory, and the reach and impact of the social media post within its specific context.

The explosion of conspiracy theories since Trump's 2016 election campaign has prompted scholars and laypeople alike to consider the plausibility and feasibility of defining, regulating, and removing conspiracy theories that could lead to real-life harm. However, leading social media platforms' policies for combatting "false" or "misleading" information, including conspiracy theories, fail to consider the fact that conspiracy theories are more accurately described as a "mindset" or attempts to formulate alternate explanations of the social world.

Drawing on existing scholarship about regulating conspiracy theories and other forms of potentially dangerous speech on social media, this paper has proposed a structured policy framework that social media platforms can use to evaluate potentially harmful content. While this framework represents a significant step forward, it is not a finalised solution. Rather, it serves as a foundational template for social media platforms to refine and tailor according to their unique policies, user demographics, and legal obligations. Moving forward, ongoing collaboration between scholars, policymakers, and social media platforms will be essential to continually refine and improve strategies for combating the spread of harmful conspiracy theories in the digital age.

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through censorship. Of course, this is not a perfect solution—nothing is for such a complex issue—but it is a good start.

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SPECIAL SUBMISSION: THE PRISONER'S DILEMMA AND THE ALLIANCE POLITICS OF SEMICONDUCTOR EXPORT CONTROL

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Abstract

Semiconductors, critical for both civilian technologies and military applications, are central to U.S.-China rivalry. Furthermore, neither the U.S. nor China fully controls the semiconductor value chain, which necessitates collaboration with allies that are semiconductor powers. To what extent do the U.S. and its allies share common interests in thwarting Chinese progress in semiconductors? What are U.S. strategies in constructing an international coalition to contain China in the tech realm and what drives them? We apply the Prisoner's Dilemma (PD) to investigate these questions, with particular attention to the factors that drive defection (opposition to export controls). We argue that the U.S. employs exemptions and minilaterals to minimise resistance to the construction of an international regime of semiconductor export controls despite collective concerns over China's rise. Our findings speak to studies of great power politics and innovation in information and communications technology (ICT), which often overlook the complex alliance politics behind semiconductor export controls.

The supply of semiconductors—ubiquitous in modern life—can have a significant effect on national economies [1]. Because semiconductors are dual-use resources, there are also implications for the future of warfare [2]. The 2021 National Security Commission on Artificial Intelligence report noted, “If a potential adversary bests the United States in semiconductors over the long term or suddenly cuts off U.S. access to cutting-edge chips entirely, it could gain the upper hand in every domain of warfare” [3]. A recent example of a country that suffers militarily due to

lack of semiconductors is Russia, which has been compelled to repurpose semiconductors from household appliances, such as dishwashers and refrigerators, for use in its military equipment due to sanctions [4]. Controlling the production and supply of semiconductors, therefore, will critically shape the dynamics of U.S.-China great power competition [5]. Semiconductor supply chains are now the frontline of geopolitical rivalry [6]. Thwarting Chinese progress in semiconductors is the key for Washington to prevail over Beijing in its contest for pre-eminence [7]. But the U.S. is only one of several semiconductor powers; Germany, Japan, the Netherlands, South Korea, and Taiwan, among others, occupy key positions in the semiconductor value chain. Hence Washington needs to work with its allies to contain Beijing's advancement in semiconductors.

Yet studies of the alliance politics of semiconductor export controls, despite its importance, remain rare [8]. To what extent do the U.S. and its allies share common interests in thwarting Chinese progress in semiconductors? What are U.S. strategies in constructing an international coalition to contain China in the tech realm and what drives them? If the U.S. is determined to maintain Western leadership in semiconductor technologies, why does Washington routinely introduce exemptions into U.S.-led semiconductor export control regimes? To start answering these questions, we utilise the Prisoner's Dilemma (PD) [9] —a model that examines conflict between individual rationality and collective gain—to study the international politics of semiconductors.

After briefly describing PD, the article examines the applicability of PD to the study of semiconductor export controls, with particular attention to the factors that drive interest divergence between the U.S. and its allies. We then derive the conditions under which the U.S. will utilise exemptions and minilaterals as strategies to construct an international semiconductor export control regime [10]. Last, we illustrate our arguments with recent developments in U.S.-led semiconductor restrictions targeting China. Our main finding is that Washington often faces significant resistance to expanding semiconductor export controls despite mutual concerns over China's rise; this resistance requires the U.S. to carefully calibrate a mix of carrots and sticks to induce cooperation.

This article draws on discussions from the 2024 Oxford Semiconductor Conference, hosted by the Oxford China Policy Lab, the Oxford Rothermere Institute of American Studies and National Taiwan University Center of China Studies [11]. Semiconductor export controls is a sensitive subject, and public information can be difficult to come by. The conference provided a rare forum for exchange and discussions which have subsequently informed this article; we cite expert opinions from the conference throughout the article when appropriate, while adhering to the Chatham House Rule. We are solely responsible for our argument and any errors made in this article.

Our analysis speaks to a burgeoning area of inquiry in international relations: the great power politics of semiconductors. Extant studies have investigated the geopolitical stakes of semiconductors [12], U.S. structural power and semiconductors [13], how middle powers respond to the U.S.-China tech rivalry [14], the securitisation of semiconductors [15]. and the interplay of economic and security concerns associated with the U.S.-China chip war [16]. A growing number of studies also investigates the relationship between geopolitics and innovation in information and communications technology (ICT) [17]. Our findings add to both literatures by developing one of the first theoretical frameworks for understanding the tension between the U.S. and its allies in semiconductor control.

One important limitation of this analysis should be stated at the outset: this article, due to space constraints, does not focus on the politics of domestic interest groups and semiconductors [18]. Interest groups, much like voters, often fail to account for the negative security externalities associated with international economic activities [19]. This oversight often positions them as opponents to international cooperation over semiconductors, as our analysis below will address briefly. In this vein, opening up the “state black box” could accentuate the relevance of the Prisoner’s Dilemma (PD) for analysing the international politics of semiconductors.

What is Prisoner’s Dilemma?

Table 1 presents the normal (strategic) form of PD. Each player (state) can choose either to cooperate or defect. Ordinal pay-offs to these strategies depend on the strategy

played by the other player, $d > c > b > a$. For each of the players, choosing to defect when the other player cooperates yields a pay-off of d , the largest pay-off. On the other hand, choosing to cooperate while the other player defects will yield a pay-off of a , the smallest pay-off. When both players defect, they will both receive a pay-off of b . When both players cooperate, they will both receive a pay-off of c . c is strictly larger than b in the game presented in Table 1.

Table 1: Prisoner's Dilemma

<i>State 1/ State 2</i>	cooperate	defect
cooperate	c, c	a, d
defect	d, a	b, b

In a one-shot PD, both players will defect in equilibrium and receive the pay-off b (which is larger than a , but smaller than c). Both states 1 and 2 know that the other side has a strong incentive to defect ($d > c$). Thus, they cannot attain the “cooperate-cooperate” equilibrium even though they know that they would receive higher pay-offs than the pay-offs they receive in the “defect-defect” equilibrium.

Duncan Snidal captures the essence of PD well:

“PD is an archetypical example of the disjuncture between individual and group rationality which characterizes many problems of collective action: Pursuit of individual self-interest by states results in their being worse off than if both abstain from pursuit of their narrow self-interest and cooperate. The dilemma persists even if cooperation is achieved, because both states will continue to have strong incentives to defect and the system is likely to return to the stable noncooperative and deficient equilibrium” [20].

International relations scholars are familiar with PD; we will thus keep our discussion of PD brief. More interesting topics of investigation are whether PD is: (1) applicable to the international politics of semiconductor export controls; and (2) capable of generating non-trivial insights into that issue.

Applicability of PD to the International Politics of Semiconductor Export Controls

This section explores whether we can apply PD to analyse

the international politics of semiconductor relations by investigating two of semiconductor export controls' key aspects: the incentive structure facing the U.S. and its allies in semiconductor export controls and the distribution of power within the semiconductor value chain.

Incentive structure. The U.S. and its allies potentially have both security and economic interests in cooperating to construct a multilateral regime for semiconductor export control [21]. The semiconductor powers (e.g., the U.S., Japan, and the Netherlands) are liberal democratic nations invested—although to varying degrees—in the status quo, which Western analysts often argue is being challenged by China's rise [22]. As noted earlier, semiconductor export controls, given semiconductors' dual-use nature, can delay the growth in Chinese power. Therefore, thwarting China's advancement in semiconductors—from the perspective of the U.S. and its allies—could help preserve the status quo [23]. Additionally, the liberal democratic semiconductor powers, as industrial leaders, may also benefit economically from limiting potential future Chinese competition [24]. In sum, preventing China from attaining dominance in semiconductors is associated with two gains: stability of the status quo and the continuing technological dominance of the West in semiconductors. Importantly, both of these gains are public goods (for states that value them); consuming these goods does not prevent other states from accessing them (*non-excludability*), nor does it reduce their availability to others (*non-rivalry*).

But, of course, export control comes with a cost: the loss of potentially significant revenue from trading with China, which has a particularly voracious appetite for semiconductors and their associated materials, chemicals, and equipment as Beijing seeks to build up China's semiconductor and tech sectors. Furthermore, export control may invite Chinese retaliation. In September 2024, Beijing threatened Tokyo with export controls on rare earth minerals if Japan expanded its semiconductor export rules in alignment with new U.S. restrictions [25]. Germany, which hosts several critical firms in the semiconductor production chain—such as Zeiss for EUV optics and Badische Anilin-und Soda-Fabrik (BASF) for essential chemicals—has not yet joined any semiconductor export-control arrangement despite U.S. lobbying. Berlin's reluctance reflects, at least in part, German fears of Chinese retaliation targeting the German automotive industry, which

is closely tied to its semiconductor sector [26].

Nonetheless, without semiconductor export control—a world where all the liberal democratic semiconductor powers “defect”—the Western semiconductor powers also face potentially undesirable outcomes. The Dutch trade minister Liesje Schreinemacher’s three justifications for the Netherlands’ implementation of new export controls on semiconductor technologies on March 8, 2023, captures the stakes involved well:

1. preventing Dutch goods from contributing to undesirable end use, such as military deployment or in weapons of mass destruction;
2. preventing unwanted long-term strategic dependencies; and
3. maintaining Dutch technological leadership [27].

Justification 1, without naming China, underscores the dual-use concerns associated with semiconductor technology; China’s military prowess could grow substantially if Beijing had access to the most advanced semiconductors, particularly as AI revolutionizes modern warfare [28]. Justification 2 highlights the fear that if China acquires dominance in the semiconductor value chain, Beijing could “weaponize” its semiconductor supplies to exact political concessions from other nations. Beijing is not a stranger to economic coercion: China, for political reasons, has previously banned imports of agricultural products from Norway, Taiwan, and the Philippines, and restricted exports of rare earth mineral to Japan [29]. This track record amplifies concerns about the potential “strategic dependencies” which have arisen as China has built up its semiconductor production capacity. Justification 3 echoes concern that Chinese firms, absent export controls, will eventually come to compete with Dutch (Western) firms. China has been recognised for its prowess in reverse engineering [30]. This development, of course, would exacerbate the concerns discussed in justifications 1 and 2.

The three concerns discussed above, of course, do not merely apply to the Dutch. Taking stock, if the semiconductor powers “defect”, they would face a higher likelihood that the status quo will be challenged by a more powerful China. Put differently, when the semiconductor powers fail to cooperate, they might reap short-term economic gains from trading with China but suffer negative long-term consequences.

After outlining the key considerations behind semiconductor export control, we can now specify the components that constitute the pay-offs a , b , c , d , in the context of a semiconductor export control PD (Table 2.).

Table 2: Prisoner’s Dilemma for Semiconductor Restrictions

<i>state 1 / state 2</i>	control (cooperate)	permit (defect)
control (cooperate)	c, c	a, d
permit (defect)	d, a	b, b

- b (pay-off for the “defect-defect” scenario) = weakened status quo- strategic dependencies + weakened Western semiconductor leadership + profit from selling to China
- c (pay-off for the “cooperate-cooperate” scenario) = status quo + Western semiconductor leadership – profit from selling to China – loss from Chinese retaliation

From the discussions above, we can also infer that:

- a (cooperator pay-off for the “cooperate-defect” scenario) = weakened status quo – strategic dependencies + weakened Western semiconductor leadership – profit from selling to China – loss from Chinese retaliation
- d (defector pay-off for the “cooperate-defect” scenario) = weakened status quo – strategic dependencies + weakened Western semiconductor leadership + profit from selling to China

Any state’s defection—even if the counterpart maintains its export control—would make it more difficult to contain Chinese advances in the semiconductor industry. The state that maintains export control in the “cooperate-defect” scenario will therefore face the worst outcome: it forgoes the revenue from selling to China while still suffering from a weakened status quo and an erosion of Western dominance in semiconductors [31]. In this case, the cooperator receives a pay-off of a .

The incentive for a state to “defect”—i.e., permit export of semiconductor technology—even when other states are cooperating is a real concern. As James Lewis, a researcher at CSIS, commented on the Biden administration’s plan to expand the U.S. Foreign Direct Product Rule for semiconductor export controls: “[Washington D.C. is] being

cautious in using the rule because it makes our allies very uneasy” [32]. Furthermore, South Korea and Germany, two important semiconductor powers, have yet to join the U.S. in squeezing China [33]. Specifically, a state’s incentive to defect is stronger when any of the five factors below is present:

1. low valuation of the status quo (the difference between its expected utility from maintaining the current international order and its expected utility from a weakened *Pax Americana* is small);
2. low valuation of Western technological leadership (the difference between its expected utility from Western semiconductor leadership and its expected utility from diminished Western dominance in semiconductor is small);
3. lack of sensitivity to the development of strategic dependencies on China;
4. expectation of large profits from trading with China in semiconductors; and
5. vulnerability to Chinese retaliation.

Factors 3 and 5 are straightforward given the discussions above, but factors 1 and 2 require further elaboration. Concerning factor 1, we cannot assume that all semiconductor powers value the status quo equally, as we noted earlier. For instance, the direct security risks associated with a more powerful China may be relatively small for Germany compared to the economic benefits of trading with China. In this case, the economic cost of imposing export controls might outweigh the perceived security risks. Furthermore, the rise of isolationism and unilateralism in the U.S. could reduce its allies’ investment in *Pax Americana* [34].

Concerning factor 2, some argue that export controls can unintentionally benefit Chinese tech firms by rallying domestic support around them, potentially leading to the U.S. inadvertently strengthening the Chinese semiconductor industry [35]. Some analysts contend that the recent patent revealed by Chinese lithography systems maker Shanghai Micro Electronics Equipment (SMEE) for a new EUV system exemplifies this effect [36]. If one believes that semiconductor export controls will strengthen, rather than weaken, Chinese capabilities, there is little reason to “cooperate” even if one values the maintenance of Western technological edge over China in semiconductors. While few believe that export

controls are completely useless, there are reasonable debates on how effective semiconductor export controls are for containing Chinese advancement in semiconductors.

Regarding factor 4, it is crucial not to underestimate the importance of profit. The semiconductor industry is highly capital-intensive; TSMC, one of the leading foundries, spent \$20 billion on research and development (R&D) in 2023 alone. Revenue earned from sales to China could allow firms from the defecting state to increase capital investment, which in turn helps secure their edge over competitors from other countries. Given the capital-intensive nature of the semiconductor industry, it is often very challenging to recover once a firm falls behind. South Korean firms, for instance, are particularly concerned about their competitiveness should Seoul adopt semiconductor export controls on China [37].

Furthermore, states—which ultimately make decisions on semiconductor export controls—are highly invested in the competitiveness of their semiconductor industries, which not only generate tax revenue but can also serve as valuable geopolitical assets, given the critical role of chips today [38]. Recognising the technology's economic and geopolitical importance, states have committed billions in funding to promote their domestic semiconductor industries. The U.S. passed the \$280 billion Creating Helpful Incentives to Produce Semiconductors and Science Act (CHIPS and Science Act) in 2022, while the European Union enacted its own \$47 billion European CHIPS Act in 2023. Japan and South Korea have similarly allocated billions of dollars to bolster their national semiconductor capabilities [39].

Altogether, for PD to be applicable, we need $d > c > b > a$ to hold for Table 2, and also for the five factors discussed above drive state incentive to defect/ cooperate [40]. For $d > c$ to hold, the revenue from selling to China and side payments from China must exceed the loss that the defector expects to suffer from a weakened status quo, strategic dependencies, and the erosion of Western semiconductor leadership. For $c > b$ to hold, the expected loss from a weakened status quo, strategic dependencies, and the erosion of Western semiconductor leadership must exceed the economic gain from trading with China. $b > a$ is always true since a state will be better-off reaping the benefits of trading with China than not when other states defect.

Returning to the international politics of semiconductors, we cannot rule out the possibility that states may prefer the “defect-defect” scenario over the “cooperate-cooperate” scenario. When states have very strong incentives to defect—e.g., when states are indifferent between *Pax Americana* and *Pax Sinica*—it could be the case that $c < b$ is true instead of $c > b$. When $c < b$, it would become both individually rational and collectively rational for states to “defect” (thus destroying the PD incentive structure).

The size of the payoff for “cooperate-cooperate” vis-à-vis “defect-defect” is critical for our purpose. Thus far, we have focused on a single-period Prisoner’s Dilemma (PD) where the equilibrium outcome is defection across the board unless there is a third-party that punishes defection. However, in an infinite-horizon PD with repeated interactions, which more accurately reflects most international political scenarios, cooperation can often emerge as the equilibrium outcome even without the threat of punishment [41]. The “shadow of the future” incentivises a state to cooperate because it fears that other states in future rounds will defect if it defects in the current round. Hence, one challenge facing proponents of semiconductor export control is to craft policies that will reduce the incentive to defect and thus at least “preserve” PD (and the hope of multilateral cooperation), a “second best” outcome that is superior to a world where $c < b$ is true; attaining a world where $c > d$ (all states prefer cooperation over unilateral defection) for semiconductors might be unrealistic, except for the U.S. The U.S., crucially, is the semiconductor power that stands to benefit the most from a multi-lateral semiconductor export control regime (and therefore the least incentive to defect). In the context of the 5 factors that drive defection discussed above, the U.S.:

1. is certainly invested in *Pax Americana*, even for the “New Right” [42];
2. has a strong bipartisan consensus that maintaining Western leadership in semiconductors is important [43];
3. sees strategic dependencies on China in semiconductors as a serious issue [44];
4. will lose comparatively little from cutting of trade with China in semiconductors; and
5. is only moderately vulnerable to Chinese economic retaliation.

On point 4, the semiconductor design market—which the U.S. dominates—totalled \$8.27 billion in revenue (2021), compared to \$40 billion for fabrication materials (2021) and \$108.5 billion for SME (2021) [45]. The magnitude of the economic cost of export control is therefore comparatively small for the U.S. compared to the other semiconductor powers. On point 5, Beijing, thus far, has been careful when it comes to retaliating against U.S. semiconductor export controls in fear of triggering further U.S. sanctions.

Before proceeding, note that when $c > d$, PD becomes stag hunt (since $c > d$ implies that $c > d > b > a$ must be true), another canonical model in International Relations [46]. At its heart, the stag hunt is about coordination, alignment, and trust: states would prefer to cooperate if all other states cooperate, and states would prefer to defect if all other states defect (these are the game's two equilibria). If the incentive structure facing the U.S. and its allies is a stag hunt (and if we are fairly confident that the U.S. prefers to cooperate), we should see U.S. allies quickly adopting semiconductor export controls without much bargaining (e.g., negotiating for exemptions). However, this is not what we observe [47]. We must therefore take the conflicts of interest among the semiconductor powers seriously, and thus their positions within the semiconductor value chain.

Distribution of power within the semiconductor value chain. According to Hegemonic Stability Theory (HST), a hegemon can help overcome obstacles to international cooperation, because it has both the incentive and capabilities to supply global public goods [48]. A case in point is the rise and stability of free-trade regimes in the mid-19th and mid-20th centuries. Both regimes emerged thanks to the leadership and burden-sharing provided by the hegemons, namely Britain and, later, the U.S. [49]. Another example is the construction of the post-war Western financial system. After World War II, the U.S., as the dominant economic power of the Western bloc, leveraged its power to create the Bretton Woods system to undergird post-war international monetary stability [50].

If we accept HST, a hegemon that commands the semiconductor value chain will enable states to avoid PD [51]. Nonetheless, within the semiconductor value chain, the U.S. is only one of the key powers in semiconductors, with Japan, the Netherlands, South Korea, and Taiwan, among

others, occupying crucial positions in the semiconductor value chain; U.S. tech giant Intel's recent decision to spin off its chipmaking division exemplifies the relative decline of U.S. power in semiconductor production over the past two decades [52]. Thus, the U.S. must work with its allies to maximise the chance of maintaining the Western bloc's technological edge over China in semiconductors.

The semiconductor value chain consists of three main segments: design, fabrication, and assembly and testing. The U.S. still dominates design, which involves optimizing specific parameters—such as cost, power efficiency, and storage capacity—to meet the unique requirements of the intended chip application. Semiconductor designs require proprietary software. Furthermore, chip designs often involve re-useable pieces of intellectual property (IP), called core IPs, that simplify the design process. U.S. firms are dominant in the semiconductor design segment, capturing more than 40 percent of global IC design market share [53].

The U.S., however, plays relatively minor roles in the other two segments of the semiconductor value chain. Fabrication requires materials and chemicals, such as silicon wafers, photomasks, photoresists, and wet chemicals. The U.S., Germany, Japan, Taiwan, South Korea, and China are the main producers of fabrication materials and chemicals [54]. China, despite being a major producer of semiconductor materials and chemicals, does not produce the most advanced photomasks (reticle), and its ability to produce state-of-the-art photoresists is very limited [55]. During fabrication, photomasks—which allow light to pass through a defined pattern—are essential for “carving” silicon wafers. A photoresist, on the other hand, is a light-sensitive material that is essential for photolithography.

Fabrication also requires highly specialised and sensitive equipment; printing integrated circuits onto raw wafers demands precision at the nanometer level. The U.S., Japan, and the Netherlands dominate the semiconductor manufacturing equipment (SME) markets. Importantly, the Dutch company Advanced Semiconductor Materials Lithography (ASML) is the sole supplier of extreme ultraviolet lithography (EUV) photolithography machines, which are required to make the most advanced chips.

Fabrication, even with access to materials, chemicals, and SME, is still an extremely difficult task. Taiwan Semiconductor Manufacturing Company (TSMC) and Samsung now dominate the foundry business for advanced chips. In contrast, assembly, testing, and packaging (ATP), the third segment of the semiconductor value chain, involves fewer complex processes and tools (although it is becoming more complex as transistor size shrinks). Taiwan, China, and Southeast Asia (particularly Singapore, Malaysia, Vietnam, and the Philippines) are the leaders in this segment [56].

Taking stock, the U.S. is crucial in the semiconductor value chain, particularly at the “front end” (design), but it does not command the entire value chain. If we conceptualise multilateral semiconductor export control as a global public good, the “diffusion” of power within the semiconductor value chain renders it critical for analysts to study the alliance politics of semiconductor controls.

Importantly, Beaumier and Cartwright argues that the U.S. can leverage its centrality in the design network segment of the semiconductor chain (“structural power”) through the U.S. Foreign Direct Product Rule (FDPR) to isolate Chinese firms such as Huawei and HiSilicon [57]. FDPR is a U.S. law which stipulates that if a product is made using American software or technology, the U.S. government has the authority to stop it from being sold, even if it is produced in a foreign country [58]. Although the U.S. is not the only key player in the semiconductor production chain, almost all chip factories rely on indispensable designs and software from U.S. suppliers [59]. This reliance gives the U.S. ability to isolate Chinese firms by ordering and punishing U.S. companies that violate the FDPR.

But it is not always straightforward to enforce FDPR. First, Chinese firms may rely on proxies to evade FDPR; a case in point is the recent discovery that advanced TSMC chips are found in Huawei products despite U.S. restrictions [60]. Second, it is possible to resist complying with the FDPR. Some German firms are known to delay compliance until directly ordered by U.S. officials or shift operations to minimise legal liabilities [61]. While we do not dispute that the U.S. holds sway in the semiconductor value chain, it is important not to over-state U.S. power and reduce the issue of semiconductor export controls to a matter of American will.

Indeed, hegemons often have to compromise; hegemons need followers and must make concessions to make agreements. A closer look at the rise of the free-trade regimes in the mid-19th and mid-20th centuries under the Great Britain and the U.S.—the classic cases in support of HST—shows that the hegemon was often compelled to accept asymmetric bargains that permitted discrimination against itself in order to secure cooperation [62]. Below, we will discuss how the U.S. exercises its power given the constraints associated with PD in the semiconductor sector [63].

Implications of PD for the International Politics of Semiconductor Export Controls

In PD, a state's dominant strategy is always to defect if it knows that its counterpart will cooperate. Paradoxically, the small likelihood for the U.S. to defect incentivises other semiconductor powers to defect according to PD (since $d > c$ in Table 2.). In practice, this would refer to a situation where a state made the calculation that it prefers to continue to trade with China while free-riding on American efforts to contain China in the semiconductor arena [64]. Arguably, this is the strategy that South Korea takes; South Korean SME producers are highly dependent on the Chinese market [65]. The puzzle is why and how we achieve international cooperation on semiconductors at all.

The U.S., even though it is one of the semiconductor powers, still plays an extremely important role within the semiconductor value chain [66]. Although the U.S. could not impose an international regime of semiconductor controls unilaterally, it has several tools at its disposal to facilitate international cooperation on semiconductor controls. The key issue facing the U.S. is how to reduce the incentive of other semiconductor powers to defect. At the very least, the U.S. needs to ensure that they will prefer having some kind of multilateral semiconductor control regime to a world where all states defect, i.e., $c > b$ (Table 2.). Otherwise, no international regime to contain Chinese advancement in semiconductors would be feasible.

One obvious strategy that the U.S. may adopt is to punish any state that defects. Of course, the U.S. can implement semiconductor export controls beyond its borders through the FDPR [67]. The FDPR provides a way for the U.S. to

punish defection *ex post*: any firms outside of the U.S. that violate U.S. restrictions will risk losing access to essential U.S. technologies for semiconductors. In the language of economics, FDPR increases the transaction cost of defection through the risk of legal liability.

Nonetheless, punishment alone is not enough; enforcement of FDPR is not always straight-forward, as discussed earlier. For a multilateral semiconductor export regime to be effective in the medium-long run, the U.S. must secure cooperation from the other semiconductor powers. Thus far, we have primarily discussed international cooperation/ export control in the abstract; under the PD setting, states face the stark choice to cooperate or defect. In practice, cooperation comes in many shades, and semiconductor export controls could come in drastically different forms: what items should make it to the restriction list? Furthermore, exemptions are also a critical part of the semiconductor export controls. Which countries should be exempt from restrictions? How long should those exemptions last?

The complexity of semiconductor export controls, in theory, gives the U.S. the space to calibrate an international semiconductor control regime that other semiconductor powers will accept. The key is to craft an export control regime that will, on the one hand, isolate China in important areas, and on the other, include sufficient exceptions to reduce the economic incentive for states to defect. From Washington's perspective, some restriction is certainly better than none. This partly reflects the thinking that the U.S. should seek to slow down Chinese progress in semiconductors ("throw sand in the gears") rather than to halt it completely, which is unrealistic [68]. The challenge facing the U.S. is to calibrate a nuanced strategy of "sticks and carrots" that would maximise the chance for other semiconductor powers to join forces with the U.S. The U.S., therefore, also needs to consider how to make cooperation less costly for other semiconductor powers to participate in U.S.-led efforts for semiconductor export control. This leads to the following thesis:

Exemption thesis. The U.S. is more likely to offer export control exemptions to states that have strong incentives to defect.

The necessity both to coerce and cajole other semiconductor powers into cooperation implies that building a coalition

for semiconductor export control is a complex and costly process. Consequently, a minilateral approach to export control is more likely to succeed than a multilateral approach characterised by broad participation.

Minilateralism is nothing new in political science. Mancur Olson's famously stated that "the larger the group, the farther it will fall short of providing an optimal amount of a collective good" [69]. Speaking to Olson's insight, Miles Kahler contrasts multilateralism with "small numbers and large numbers" and defines minilateralism as a "system of governance through great power collaboration" [70]. Theoretically, a minilateral approach facilitates cooperation because "fewer countries' interests and circumstances need to be taken into account, fewer bilateral and plurilateral side-deals need to be struck, and linkage politics can be used in a more targeted way" [71]. A case in point is the 1945 General Agreement on Tariffs and Trade (GATT) talks, which started out as a small club of major economies negotiating trade liberalization [72].

Furthermore, a minilateral approach also makes it easier to facilitate cooperation "by creating club benefits and enforcing club rules" [73]. In the context of semiconductor export controls, the key club benefit is the ability to negotiate with the U.S. and other participating semiconductor powers whether and when exemptions should be implemented. "Defection," in this case, would also mean a loss of "voice" at the bargaining table and, consequently, the loss of the ability to shape the structure of international semiconductor cooperation [74].

Minilateralism thesis. The U.S. is more likely to focus on constructing minilateral arrangements given the diverse interests involved for semiconductor export controls [75].

The U.S. and the Landscape of International Semiconductor Export Controls

Given the political sensitivity of semiconductor export controls, much information is still unavailable (e.g. details on negotiations between the U.S. and other semiconductor powers). Nonetheless, we find preliminary support for both the exemption and the minilateralism theses.

First, the U.S., we argue, has adopted an “entanglement” strategy when it comes to constructing an international semiconductor export control regime [76]. Essentially, this approach seeks to increase other semiconductor powers’ investment in the U.S.-led semiconductor regime through exemptions. For instance, Reuters recently reported that the Biden administration’s 2024 plan to further restrict exports of semiconductor manufacturing equipment to China excludes shipments from key allies such as Japan, the Netherlands, and South Korea, while other countries like Israel, Taiwan, Singapore, and Malaysia may face new export controls [77].

The list of exempted countries fits our expectations. Japan, as discussed earlier, is the target of Chinese retaliation for its cooperation with the U.S. in semiconductor export controls (for further discussion of U.S.-Japan cooperation on export controls, see below). To prevent Japanese “defection,” Washington would understandably compensate and reassure Tokyo through exemptions. The Netherlands, on the other hand, stands to profit handsomely from selling semiconductor-related goods to China. Despite existing export controls, ASML, the Dutch SME giant, sourced as much as 49% of its sales from China in second-quarter 2024 [78]. In this case, it is also understandable that Washington would give Dutch businesses some leeway to keep the Netherlands in the U.S. camp of semiconductor export controls (for further discussion of U.S.-Netherlands cooperation on export controls, see below).

The interesting case on the exemption list is South Korea, which so far has refused to “take sides” given its political and economic dependencies on China, as discussed earlier. In March 2024, South Korea’s Yonhap News Agency (YNA) reported that Seoul is considering joining the U.S. in imposing export controls on SME to China [79]. The exemption, in this case, could serve as a “carrot” to induce Seoul’s cooperation. A contrasting example is Taiwan, which Reuters suggests will be affected by the new regulations. Taiwan, in terms of political and economic interests, is probably the semiconductor power whose concerns are the most closely aligned with the U.S. [80]; Taipei has a vested interest in containing China’s rise given Beijing’s claim that Taiwan is a renegade province of China. Washington has little reason to offer Taipei an exemption if it does not fear Taipei “defecting.”

Moving on to the scope of semiconductor export controls, there are currently a few multilateral export control frameworks for semiconductors. The first is the Wassenaar Arrangement, a successor to the Coordinating Committee for Multilateral Export Controls (CoCom), which was originally created during the Cold War to prevent sensitive technologies from reaching the Soviet Union and its allies. Today, the Wassenaar Arrangement consists of 42 countries—including a few former Warsaw Pact countries—and it focuses on dual-use technology (though not semiconductors specifically). Participating states commit to implementation (but the agreement is not legally binding), although there is only one decision-making plenary meeting per year and technology often moves faster than the framework can keep up with [81]. Furthermore, Russia has been blocking measures to institute new controls that most member states agree to (the Wassenaar Arrangement has no expulsion mechanism) [82]. The Wassenaar Arrangement is, arguably, the quintessential example of an ineffective international regime paralysed by fundamental differences among its members.

Given the defects associated with the Wassenaar Arrangement, the U.S. has been sidestepping the Wassenaar Arrangement process by establishing new minilaterals of semiconductor export controls that include only the small number of countries that produce the controlled items [83]. One important example of such “mini-regimes” is the trilateral U.S.–Japan–Netherlands arrangement to restrict exports of semiconductor production tools. This “mini-regime” originated unilaterally. On October 7, 2022, the Biden administration announced new semiconductor export controls and started discreet negotiations with Japan and the Netherlands—both major producers of advanced semiconductor equipment—to impose wider restrictions. In January 2023, the three countries reportedly reached a trilateral agreement. By mid-2023, both the Dutch and Japanese governments announced new export controls on semiconductor technology, including Deep Ultraviolet (DUV) lithography systems, advanced crystal epitaxial growth equipment, and photomask coating equipment. These controls cover nearly the entire advanced semiconductor production chain [84]. While these restrictions target China, they do not explicitly name China or the other two countries reportedly “in collusion.”

The U.S. has continued to strengthen this tacit trilateral arrangement [85]. In September 2024, the U.S. implemented new export controls on quantum computers and semiconductor-manufacturing equipment. According to the U.S. Department of Commerce, these new restrictions followed consultations with “like-minded countries.” The Netherlands soon followed with additional controls on semiconductor-making machines [86]. Japan is expected to follow suit despite China's threats of retaliating with restrictions on critical minerals, which would impact Japan's automobile industry [87]. The U.S. has also been working to bring South Korea and Germany into the coalition [88].

Minilaterals for semiconductor export controls may also “piggyback” on existing multilateral arrangements. The G7 members have recently created a new semiconductor Point of Contact (POC) group to facilitate information exchange and share best practices among themselves [89]. Furthermore, in December 2023, the G7 announced the Hiroshima AI Process Comprehensive Policy Framework, which includes semiconductors due to the importance of advanced semiconductors in computing [90].

Taking stock, the exemption and the minilateralism theses both have some empirical plausibility. Our hope is to lay some theoretical and empirical foundations for future studies that could leverage declassified materials and interviews with former government officials to provide a more detailed and complete picture of the international politics of semiconductor export controls.

Conclusion

This article applies PD to examine the dynamics of the alliance politics of export control. We identify five factors that will push allies to defect: low valuation of the international status quo, low valuation of Western technological leadership, lack of sensitivity to the development of strategic dependencies on China, expectation of large profits from China, and vulnerability to Chinese retaliation. The U.S., to minimise resistance to semiconductor export controls despite collective concerns over China's rise, relies on minilateral controls with exemptions to induce cooperation. We find preliminary support for our arguments by analysing recent developments in semiconductor export controls.

Future studies may build on our findings to examine at least two additional issues. The first concerns the interplay of security and economic concerns. In theory, the U.S. could—if it has not already done so—link cooperation on semiconductor export controls to security issues. The U.S. may potentially punish semiconductor powers who defect (either by refusal to join the U.S. lead export control regime or reluctance to comply with international semiconductor export controls) by downgrading security and intelligence cooperation with those powers. Publicly available information—to the authors' knowledge—does not indicate whether the U.S. has explicitly employed such issue linkage; negotiations concerning tacit agreements between the U.S. and semiconductor powers are understandably discreet, as publicising them could provide Beijing with a pretext for retaliation. Nevertheless, history shows that states have often linked international economic issues with security concerns to promote international cooperation [91]. Future studies may investigate whether and how the U.S. leverages its role as the most important security guarantor to the semiconductor powers to secure cooperation and punish defection in the semiconductor realm.

The second issue concerns a regime for the regulation of semiconductor investment. Currently, no multilateral regime governs capital flows related to semiconductors. Individual nations do have their own review processes for inbound investments. In the U.S., the number of Chinese acquisitions reviewed by government regulators over security concerns has increased dramatically [92]. The Netherlands passed the Investments, Mergers, and Acquisitions Security Screening Act in 2023, which has been applied to screen Chinese investments in Dutch semiconductor technologies. Outbound investment reviews concerning semiconductors are less common; only a few democracies, such as Taiwan, South Korea, and the U.S., currently require such reviews (with the U.S. having introduced them only in 2024) [93]. Some argue that the relatively limited focus on semiconductor investment restrictions could allow China to find workarounds to existing export controls [94]. Does the U.S. have an incentive to construct an international regime of semiconductor investment regulation? If so, would the U.S. employ minilaterals again?

In international diplomacy today, one often hears the term

“likeminded nations,” which reflects an ideal rather than reality; the art of international politics often involves how to bring “unlike-minded nations” together. This article, we hope, sheds some light on how the U.S. is constructing an international coalition of diverse nations to manage China’s advancement in ICT.

Notes

1. A Center for Strategic and International Studies (CSIS) report, citing data from the U.S. Department of Commerce, suggested that “the chip shortage shaved an estimated \$240 billion off U.S. GDP in 2021. The auto industry alone produced 7.7 million fewer cars in 2021 due to lack of chips. In other words, U.S. G.D.P. was a full 1 percent lower than it would have otherwise been had the semiconductor shortage never occurred. For comparison, the average U.S. GDP annual growth rate over the past 10 years has been 2 percent.” Akhil Thadani and Gregory C. Allen, “Mapping the Semiconductor Supply Chain,” CSIS Brief, May 2023.
2. Modern weapons depend on semiconductors to operate. Furthermore, future warfare is likely to depend on Artificial Intelligence (AI) to process large quantities of data quickly and accurately; commanders with access to cutting-edge AI systems may therefore make faster and better decisions. The most advanced AI systems, in turn, will utilize state-of-the-art semiconductors using technology nodes equal to or less than 3 nanometers. The 2021 National Security Commission on Artificial Intelligence report noted, “If a potential adversary bests the United States in semiconductors over the long term or suddenly cuts off U.S. access to cutting-edge chips entirely, it could gain the upper hand in every domain of warfare.” “National Security Commission on Artificial Intelligence,” NSCAI, accessed October 16, 2024, <https://cybercemetery.unt.edu/nscai/20211005220330/https://www.nscai.gov/>.
3. “National Security Commission on Artificial Intelligence,” NSCAI, accessed October 16, 2024, <https://cybercemetery.unt.edu/nscai/20211005220330/https://www.nscai.gov/>. Cutting-edge chips today are produced with 3 nanometre nodes. Compared to earlier semiconductors, 3nm semiconductors have increased transistor density, increased speed, and reduced power consumption. McKinsey & Company, “Generative AI: The Next S-Curve for the Semiconductor Industry,” McKinsey & Company, 14 March 2024, available at: <https://www.mckinsey.com/industries/semiconductors/our-insights/generative-ai-the-next-s-curve-for-the-semiconductor-industry>
4. Jeanne Whalen, “Sanctions Forcing Russia to Use Appliance Parts in Military Gear, U.S. Says,” *The Washington Post*, May 11, 2022, accessed October 16, 2024, <https://www.washingtonpost.com/technology/2022/05/11/russia-sanctions-effect-military/>.
5. See, e.g., Dwayne Woods, “The Silicon Sword Hanging Over China’s Head,” *Journal of Chinese Political Science* (2024): 1-32.
6. On great power economic conflict, see, e.g., John Conybeare, “Trade Wars: A Comparative Study of Anglo-Hanse, Franco-Italian, and Hawley-Smoot Conflicts,” *World Politics* 38, no. 1 (1985): 147-172; Joanne Gowa, *Allies, Adversaries, and International Trade* (Princeton,

NJ: Princeton University Press, 1995); Michael Mastanduno, "Economic Statecraft, Interdependence, and National Security: Agendas for Research," *Security Studies* 9, no. 1-2 (1999): 288-316; Robert D. Blackwill and Jennifer M. Harris, *War by Other Means: Geoeconomics and Statecraft* (Cambridge, MA: Harvard University Press, 2016); Henry Farrell and Abraham L. Newman, "Weaponized Interdependence: How Global Economic Networks Shape State Coercion," *International Security* 44, no. 1 (2019): 42-79; David A. Baldwin, *Economic Statecraft: New Edition* (Princeton: Princeton University Press, 2020); Daniel W. Drezner, Henry Farrell, and Abraham L. Newman, eds., *The Uses and Abuses of Weaponized Interdependence* (Washington, DC: Brookings Institution Press, 2021); Ling S. Chen and Miles M. Evers, "Wars without Gun Smoke": Global Supply Chains, Power Transitions, and Economic Statecraft," *International Security* 48, no. 2 (2023): 164-204.

7. See, e.g., Matt Pottinger and Mike Gallagher, "No Substitute for Victory: America's Competition With China Must Be Won, Not Managed," *Foreign Affairs*, April 10, 2024, available at: <https://www.google.com/search?client=safari&rls=en&q=No+Substitute+for+Victory%3A+America%E2%80%99s+Competition+With+China+Must+Be+Won%2C+Not+Managed&ie=UTF-8&oe=UTF-8>

8. Extant studies tend to focus on individual nation's response to U.S.-China tech war over semiconductors, see, e.g., Germann, Julian, Steve Rolf, Joseph Baines, and Sean Kenji Starrs. "A Chip War Made in Germany? US Techno-Dependencies, China Chokepoints, and the German Semiconductor Industry." *Politics and Governance* 12 (2024); Shinan Hao and Min Wang, "Walking on Eggshells: Politicizing Sino-ROK Semiconductor Technological Ties in the Shadow of Sino-US Rivalry," *The Pacific Review* (2024): 1-30.

9. International relations scholars have employed PD to examine a wide range of topics in international relations from arms control and trade war to international monetary relations and international rivalry driven by historical issues. On PD and international politics also see Axelrod, Robert. *The Evolution of Cooperation*. New York: Basic Books, 1984; Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton: Princeton University Press, 1984); Kenneth A. Oye, "Explaining Cooperation under Anarchy: Hypotheses and Strategies," *World Politics* 38, no. 1 (1985): 1-24. On its application to international political economy, see, e.g., John A.C. Conybeare, "Public Goods, Prisoners' Dilemmas and the International Political Economy," *International Studies Quarterly* 28, no. 1 (1984): 5-22; Kenneth A. Oye, *Cooperation Under Anarchy* (Princeton, NJ: Princeton University Press, 2018). For a recent application of PD for security studies, see, e.g., Yoshiko M. Herrera and Andrew H. Kydd, "Don't Look Back in Anger: Cooperation Despite Conflicting Historical Narratives," *American Political Science Review* 118, no. 3 (2024): 1174-1188.

10. On international regimes, see, e.g., Stephen D. Krasner, "Structural Causes and Regime Consequences: Regimes as Intervening Variables," *International Organization* 36, no. 2 (1982): 185-205 and Stephan Haggard and Beth A. Simmons, "Theories of International Regimes," *International Organization* 41, no. 3 (1987): 491-517.

11. We thank Margaret Siu and Tommy Hall for compiling the conference notes. The 2024 Oxford Semiconductor Conference is a three-day event that included academics, government officials, think tank analysts, and industrial leaders from Europe, the U.S., and Asia. In

accordance with the Chatham House Rule, we will cite the panel below without naming any panelists or attendees, and we will only discuss information supplied by panelists who have signed consent forms. On the other hand, this article is not a traditional conference proceeding, as we do not attempt to cover everything discussed at the 2024 Oxford Semiconductor Conference in detail.

12. Chris Miller, *Chip War: The Fight for the World's Most Critical Technology* (New York: Scribner, 2022).

13. Guillaume Beaumier and Madison Cartwright, "Cross-Network Weaponization in the Semiconductor Supply Chain," *International Studies Quarterly* 68, no. 1 (2024).

14. Germann, Julian, Steve Rolf, Joseph Baines, and Sean Kenji Starrs. "A Chip War Made in Germany? US Techno-Dependencies, China Chokepoints, and the German Semiconductor Industry." *Politics and Governance* 12 (2024).

15. Hai Yang, "Securitization, Frame Alignment, and the Legitimation of US Chip Export Controls on China," *The Pacific Review* 37, no. 5 (2024): 961–984.

16. Yongshin Kim and Sungho Rho, "The US–China Chip War, Economy–Security Nexus, and Asia," *Journal of Chinese Political Science* (2024): 1–28.

17. One of the earliest discussions of ICT and international politics is in p. 33, Kurth, James, "The political consequences of the product cycle: industrial history and political outcomes." *International Organization* 33.1 (1979): 1–34. On studies of geopolitics and ICT, see, e.g., Geoffrey L. Herrera, "The Politics of Bandwidth: International Political Implications of a Global Digital Information Network," *Review of International Studies* 28, no. 1 (2002): 93–122; Geoffrey L. Herrera, *Technology and International Transformation: The Railroad, the Atom Bomb, and the Politics of Technological Change* (Albany: State University of New York Press, 2012); Andrew B. Kennedy and Darren J. Lim, "The Innovation Imperative: Technology and US–China Rivalry in the Twenty-First Century," *International Affairs* 94, no. 3 (2018): 553–572; James Johnson, "The End of Military-Techno Pax Americana? Washington's Strategic Responses to Chinese AI-Enabled Military Technology," *The Pacific Review* 34, no. 3 (2021): 351–378; Jeffrey Ding, "The Rise and Fall of Technological Leadership: General-Purpose Technology Diffusion and Economic Power Transitions," *International Studies Quarterly* 68, no. 2 (2024).

18. On interest groups and U.S.-China rivalry, see, e.g., Ho-fung Hung, *Clash of Empires: From 'Chimerica' to the 'New Cold War'* (Cambridge University Press, 2022).

19. On the security externalities associated with international economic activities, see, e.g., Joanne Gowa and Edward D. Mansfield, "Alliances, Imperfect Markets, and Major-Power Trade," *International Organization* 58, no. 4 (2004): 775–805.

20. P. 926 in Duncan Snidal, "Coordination versus Prisoners' Dilemma: Implications for International Cooperation and Regimes," *American Political Science Review* 79, no. 4 (1985): 923–942.

21. Jacob Viner, "Power versus Plenty as Objectives of Foreign Policy," *World Politics* 1, no. 1 (1948): 1–29.

22. On why the hegemon (in this case, the U.S.) and its allies are invested in the existing international order, see Robert Gilpin, *War and Change in World Politics* (Cambridge: Cambridge University Press,

- 1981). On how China's rise challenges the status quo, see, e.g., G. John Ikenberry, "The Rise of China and the Future of the West: Can the Liberal System Survive?" *Foreign Affairs* 87, no. 1 (2008): 23–37; Aaron L. Friedberg, *A Contest for Supremacy: China, America, and the Struggle for Mastery in Asia* (New York: W.W. Norton, 2011). On how China may both challenge and participate in the existing international order, Alastair Iain Johnston, "China in a World of Orders: Rethinking Compliance and Challenge in Beijing's International Relations," *International Security* 44, no. 2 (2019): 9–60.
23. On how international trade shape the distribution of power, see p. 323 in Joanne Gowa, "Rational Hegemons, Excludable Goods, and Small Groups: An Epitaph for Hegemonic Stability Theory?" *World Politics* 41, no. 3 (1989): 307–324.
24. Some would dispute the efficacy of semiconductor export controls, Panel E, 2024 Oxford Semiconductor Conference.
25. James Kennedy, "China Solidifies Dominance in Rare Earth Processing," *National Defense* 103, no. 784 (2019): 17–19.
26. Julian Germann, et al., "A Chip War Made in Germany? US Techno-Dependencies, China Chokepoints, and the German Semiconductor Industry," *Politics and Governance* 12 (2024).
27. Toby Sterling, Karen Freifeld and Alexandra Alper, "Dutch Responds to US-China Policy with Plan to Curb Semiconductor Tech Exports," Reuters, March 9, 2023, <https://www.reuters.com/technology/dutch-responds-us-china-policy-with-plan-curb-semiconductor-tech-exports-2023-03-08/>.
28. Panel F, 2024 Oxford Semiconductor Conference.
29. On Chinese economic statecraft, see, e.g., William J. Norris, *Chinese Economic Statecraft: Commercial Actors, Grand Strategy, and State Control* (Ithaca: Cornell University Press, 2016).
30. Eve Rigger, "Can China Leapfrog ASML in Its Quest for Semiconductor Self-Reliance?" *The Diplomat*, October 2023. <https://thediplomat.com/2023/10/can-china-leapfrog-asml-in-its-quest-for-semiconductor-self-reliance/>.
31. Importantly, this dynamic could be different if one country monopolizes a particular component of the semiconductor value chain, e.g., EUVs for the Dutch company ASML. Maintaining restriction of EUV exports even when other states "defect" is unlikely to weaken its market position.
32. Karen Freifeld, "Exclusive: New US Rule on Foreign Chip Equipment Exports to China to Exempt Some Allies," Reuters (July 31, 2024), <https://www.reuters.com/technology/new-us-rule-foreign-chip-equipment-exports-china-exempt-some-allies-sources-say-2024-07-31/>.
33. Diederik Baazil, Cagan Koc, Mackenzie Hawkins, and Michael Nienaber, "US Urges Allies to Further Squeeze China on Chip Technology," Bloomberg, March 6, 2024, <https://www.bloomberg.com/news/articles/2024-03-06/us-urges-allies-to-further-squeeze-china-on-chip-technology?embedded-checkout=true>
34. Doug Stokes, "Trump, American Hegemony and the Future of the Liberal International Order," *International Affairs* 94, no. 1 (2018): 133–150.
35. Panel F, 2024 Oxford Semiconductor Conference.
36. Che Pan, "Chinese Chip Making Shows Progress with New EUV Patent from Domestic Lithography Champion." *South China Morning Post*, September 12, 2024. <https://www.scmp.com/tech/big-tech/>

article/3278235/chinese-chip-making-shows-progress-new-euv-patent-domestic-lithography-champion.

37. "South Korean Government Considering Cooperation with U.S. on Semiconductor Equipment Export Controls against China", Trendforce, March 14, 2024, available at: <https://www.trendforce.com/news/2024/03/14/news-south-korean-government-considering-cooperation-with-u-s-on-semiconductor-equipment-export-controls-against-china/>

38. On why states care about business interests in the context of geopolitics, see, e.g., Robert Gilpin, *U.S. Power and the Multinational Corporation: The Political Economy of Foreign Direct Investment* (New York: Basic Books, 1975). Of course, one might also take a public choice view and suggest that states would care about the semiconductor industries due to lobbying. On this perspective, see, e.g., Gene M. Grossman and Elhanan Helpman, *Special Interest Politics* (Cambridge, MA: MIT Press, 2001).

39. Panel A, 2024 Oxford Semiconductor Conference.

40. For "weak" PDs – as opposed to "strong" PDs – defection weakly dominates cooperation in the sense that each player always does at least as well, and sometimes better by defecting. Mathematically, $d \geq c > b > a$ and $d > c > b \geq a$. To simplify discussion, we focus on "strong" PDs for this article.

41. Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton: Princeton University Press, 1984).

42. Stefan Borg, "A 'Natcon Takeover'? The New Right and the Future of American Foreign Policy," *International Affairs* 100, no. 5 (2024): 2233-2245.

43. See, e.g., The White House, "U.S. Strategic Framework for the Indo-Pacific," January 5, 2021, available at: <https://trumpwhitehouse.archives.gov/wp-content/uploads/2021/01/IPS-Final-Declass.pdf>; Antony J. Blinken, "America's Strategy of Renewal: Rebuilding Leadership for a New World," *Foreign Affairs*, October 2024. <https://www.foreignaffairs.com/united-states/antony-blinken-americas-strategy-renewal-leadership-new-world>.

44. *Ibid.*

45. Thadani and Allen 2023.

46. Robert Jervis, "Cooperation under the Security Dilemma," *World Politics* 30, no. 2 (1978): 167-214.

47. Karen Freifeld, "Exclusive: New US Rule on Foreign Chip Equipment Exports to China to Exempt Some Allies," *Reuters* (July 31, 2024), <https://www.reuters.com/technology/new-us-rule-foreign-chip-equipment-exports-china-exempt-some-allies-sources-say-2024-07-31/>.

48. Charles P. Kindleberger, *The World in Depression, 1929-1939* (Berkeley: University of California Press, 1973); Stephen D. Krasner, "State Power and the Structure of International Trade," *World Politics* 28, no. 3 (1976): 317-347. For a critical view of HST, see Duncan Snidal, "The Limits of Hegemonic Stability Theory," *International Organization* 39, no. 4 (1985): 579-614.

49. Timothy J. McKeown, "Hegemonic Stability Theory and 19th Century Tariff Levels in Europe," *International Organization* 37, no. 1 (1983): 73-91.

50. Barry Eichengreen, "Hegemonic Stability Theories of the International Monetary System," in *International Political Economy*,

Routledge, 2002, 220-244.

51. HST's "analytical underpinnings are...based on Olson's (1965) analysis of "privileged groups" in public goods problems", Snidal *ibid*, p. 924. Also see Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge: Harvard University Press, 1965).

52. Nikkei Asia, "Intel profit plunges 85% as AI chip sales fall behind Nvidia and AMD." Nikkei Asia, October 16, 2024. <https://asia.nikkei.com/Business/Technology/Intel-profit-plunges-85-as-AI-chip-sales-fall-behind-Nvidia-and-AMD>

53. Thadani and Allen 2023.

54. "Materials Market Data Subscription (MMDS)," SEMI, March 21, 2023, <https://www.semi.org/en/products-services/market-data/mmds>.

55. Jessie Shen, "SMIC founder reportedly sets up photomask materials firm in China," DigiTimes Asia, August 25, 2022, <https://www.digitimes.com/news/a20220824PD207/china-photomask-semiconductor-smic.html>.

56. p. 10, Thadani and Allen 2023.

57. Guillaume Beaumier and Madison Cartwright, "Cross-Network Weaponization in the Semiconductor Supply Chain," *International Studies Quarterly* 68, no. 1 (March 1, 2024): sqae003, <https://doi.org/10.1093/isq/sqae003>. Also see Anton Malkin and Tian He, "The Geoeconomics of Global Semiconductor Value Chains: Extraterritoriality and the US-China Technology Rivalry," *Review of International Political Economy* 31, no. 2 (2024): 674-699.

58. Reuters. "New US Rule on Foreign Chip Equipment Exports to China Exempts Some Allies, Sources Say." Reuters, July 31, 2024. <https://www.reuters.com/technology/new-us-rule-foreign-chip-equipment-exports-china-exempt-some-allies-sources-say-2024-07-31/>.

59. Jane Lee and Stephen Nellis, "What Is FDPR and Why Is the US Using It to Cripple China's Tech Sector?" Reuters, 8 Oct. 2022, <https://www.reuters.com/technology/what-is-fdpr-why-is-us-using-it-cripple-chinas-tech-sector-2022-10-07/>.

60. <https://www.nytimes.com/2024/10/29/business/tsmc-huawei-computer-chips.html>

61. Germann, Julian, Steve Rolf, Joseph Baines, and Sean Kenji Starrs. "A Chip War Made in Germany? US Techno-Dependencies, China Chokepoints, and the German Semiconductor Industry." *Politics and Governance* 12 (2024).

62. Arthur A. Stein, "The Hegemon's Dilemma: Great Britain, the United States, and the International Economic Order," *International Organization* 38, no. 2 (1984): 355-386.

63. As a reference, also see studies on the coercive aspects of hegemony, e.g., Robert Gilpin, *War and Change in World Politics* (Cambridge: Cambridge University Press, 1981).

64. In classic PD, any actor's defection will prevent all actors from attaining the "cooperate-cooperate" outcome. In the context of semiconductors, defection is likely to reduce the probability of successful containment of China in tech but it will not doom containment of China to failure. Thus, free-riding on U.S. efforts is still possible despite defection.

65. Shinan Hao and Min Wang, "Walking on Eggshells: Politicizing Sino-ROK Semiconductor Technological Ties in the Shadow of Sino-US Rivalry," *The Pacific Review* (2024): 1-30.

66. On unipolarity, see, e.g., William C. Wohlforth, "The Stability of a Unipolar World," *International Security* 24, no. 1 (1999): 5-41.
67. Guillaume Beaumier and Madison Cartwright, "Cross-Network Weaponization in the Semiconductor Supply Chain," *International Studies Quarterly* 68, no. 1 (2024).
68. Private conversation with a U.S. think tank expert on semiconductor policies, October 23, 2024.
69. Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge: Harvard University Press, 1965).
70. Miles Kahler, "Multilateralism with Small and Large Numbers," in *Multilateralism Matters: The Theory and Praxis of an Institutional Form*, edited by John G. Ruggie, New York: Columbia University Press, 1993, 295-326. Also see Kei Koga, "A New Strategic Minilateralism in the Indo-Pacific," *Asia Policy* 17, no. 4 (2022): 27-34 for a slightly different definition of minilateralism: an informal or formal grouping of three to five states that aim to coordinate their strategic agendas and facilitate functional cooperation in particular issue areas.
71. p. 9 in Robert Falkner, "A Minilateral Solution for Global Climate Change? On Bargaining Efficiency, Club Benefits, and International Legitimacy," *Perspectives on Politics* 14, no. 1 (2016): 87-101.
72. Robert O. Keohane and Joseph S. Nye Jr., "The Club Model of Multilateral Cooperation and Problems of Democratic Legitimacy," in *Power and Governance in a Partially Globalized World* (London: Routledge, 2002), 219-244.
73. Falkner 2016, the fourth section.
74. Hirschman, Albert O., "Exit, Voice, and the State," *World Politics* 31, no. 1 (1978): 90-107. For an economic analysis of club dynamics, see, e.g., Daron Acemoglu, Georgy Egorov, and Konstantin Sonin, "Dynamics and Stability of Constitutions, Coalitions, and Clubs," *American Economic Review* 102, no. 4 (2012): 1446-1476.
75. On proponents of multilateralism over minilateralism, see, e.g., Robert Pahre, "Multilateral Cooperation in an Iterated Prisoner's Dilemma," *Journal of Conflict Resolution* 38, no. 2 (1994): 326-352.
76. On entanglement in international relations, see, e.g., Scott D. Sagan, "1914 Revisited: Allies, Offense, and Instability," *International Security* 11, no. 2 (1986): 151-175.
77. Karen Freifeld, "Exclusive: New US Rule on Foreign Chip Equipment Exports to China to Exempt Some Allies," *Reuters* (July 31, 2024), <https://www.reuters.com/technology/new-us-rule-foreign-chip-equipment-exports-china-exempt-some-allies-sources-say-2024-07-31/>.
78. CNBC, "ASML 2025 Outlook Shows U.S. Chip Export Curbs Impacting China Sales," October 16, 2024. <https://www.cnbc.com/2024/10/16/asml-2025-outlook-shows-us-chip-export-curbs-impacting-china-sales.html>.
79. TrendForce, "South Korean Government Considering Cooperation with U.S. on Semiconductor Equipment Export Controls against China," March 14, 2024. <https://www.trendforce.com/news/2024/03/14/news-south-korean-government-considering-cooperation-with-u-s-on-semiconductor-equipment-export-controls-against-china/>.
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GENERAL SECTION

BEWARE THE INFORMAL SECTOR BOGEYMAN: A CRITIQUE OF FORMALISATION

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Abstract

This article critically examines the persistent and complex issue of ‘informality’, challenging the widely held belief that the ‘informal sector’ should be formalised to overcome precarity and inequalities. Drawing on diverse case studies, the analysis explores the limitations of traditional approaches that equate informality with dysfunctionality and lack of social protections. By highlighting the heterogeneity of informal activities and the intricate interrelations between formal and informal practices, the article argues that efforts to formalise the informal sector often overlook its potential to foster social mobility and transformation. Instead, the author proposes that there must be a shift in policy focus from eliminating informality to supporting the livelihoods it sustains. Through a holistic understanding of informality which recognises its permanence in society, we can move beyond simplistic dichotomies and put forward context-specific interventions that incorporate the strengths of informality while addressing the global and local structural conditions that contribute towards precarity.

There is a widely held view that “persistent informality continues to pose the greatest challenge for emerging economies” [1]. Given that the informal sector impacts huge populations worldwide, it has been increasingly treated as a pressing area of study. For instance, Chen and Carré [2] find that over 60% of total global employment is in the informal sector, while Adam Auerbach [3] identifies 850 million people living in informal settlements worldwide.

The areas most affected by informality are South Asia and sub-Saharan Africa, with Latin America and East Asia affected to a lesser degree [4]. While such aggregate figures are useful indicators of the scale of informality, the great variation in the metrics used to measure informality compromises this

utility, as does the processes at play in the informal sector which these figures conceal [5].

Since the term was coined by Keith Hart [6], there continues to be no consensus on how to define informality. Despite this lack of consensus, the predominant interpretation in the literature argues that the informal sector is a site where social protections and individual rights are absent. It is based on this assumption that calls have been made to formalise the informal sector. One of the strategies put forward for achieving this aim is development. Yet, these formalisation efforts have met insurmountable challenges. As a result, there has been immense contention over which factors explain the intractable persistence of informality. These debates particularly centre on the challenges of low economic and technological growth; productivity gaps; poor governance; and excessive state regulation [7]. These arguments are assessed in the first section of this article.

In contradistinction to this reading of informality, there is a burgeoning literature which contends that the informal sector should neither be equated with suffering and dysfunctionality [8], nor as the ‘unspecified content’ and negation of bureaucratic forms [9]. Instead, the informal sector is understood as a construct [10] ; a category which encompasses heterogeneous activities which should not be mistaken “for the reality it identifies” [11]. This literature pinpoints the politicisation of this construct in the 1970s, when bodies such as sovereign national states began classifying activity regulated by social norms—rather than by formal institutional rules—as ‘informal’ [12]. That is to say, the notion of informality only emerged following attempts to formally institutionalise society, giving rise to the observation of phenomena which were perceived to be informal “because their forms are largely invisible to the bureaucratic gaze” and fell outside of the remit of regulation [13]. Far from the exception to the rule, informality has historically been the “basic component—the base, if you will—of the total economy” [14]. Moving beyond the formal/informal dichotomy, these scholars view both areas of activity as deeply intertwined and interdependent. This means that all activity falls along the continuum between formality and informality, with some activity taking place “simultaneously at different points on the continuum” [15]. This article finds that it is this latter strand of the literature which provides

the most compelling account of informality, disrupting the logic underpinning calls to ‘formalise’ the ‘informal sector.’

Given the diversity of activities that comprise what have been referred to as the informal and formal sectors, this article draws upon case studies from a wide range of geographical locations, with a focus on processes taking place in economic and housing sectors. While it is beyond the purview of this analysis to test dominant explanations with systematic data, it is the author’s hope that by drawing upon a wide breadth of case study observations in these sectors that an advance can be made towards a more holistic account of the divergent threads which constitute ongoing discussions on informality. Both the ‘informal economy’ and ‘informal settlements’ are pertinent to this line of enquiry as they share an “organizing logic, a system of norms that governs the process of [...] transformation itself” which have been frequently dubbed as informal in dominant discourses [16].

Aligning with the increasingly popular reconceptualization of ‘informality,’ the third section of the article examines how the “negative dialectic” within and between the ‘formal’ and the ‘informal’ [17] gives rise to a reformulation of the question at the crux of these debates. Rather than asking whether to formalise the informal sector, the question which should be posed becomes: ‘what are the opportunities and challenges of supporting lives and livelihoods?’ Viewed from this standpoint, policymakers should cease efforts to eliminate activities which are typically constructed as ‘informal,’ as they are frequently significant means of livelihoods [18]. Instead, the way forward is “to incorporate what informality does best” by supporting and co-operating with the ‘informal sector’ [19]. This requires a policy approach which accounts for complementary interventions, the specificities of local-level informality, as well as global, structural, and social processes engendering precarity. This article then concludes that, despite the conceptual blurriness of informality, it can be employed productively by directing focus towards the processes which give rise to informal activity [20].

The Exigency to Formalise the Informal Sector

Despite the concept’s elusiveness, there is a common belief that addressing informality is imperative as it embodies “the most extreme forms of disadvantage” [21]. In the context

of the economy, the World Bank and International Labour Organization portray informal work as an alternative of last resort when formal options are unavailable [22]. Moreover, informal work is associated with low-productivity, unstable wages, unskilled workers, a lack of social safety nets and protections, and limited savings [23]. For example, workers in India's informal economy are described as being deprived of social benefits and surviving on day-to-day insecure wages [24]. The informal economy is also widely seen as the cause of societal problems. This is because it is perceived as an unregulated site of tax evasion which undermines 'developing' nation-states' fiscal resources, their social contracts with citizens, and their ability to manage risk [25].

Similarly, informal settlements are treated as an "emblem of almost every perceived social ill" [26]. This reputation stems in part from the fact that inhabitants of some of these spaces commonly do not have access to basic services and infrastructure, including utilities, sanitation, roads, and streetlights [27]. As a result, residents are forced to turn to expensive private or illegal alternative sources, exacerbating the poverty of this demographic [28]. For instance, due to a lack of property rights and formal recognition, slum dwellers in India "are frequently enmeshed in webs of illegalities and regulatory ambiguities" [29]. It is on these grounds that informal settlements feature in broader political debates as a perceived risk "to public health, to racial purity, to public safety, to political stability, to family values, to economic development," and so forth [30].

In turn, both informal sectors are viewed as comprising of "survival activities" by needy actors [31]. Additionally, informality is equated with dysfunctionality and is seen as a major destabilising factor for markets, democracies, and other state institutions [32]. For instance, the encroachment of informality in formal sectors in Ghana and Somaliland is blamed for: weakening institutional regulatory enforcement mechanisms, undermining the legitimacy and authority of state institutions, and declining economies [33]. In this way, the informal sector is considered irredeemably antithetical to formal institutions [34]. This underpins the popular view that the informal sector cannot be integrated into the formal model, but instead must be eliminated tout court. As the argument goes, putting an end to informality will (1) restore workers' and residents' rights and benefits, and (2) bolster

state functionality by extending its penetration and opening sources of tax collection.

Opportunities and Challenges of Formalisation

As with the concept of informality, the process of formalisation is an umbrella term. Proponents of formalisation variably use the term to refer to a process of bringing informal agreements and social norms into formal social contracts through state penetration and regulation [35] ; mechanisms of official governance and institutionalisation [36] ; the extension of legal rights [37] ; the systematisation of customs into law or state-enforced rules and contracts [38] ; or via voluntary self-formalisation [39]. It is this lack of clarity and consensus on what formalisation entails which in part undermines the case for formalisation as a remedy for the informal sector. These different understandings of formalisation and the radically different forms the process takes across different sectors call into question the feasibility of formalising the informal sector, which is unlikely to be possible even if conceptual unanimity were reached [40].

One of the means put forward to achieve formalisation is development. In these discourses, development is understood as a linear economic process whereby nations in the 'Global South' emulate the blueprint of capitalist progression exemplified by nations in the 'Global North' [41]. The premise of this argument is that industrial growth will lead 'traditional,' pre-capitalist, and agricultural economies to transition to 'modern,' capitalist, industrial economies [42]. It is anticipated that 'developing' nation-states can then shed away their informal sectors through formalisation and homogenisation [43]. Central to this perspective is the dichotomy of 'developing' 'traditional' nation-states as providing unreliable, insecure work and accommodations, while 'developed' 'modern' nation-states provide standard, secure employment and housing [44]. From this perspective, underemployed poor people in 'developing' countries are economically compelled to resort to informal work.

As this classificatory process of assigning nation states as 'developed' or 'underdeveloped' is an act of domination in and of itself, the case made for development as a solution to informality amounts to "a discourse of power" [45]. As far as development leads to "the continuing subordination of the former colonised people to a Eurocentric and modernist

conception of development" [46], it can be critically reassessed as a manifestation of colonial 'civilising' and 'modernisation' efforts of the 18th century [47].

However, even if the understanding of development shored up by this thread of the literature is accepted at face value, development does not sufficiently resolve the 'issue' of 'informality.' For pro-development scholars, the transition to a formal economy will eventually transpire following technological development and faster economic expansion [48]. Yet, informality often expands concurrently with modern industrial growth. For instance, although India has experienced a massive acceleration in industrial output growth [49], sixty-five million people in India inhabit informal settlements and the informal economy continues to be the primary source of employment for 90% of the populace [50]. India's informal sector is expanding despite the surge in its information technology sector and its annual growth rate of 5.6% since 1999 [51]. This reflects the situation more broadly in the South Asian region, which has witnessed a rise in the proportion of the workforce in the informal economy (60% of the population as of 2016 compared with 50% of the population in the 2000s) despite economic growth and technological advances [52]. Moreover, the development-as-solution approach inappropriately calls for 'developing' nation-states to pursue the same trajectory as early industrialisers, despite immense variability in these nation states' respective labour market conditions [53].

Problematically for the formalisation through development theory, informality persists even in industrialised nation-states [54]. For instance, the poorest households in the Isle of Sheppey, England frequently turn to informal sources of labour in sectors such as agriculture, tourism, and domestic self-help [55]. Beyond poorer communities, many entrepreneurs from middle- and upper-classes have moved from formal work to informal waged work and self-employment (for instance, in artisan or service provider sectors), as the informal economy can be a propitious site for "stable enterprises and dynamic growing businesses", just as much as survival activities [56]. The persistence of informality despite economic growth has given rise to a variety of different explanations seeking to illuminate this seeming contradiction. For instance, the Latin American structuralist school argues that the persistence of a large

informal labour sector in developing economies is primarily due to significant productivity disparities between high-productivity (often export-oriented) sectors and low-productivity (informal) sectors, a condition they refer to as “structural heterogeneity” [57]. This gap arises in part because technology and modern production techniques are concentrated in a few advanced sectors, leaving most of the workforce in low-productivity jobs, and a surplus of labour in the informal sector depresses wages, exacerbating income inequality [58]. The Latin American structuralist school contends that the key to addressing this issue is for nation-states to focus on narrowing the productivity gap by enhancing the productivity of these ‘backward’ sectors, thereby reducing the size of the informal economy and fostering more equitable growth [59].

This article concurs with Martha Chen [60] that while there is some truth to the structuralist understanding of the informal sector, in part by virtue of the sector’s heterogeneity, this perspective effaces much of the complexity of informality. The structuralist approach has implicitly bought into “the myths of marginality that reduced informal [sectors] to nests of degradation, anomie, and radicalism,” and thereby do not address informal practices in their own rights and on their own grounds [61]. This conflation of the informal economy with backwardness is deeply problematic as it echoes colonial orientalist and racial narratives of European superiority and civilisation [62]. This issue is discussed in further depth in the second section of the article.

Other scholars have attributed the lack of successful formalisation to the challenges of poor governance, corruption, and weak state capacity [63]. For instance, in the context of Mumbai, India, the central government does not have the resources to monitor the provision of services by street-level bureaucrats, some of whom have informally allowed slum leaders to rig state power lines [64]. This compromises the state’s capacity to intervene in informal settlements. Yet, some scholars reject the claim that informality is the consequence of weaknesses in formal institutions [65]. Certainly, there are cases of strong state capacity which have not translated into the elimination of the informal sector. For instance, even though Brazil had strong enough state capacity to successfully undertake mass evictions in Rio de Janeiro in the 1960s, informal

cities nevertheless continued to grow and became even more entrenched [66]. These trends have led some scholars to criticise attempts at formalising the informal sector as counter-productive [67]. In some quarters, this has re-ignited criticism of state regulation for the failure to formalise.

According to legalists and other critics of state intervention, excessive and constraining regulation increases informality as it pushes residents, workers, and businesses to either contravene regulations, or operate outside of their remit [68]. For example, in the context of informal housing, Hernando De Soto [69] argues that the inordinate number of permits and regulations required to build a house pushes business to systematically avoid and ignore regulations, to remain unregistered, and for land to go untitled. This can be seen in Lima, Peru [70]. With regards to the economy, the imposition of stringent employer, tax, and social protection requirements is believed to disincentivise firm growth and hiring [71]. From this perspective, excessive regulation results in increased unemployment, thereby forcing workers to turn to the informal sector [72]. Critics of state intervention therefore favour reduced regulation to tackle informality. For instance, the World Development Report [73] ascribes the transition of informal firms to the formal sector in Mexico and Brazil to the cutting of 'red tape' through lowering taxes and registration costs.

However, "[a] missing regulatory environment can be as costly [...] as an excessive regulatory environment" [74]. Even De Soto [75] has since conceded that regulation can be effective at formalising the informal sector in one form: land titling. Here, the line of reasoning is that the informal sector results in individuals having assets which they cannot use as collateral, obstructing the development of trust between potential trading partners [76]. For De Soto [77], the solution is to "integrate all forms of property into a unified system" through property registration and formal titling. This way, informal workers can be integrated into the formal commercial sector, the capital embedded in their assets can be utilised, and dead capital can be taxed [78]. Certainly, land titling has proven to be effective at "broaden[ing] the range of potential purchasers" in cases such as the Amazon frontier in Brazil [79]. Yet, even there, land titling has not brought about the end of extra-legal land tenure [80]. Moreover, in contexts such as sub-Saharan Africa, land titling has produced

adverse consequences, such as increased transaction costs due to legitimisation problems and land disputes [81]. Given the mixed results of state regulation, Chen [82] suggests that there is a risk of both over- and under-regulation, and therefore “what is needed is appropriate regulation, not complete deregulation or the lack of regulation.”

Overall, the arguments advanced in the literature outlined above are severely compromised by some major oversights. Notably, the justification for formalising the informal sector is premised on an essentialist understanding of the informal sector as inherently inferior to the formal sector. This uncritical position vis-à-vis the formal sector neglects the growing body of evidence showing that formal sector employment can be exploitative, monotonous, and unfulfilling, especially in the context of neoliberal economies. David Graeber's [83] concept of “bullshit jobs” highlights the proliferation of soulless and harmful work under neoliberalism, where employees are subjected to rigid bureaucratic norms that prioritise market efficiency over human well-being. This bureaucratisation leads to the internalisation of capitalist values, such as competitiveness and performance, which often results in the subjugation of workers to a hierarchical system that prioritises profit over meaningful labour [84].

The formalisation literature ignores these realities and fails to recognise that formal employment does not inherently lead to better working conditions or personal fulfilment [85]. Instead, it often perpetuates a system where workers are trapped in unproductive and demeaning jobs, a trend observable in both developed and developing countries [86]. Therefore, the assumption that formalising labour equates to progress is fundamentally flawed, as it overlooks the exploitative dynamics and lack of fulfilment that can characterise formal sector work, particularly in the neoliberal era. This pitfall of formalisation can similarly apply to the context of housing. For instance, research by Emilio Duhau [87] has observed an intensification of segregation and marginalisation following state-led formalisation of low-income housing in Mexico City. Similarly, Mariana Cavalcanti's [88] study of informal settlements in Rio de Janeiro found that contrary to improving the welfare of inhabitants, formalisation resulted in a hike in fixed costs of living, pushing them into greater financial insecurity.

The assumption that the formal sector is superior to the informal sector has therefore rightly been increasingly called into question on the grounds that “these theories demonstrate little understanding of the actual function of informality” [89]. It is these arguments to which this article now turns in further detail.

Reconceptualising Informality

According to some scholars, a critical reappraisal of informality is needed as the formal/informal dichotomy does not capture actual practices in the informal sector. Namely: (1) the informal sector encompasses heterogeneous activities, (2) it cannot be clearly delineated from the formal sector, (3) informality is not peripheral, but instead the base of society, and (3) the formal/informal dualism lends itself to a misplaced idealisation of formality and subordination of informality [90].

Heterogeneity of Informality

The concept of informality can evoke activity as variegated as “open-source software, the illegal drugs traffic, political corruption, and offshore banking” [91]. In the economic sector, the term refers to a plurality of labour and production processes. This includes non-standard wage earners working for formal or informal businesses, and self-employed entrepreneurs who work in unregistered enterprises [92]. With regards to housing, informality can refer to buildings constructed without legal approval, settlements existing beyond the state’s penetration, and land which is occupied instead of being bought legally on the market [93]. Given the multiplicity of phenomena referred to by the term, informality does not amount to a clearly delineated sector [94].

The Interrelatedness of Formality and Informality

Additionally, informal practices do not map neatly onto the formal/informal dichotomy because these sectors are profoundly interrelated and interdependent. In relation to the economy, formal and informal markets have countless interlinkages. Prime examples of these include enterprises in the formal sector subcontracting informal labour, and informal businesses producing or distributing goods or services for formal enterprises [95]. Indeed, across economies in sub-Saharan Africa, the scale of formal and informal

institutional intertwinement has increased so immensely since the 1980s that the conceptual boundaries between these sectors have become obsolete [96].

Similarly, informal, and formal housing sectors are interdependent. For instance, Brodwyn Fischer [97] asserts that formal cities in Latin America cannot function without their informal counterparts, as the former “profits economically and politically from the slum’s illegality.” The blurred and porous boundaries between formal and informal settlements is particularly apparent in Cavalcanti’s [98] study of favelas in Rio de Janeiro. Here, the borderland between favelas and the formal city is not a physical, spatial divide, but instead a symbolic construct which is reproduced and rearranged through routine practices and social relations [99]. The fluctuation of boundaries between the formal and informal is also evident by the recategorization of housing arrangements. This is the case with many common property regimes, which used to be considered ‘informal’ but are now considered ‘formal’ [100].

Some scholars therefore argue that informality and formality should not be treated as discrete sectors. Instead, it may be more useful to understand practices as operating on a formal-informal continuum, with some activity taking place “simultaneously at different points on the continuum” [101]. This is a helpful way of conceptualising informality as it reflects the ways in which individuals partake in parallel activities across the formal-informal divide [102].

The Base of Society

In most cases, informality is treated as the nonstandard and atypical exception to the general rule of formality, even though “informality is the norm in large portions of the world” [103]. Furthermore, institutions have historically been primarily informal. In the context of housing, even De Soto [104] acknowledges that formalised integrated property systems only emerged in the past century in most Western countries, and that “diverse informal property arrangements were once the norm in every nation.” This is epitomised by Brazil, where policymakers in the 1960s were confronted with the realisation that “informal cities were an intractable part of the Brazilian urban landscape” and therefore could not be successfully eliminated through mass removal and eviction campaigns [105]. Moreover, current

formal institutions were only made possible by building upon pre-existing informal socioeconomic structures and legal relations [106]. It is therefore unsurprising that the informal sector encompasses near enough half of the global urban populace [107].

Likewise, informality is “a universal feature of the modern economy” and has always been the base of the economy [108]. While informal employment is frequently pitted against the Standard Employment Relationship, the latter “has never been the norm in most parts of the Global South” [109]. According to the World Bank’s World Development Report [110], approximately two-thirds of the workforce in most “emerging economies” are informal workers, with this proportion going up to “as high as 90 percent in some low- and middle-income countries” [111]. Additionally, the longevity of the informal economy is a global pattern. Peru exemplifies this, where 75% of employment has been in the informal economy for at least the past thirty years [112]. The fixity of informality rings true beyond postcolonial and low-income economies, with advanced, industrialised, modern, capitalist economies likewise having always featured an enduring informal economy [113]. Informality as a worldwide fixture has not only remained remarkably durable but has also expanded in many nation-states despite—and in conjunction with—modern industrial growth, changing regulatory environments, and fundamental transformations in work [114]. Given this scale, treating informality as peripheral risks overlooking the ways in which informality drives behaviour, limiting our ability to explain important phenomena [115].

Constructing Informality as Inferior

According to Hart [116], informality only started to be treated as inferior to formality when an “institutional effort [emerged] to organize society along formal lines.” The goal of this was to normatively entrench “what [supposedly] ought to be universal in social life” [117]. This rests on a Eurocentric understanding of informality as the subordinate negation of formal, ‘modern,’ Western institutions and norms [118]. Discourses on informality became prominent in the 1970s, as the term was adopted by the United Nations during a period of immense preoccupation with the growing population of unemployed young migrants in cities [119]. However, the roots of these discourses go much deeper, with traces in the

colonial period. It was during this time that colonial powers made a distinction between formal and informal forms of governance. Privileging the former above the latter, these actors suppressed informal laws and promulgated formal laws [120].

The impact that colonial discourses have on present-day understandings of informality is apparent by the case of informal settlements in Brazil. Although urban informality has existed for centuries, it was only in the late 19th and early 20th centuries that they began to attract attention and be problematised [121]. It is through a 'civilising' lens which contrasted favelas against European 'modernity' that the former started to be perceived as anti-modern, atavistic, unhygienic, economically unproductive, and a site of rural backwardness [122]. Contemporary discourses about informal settlements are imbued with such historical thinking, with urban formality still treated as normative, and informal settlements as dysfunctional and backwards [123]. These narratives continue to bear the imprint of essentialist, ideological assumptions about the cultures of previously colonised societies and their institutional dynamics [124]. Shrouded by these biases, such analyses underestimate the potential for the informal sector to be a progressive site of social transformation.

Functionality of the Informal Sector

In contrast to discourses subordinating the informal sector, some scholars maintain that informality must not be treated as inherently inferior to the formal sector. That is to say, "there are benefits and costs to both formality and informality" [125]. Indeed, there is a great deal of evidence that despite the vulnerabilities of informal spaces, the individuals operating within them are "adept at making these places function, in ways that usually link their fates to established networks of power and profit" [126]. For Auerbach et al. [127], it is because the informal sector is characterised by fluid socio-political hierarchies that actors in these spaces are agentic, rather than hapless victims to predatory behaviour. Their constitutive role should therefore not be overlooked.

Certainly, informal settlements can be progressive sites of social mobility and transformation. For instance, there are cases in India where slum dwellers have acquired significantly greater access to public services and improvements in their material conditions. This has been the result of residents'

group claim-making through petitions, protests, and demands to governmental officials [128]. Similar findings of agency and socio-economic reform in informal settlements have emerged from studies in Mexico [129], Venezuela [130], and Brazil [131]. Likewise, the informal economy can facilitate social mobility. For example, Conover et al. [132] note that in Mexico, transitioning to self-employment in the informal sector can be an opportunity for workers to increase their wages, with those in the middle of the education distribution benefitting the most. Moreover, the self-organising structures formed in the informal economy are significant sites of agency [133]. Overall, while the informal sector is not a panacea, it nevertheless presents “potential [...] in fostering progressive change” [134].

This thread of the literature challenges prevailing conceptualisations of informality as dysfunctional, socially deleterious, and inferior to the formal sector. It demonstrates the need to recognise the informal sector as a permanent fixture which can be conducive towards supporting livelihoods. Given the compelling case studies put forward to corroborate these arguments, the author finds that this account possesses greater explanatory power for informality than the approaches outlined in the first section. The following section thus argues that informality should not be eliminated through formalisation, for its social infrastructure and institutions can be incorporated into policies which, under the right conditions, can address the needs of the most disadvantaged.

Supporting Lives and Livelihoods

Proponents of formalisation often overstate its transformative power and advance it as a one-size-fits-all policy solution. Yet, it is precisely this type of uniform approach which frequently results in policy disasters [135]. This is apparent by cases where ill-equipped formalisation policies intensify the marginalisation of those living and working in the informal sector. For instance, as mentioned above, Duhau [136] describes how formalising low-income housing production in Mexico City exacerbated social exclusion and segregation. Likewise, formalising the informal economy can be counterproductive. For example, formalising businesses can result in their complete closure if complementary policies are not adopted to improve the business environment [137].

This suggests that, to be effective, policy solutions must “dissect and harness complexity, rather than eliminate it from such systems” [138]. In the context of informality, the opportunities and challenges of supporting lives and livelihoods lie in the integration of informality into the policy framework, whilst also holistically accounting for complementary policy interventions, the local context, and structural processes at play.

Firstly, the most constructive way to support livelihoods necessitates incorporating informal practices in policy approaches. This is because “‘formal’ interventions are more effective if they are not meant to replace or ‘crowd out’ ‘informal’ rules but help fine-tune them instead” [139]. These policies accept informality as a permanent feature in society and accommodate for this reality, rather than trying to eradicate it through formalisation. For instance, it was only once the Brazilian government recognised informality as fixture in society in the 1960s that energy ceased to be expended on eliminating informality, and the policy approach was instead redirected towards improving informal cities [140]. This shows the utility of policy approaches which centre on promoting equitable linkages between the formal and informal sector as part of symbiotic co-existence [141].

The success of settlement improvement and land tenure interventions also demonstrate the efficacy of this approach. Recognising the legitimacy of informal settlements and granting tenure security strengthens residents’ social inclusion; improves their quality of life; encourages residents to invest in the settlements; and increases housing market integration [142]. For instance, Annamalai et al. [143] find that providing inhabitants with secure land tenure in informal settlements in Jakarta, Indonesia resulted in greater access to basic services and higher-quality facilities, as well as residents investing in housing improvements. This highlights the value of building upon the existing institutions and social infrastructure in the informal sector.

For interventions to work, they also need to be accompanied by complementary measures. Rather than being “conceived in a social and economic vacuum” [144], interventions should engage with related policy areas, such as welfare provision, educational arrangements, and public services. The importance of this can be seen by the policies adopted

under the presidency of Luís Inácio Lula da Silva in Brazil since 2003, which have centred on income distribution, economic growth, and the reduction in levels of inequality [145]. These interventions have been critical drivers for the upward social mobility of favela inhabitants, improvements in favelas' material conditions by providing residents with increased means to improve their accommodation [146]. Rather than eliminating these informal settlements, these policies consolidated favelas, connecting them with housing markets in the formal city without fully formalising the favelas themselves [147].

Furthermore, policies centred on improving lives and livelihoods must address the specificities and situatedness of local contexts. Decontextualised snapshots of existing policy tools will not produce sought-after welfare outcomes. This is because informal practices are rooted in nuanced, localised socio-political contexts, which are structurally impacted by economic processes and social relations [148]. For instance, in India alone there exists immense variability among informal settlements. Specifically, they differ from one another in terms of their political capacity and their access to basic services, due to their variable degree of internal organisation and integration into political party networks [149]. This speaks to the way in which each site of informal activity is characterised by locational specificities, and “depends on unique constellations of needs and intricate local relationships” [150]. Policies which connect with local livelihood systems will be more sensitive to and informed about local contexts, making them better equipped to promote individual welfare and well-being.

Informality is both “entrench[ed] in intensely local dynamics,” and embedded in the global structural phenomena which sustain it [151]. Inscribed in the notion of informality is the underdevelopment of the ‘Global South’ by the ‘Global North’ [152]. Relations of domination and dependence between ex-colonial aggressors and their previous colonies systematically shape relations between informal and formal sectors within and between nations. In the words of Shailaja Fennell [153] : “[v]ulnerability and precarity in the Global South form part of longer histories of marginalization, related to structural adjustment policies from the 1980s and even longer-term antecedents in colonialism”.

The inexorable ties between informality and historical, global, and structural processes are apparent in the case of the garment sector in Delhi, India. In the present day, Delhi's informal economy is a manufacturing production node in global commodity chains, providing cheap labour for transnational production [154]. As a result, Delhi's garment production is impacted by global structural conditions such as neoliberal international trade relations. This has provoked widespread casualisation and 'precarisation' of labour in the sector and "[t]he subsumption of the Indian social structure into the contemporary global capitalist architecture" [155]. Additionally, this international division of labour bears the imprint of India's colonial history. Displaced from its position as a thriving economic actor in the textile industry, deprived of its primary source of revenue, and forced to undergo deindustrialisation, India's global economic relations with other nation-states were fundamentally reconfigured by British colonialism [156]. This example signals the broader need for policy responses to confront the challenges posed by historical specificities and structural socioeconomic realities which intersect with informality. Doing so will lay down the groundwork for "supportive interventions that are appropriate for a range of contexts" [157].

Conclusion

While it is true that "many people are living with a sense of differential distribution of vulnerability and disposability as part of their daily experience" [158], this is disproportionately attributed to the informal sector. This stems from the widespread conflation of informality with dysfunctionality and a lack of social protections and rights. This perception informs a multitude of policies seeking to eliminate the informal sector via formalisation, the most prominent of which centre on development as the solution. Such interventions have faced opportunities and challenges vis-à-vis economic and technological growth; overcoming productivity gaps; state capacity, governance, and corruption; as well as the secondary effects of regulation and deregulation on the informal sector. Despite their respective merits, these analyses are all premised on the assumption that the informal sector should be formalised. Yet, a growing body of research argues that efforts to formalise the informal sector are misplaced. This is because this endeavour overlooks the informal sector's heterogeneity;

the continuum of interrelations between informal and formal practices; informality's permanent underpinnings in society; the historical construction of informality as inferior to formality; and informality's potential to foster social mobility. Whereas "institutions (both formal and informal) can provide a hospitable framework for evolutionary change" [159], and neither is superior to the other.

Building upon this reconceptualization of informality, this essay has shown that formalisation is not a one-size-fits-all prescription for the vulnerabilities and inequalities plaguing societies. The informal sector is here to stay, and it is the principal provider of livelihoods for most the world's population [160]. In turn, the functional and progressive aspects of informality must be incorporated into policies seeking to meet the needs of the most disadvantaged in society. For these policies to be effective, they also need to be accompanied by complementary interventions. As well as this, policy responses must account for the local specificities and global structural conditions which impact the lived experiences of informality and precarity. As far as the notion of informality enables us to draw attention to "the processes through which informal practices emerge" [161], it continues to offer immense insight into the ways in which individuals operating in this sector negotiate with prevailing structural forces. Informality exists across diverse sectors and can take a plurality of forms, from sites of bottom-up agency to spaces where hierarchical power relations dominate. Given this heterogeneity, this essay has primarily sought to "militate against essentialist or cultural determinist analyses, both positive and negative" by highlighting the nuanced ways in which informality manifests across diverse local contexts worldwide [162].

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CSTO AND THE AGENCY OF SMALL MEMBERS: THE CASE OF KYRGYZSTAN

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Abstract

The Collective Security Treaty Organisation (CSTO) originated from the 1992 Collective Security Treaty (CST), designed primarily to foster collective security among the newly independent states emerging from the Soviet Union's dissolution. The treaty was a direct response to the security and defence challenges following the USSR's collapse, with substantial ambitions at its inception. These ambitions evolved notably when the CST transitioned into a formal regional organisation in 2002, with six member states (Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, and Tajikistan) reaffirming their commitment to regional security cooperation. Despite these aspirations, the CSTO has faced significant challenges in fulfilling its principal mission of collective defence, as articulated in Article 4 of its charter. The organisation has only been activated once, during the Qandy Qantar events in Kazakhstan in 2022, despite several preceding crises and requests for intervention from its member states [1]. Consequently, much of the existing academic discourse characterises the CSTO as largely nominal and dysfunctional, with Tolipov famously describing it as an example of "collective confusion" [2]. This article offers a divergent perspective, arguing that the CSTO's perceived inactivity and symbolic nature nonetheless serve the national interests of its member states. This article explores the CSTO's alignment with—and adaptation to—the foreign policy objectives of Russia, the dominant power, even in periods of organisational inactivity. By focusing on a smaller member state, Kyrgyzstan, the analysis highlights the benefits of the CSTO not only for Russia but also for the "junior partners" within the organisation's framework. This perspective provides a nuanced explanation of the functions and evolution of the CSTO, illustrating how member states outside Russia utilise the organisation to their advantage.

The literature on the foreign policies of smaller states suggests that their behaviour is shaped by the need to balance the influence of larger powers while retaining a degree of agency. For these smaller states, it is crucial to preserve their sovereignty by avoiding excessive dependence

on a single external power [3-4]. Consequently, smaller states may exercise agency vis-à-vis larger powers through various strategies. Some leverage their strategic importance and adopt multi-vector diplomacy to balance relationships with different powers, while others engage in omni-balancing, countering the influence of one major power by aligning with another or securing security and economic benefits to maintain internal stability [5-6]. We see that these theoretical assumptions are replicated within the environment of the CSTO and explain the CSTO's integrity and effectiveness through the lens of the smaller member state, Kyrgyzstan. These theoretical assumptions are reflected within the CSTO framework, elucidating the organisation's coherence and effectiveness from the perspective of a smaller member state, Kyrgyzstan. The article demonstrates how smaller states can derive tangible benefits from CSTO membership and ongoing collaboration. By employing a chronological analysis, this study challenges the prevailing perception of the CSTO as an ineffective and dysfunctional entity. It achieves this by examining and interpreting the CSTO's evolution and Kyrgyzstan's vested interests in the organisation, using a timeline approach to provide a comprehensive understanding of these dynamics. The article begins by exploring the origins and motivations behind the formation of the Collective Security Treaty, followed by a discussion of the geopolitical rationale underpinning the organisation's evolution into the CSTO. This is subsequently followed by a case study of Kyrgyzstan as a member state within the organisation.

Understanding the Collective Security Treaty Organisation (CSTO)

Our comprehension of the CSTO suggests that while this security regional organisation is notably influenced by the power centre's (Russia) interests in its progression and functions, it also presents tangible advantages for the smaller member states, which possess agency within the organisation's operations and dynamics. Nevertheless, this perspective diverges from the prevailing portrayal of the CSTO, frequently characterised as "ineffective," "regional disintegration", "exclusive tool of Russia", "collective confusion", and increasingly likened to "Russia's mini-NATO" by scholars and media sources alike [7-15]. Although there are inherent challenges within the CSTO's structure, it is problematic to categorise the organisation solely

as dysfunctional or to reduce its role to that of a chiefly ceremonial security apparatus.

This misconception can be attributed to two primary factors. Firstly, the existing literature tends to focus predominantly on the Collective Defence function (Article IV), which has only been invoked in one of the five requests made by member states to date. Requests such as those made by Askar Akayev following the Tulip Revolution in 2005, Kurmanbek Bakiyev and Roza Otunbayeva during the 2010 Kyrgyz Revolution, and Armenia during the Second Nagorno-Karabakh War following Azerbaijani border incursions did not result in the activation of Article IV [16-19]. Notably, with the exception of Armenia, these requests primarily pertained to internal issues rather than external threats, thereby falling outside the CSTO Charter's mandate for intervention. Therefore, dismissing the CSTO as an irrelevant entity based solely on the non-activation of Article IV is unwarranted. Additionally, the CSTO's activities and strategic direction are heavily influenced by Russian foreign policy objectives, often leading to the rejection of intervention requests that do not align with Moscow's interests.

Furthermore, the widespread perception of the CSTO as a dysfunctional entity often characterises it as a unilateral, hegemonic, and 'imperialist' tool used by Moscow to exert influence within its sphere. This characterisation presents a paradox, wherein the CSTO is simultaneously viewed as both an inactive, ineffective organisation and a potent instrument of Russian foreign policy, capable of "twisting arms and twisting tongues" in the region [20-21].

However, the organisation's history, marked by several member entries and exits, indicates that it does not employ coercive tactics within its internal operations. Instead, smaller member states conduct a cost-benefit analysis of their foreign policy options, acknowledging the asymmetries within the CSTO before committing to membership. This suggests a willingness to accept a degree of Russian influence within the CSTO's activities, driven by their limited resources, capabilities, and political will to engage in multilateral frameworks, while still retaining a measure of agency – a concept akin to Pedersen's [22] idea of "cooperative hegemony" or Costa Buranelli's [23] notion of "negotiated hegemony" [24].

The literature's overemphasis on Article IV also diminishes the importance of the CSTO's other functions, which are vital for the active involvement of smaller member states. Despite the similarities drawn between the CSTO and NATO, given their respective collective defence functions (Article IV of the CSTO and Article V of NATO), the CSTO is distinct in several ways. It primarily focuses on inward-looking, defensive objectives, unlike NATO, which increasingly engages in out-of-area missions. Moving beyond a simplistic comparison between the CSTO and NATO, it is important to consider the CSTO's other roles, including preferential arms sales and transfers, security guarantees, collective efforts against drug smuggling and terrorism, Russia's "nuclear umbrella," and political support for authoritarian regimes. These roles warrant closer examination, particularly as CSTO member states navigate the complexities of these activities amid their ongoing state-building processes following the Soviet Union's dissolution.

Given the gaps in the current literature, this article aims to substantiate two hypotheses: first, that the CSTO is gradually evolving into a functional organisation aligned with Russian foreign policy objectives; and second, that it provides tangible incentives and agency to its smaller member states, challenging the prevailing view of the CSTO as merely a ceremonial entity and a coercive tool of Russia. To test these hypotheses, we adopt a chronological examination of the CSTO's organisational evolution, complemented by a qualitative case study analysis of Kyrgyzstan, one of the smaller member states within the CSTO.

The Formation of the CSTO and the Shifts in Russian National Interests

The significance of Russia and its national interests, as previously highlighted, plays a pivotal role in the evolution of the CSTO. As the primary military power and the largest contributor to the CSTO's budget – accounting for over 50% of the total budget and possessing 95% of the defence budget among member states [25-26] – Russia's interests inevitably shape the organisation. Therefore, understanding the dynamics of the CSTO's evolving functions necessitates an exploration of the origins and background of the Collective Security Treaty itself.

A key event in the history of the CSTO was the transition from an initial treaty format to a formalised organisation in 2002. This institutionalisation process, however, was not inherently evident or necessary, as the treaty itself had only undergone minor amendments, with its automatic extension among willing members assured. The reduction in membership, following Azerbaijan and Georgia's decision not to activate the extension protocol, reflects a moderate level of commitment among the participants and underscores a lack of urgency for the treaty's evolution [27]. Moreover, during its first decade, the CST remained largely inactive, suggesting that significant norm creation or diffusion among members to promote regional integration was unlikely, particularly given the suspension of membership by two states (three, including Uzbekistan, after the transition).

This context suggests that the shift towards a structured organisation may have been artificially driven by Russia, with the consent of the remaining member states, who perceived potential benefits. This dualistic nature of the CSTO's evolution can be seen as driven by Russia's interest in consolidating its influence in the region and by the smaller member states' acceptance of incentives such as Russian security guarantees against external threats, which were particularly significant for countries like Armenia, or mediation mechanisms between member states, as was the case with Kyrgyzstan and Tajikistan. Additionally, smaller member states agreed to preferential pricing for arms sales guaranteed by the CSTO and transfers facilitated by the regional hegemon, given their lack of viable alternatives [28-29]. Continuing this analysis, the transition to an organisational structure can be interpreted as an effort to consolidate and formalise regional agreements by further institutionalising them. This move was particularly significant in the early 2000s, amidst rising concerns over Islamic militancy, which posed security risks for member states, and the growing prominence of the U.S. presence in the region. Despite Moscow's relatively cooperative relationship with Washington at that time – exemplified by agreements allowing access to Central Asian military bases – Russia may have perceived a need to draw neighbouring states closer into its sphere of influence, thereby reducing the potential for these states to align with the West. Moreover, it is noteworthy that the majority of Central Asian members, alongside Russia, were stakeholders in the Tajik Civil War. It was therefore in their mutual interest

to maintain cooperation to prevent further escalation in Tajikistan and to avoid spreading instability throughout the region by adopting united, collaborative approaches to regional security to prevent a recurrence of such conflicts.

As a result, the initial regional agreement under the CST was elevated to the status of a regional organisation, recognised as an autonomous actor rather than merely a multilateral agreement. The ratification of the CSTO Charter by member states in 2002, and its subsequent registration as a UN observer the following year, enhanced its diplomatic and political influence across the region [30]. This evolution suggests that the shift was driven by Russian foreign policy objectives and the benefits offered to smaller member states through increased commitments to a regional security organisation rather than a mere treaty. However, an alternative hypothesis, grounded in realist theory, posits that the regional hegemon coerced weaker nation-states into its sphere of influence, despite the lack of substantial, meaningful benefits provided by the CSTO to these smaller states.

The primary motivation behind the formation of the Collective Security Treaty was clear: it arose from the existing regionalisation among member states, fostered by their shared history under the USSR and bureaucratic imperatives to maintain military cooperation after administrative agreements between Soviet republics became international treaties. Similarly, the Soviet-style, centrally structured military-security command system, which extended across the newly independent states, created a complex web of interdependence among the nation-states in the post-Soviet space. This necessitated cooperation to overcome the infrastructural challenges they faced. Initially, the Commonwealth of Independent States (CIS) was designed to address such challenges by establishing agreements to maintain unified control over common military-strategic spaces, including collective control over nuclear weapons inherited by the new nuclear powers (Belarus, Kazakhstan, and Ukraine), which could have posed a threat to regional and global security [31].

Similar efforts were made to create collective military structures within the region under the CIS, leading to the establishment of institutions such as the United Armed Forces (UAF CIS) and the Unified Strategic Forces (USFCIS)

of the CIS in 1992. However, these institutions had short-lived existences and lacked meaningful authority due to the diminished influence and capabilities of the Russian Federation in the early post-Soviet years, as well as political differences among member states and military leaders who were hesitant to create a military structure under Moscow's command [32]. Despite the refusal to place the military structure under Moscow's control, CIS states—especially the newly denuclearised members—lacked deterrence without a formal security guarantee, apart from the non-binding Budapest Memorandum [33].

This situation presented two pathways for the CST. One involved Russia's desire to establish an alternative sphere of influence outside the CIS, garnering support from "willing" member states to join Russia's regional security apparatus, aligning with then-Foreign Minister Primakov's vision [34]. The other pathway involved these "willing" member states seeking security assurances, which facilitated the creation of the CST under Moscow's leadership. Notably, the CST was based on voluntary participation, including member states that had initially rejected the UAFCIS and USFCIS. This indicates that the CST, unlike the CIS, offered a tangible security guarantee within an institution that minimised encroachment on member states' sovereignty, providing agency to the willing member states outside the CIS framework. Additionally, it is important to note that certain member states, such as Ukraine, which had significant disagreements with Russia in the UAFCIS, did not join the CST despite lacking a security guarantee after denuclearisation, even though Ukraine was regarded as one of the most critical nation-states in the post-Soviet space from the Russian perspective [35]. This weakens the alternative hypothesis that the CST and CSTO function solely as instruments for Russia to coerce post-Soviet states into its sphere of influence.

While the creation of the CST can be explained by the aforementioned hypothesis, further evolution of the organisation can be analysed by examining the transition from the CST to the CSTO. After the establishment of the CST, which aimed to achieve more functional and comprehensive objectives beyond the CIS framework, new challenges emerged both within the organisation and the broader geopolitical context. A faction of member states (Georgia, Uzbekistan, and Azerbaijan) expressed ambivalence towards

the CSTO's potential and raised concerns about Russian influence. Acting as spoilers of the treaty, these states formed a parallel organisation known as GUUAM (later GUAM) alongside Moldova and Ukraine, with backing from the US and the EU in 1997 [36]. Additionally, conflicts within some of these spoiler states, such as Abkhazia, Nagorno-Karabakh, South Ossetia, and Transnistria, coupled with significant Russian influence and involvement in these territories, effectively hindered the functioning of the CST member states. This fostered suspicion among the "spoiler states" regarding Russian intentions and, subsequently, the potential efficacy of the CST.

Simultaneously, NATO's involvement in "out-of-area" conflicts in Bosnia and Kosovo, despite Russian condemnation, underscored Moscow's "inability to shape the development of the international agenda," leading to a sense of humiliation within the Kremlin [37-38]. The geographical scope of NATO's interventions hinted at the potential for further expansion of NATO's operations into the post-Soviet space. Given the existing territorial conflicts and Russia's own challenges in Chechnya, Russia sought to reorient the CST to serve its national interests and prevent being sidelined in future geopolitical conflicts, particularly within its designated "zone of influence." This strategic shift involved two primary objectives: firstly, consolidating Russian influence in the security domain to counter potential external encroachments by strengthening the CST's functions, and secondly, resolving institutional conflicts to enhance the CST's operational capabilities, even if it meant excluding spoiler states like GU(U)AM.

Fortunately for Moscow, excluding spoiler members did not pose a significant risk. With established influence in Georgia through the "passportisation" of the South Ossetian and Abkhazian populations—effectively granting them Russian citizenship—and the deployment of its peacekeeping forces in these territories following the 1993 Sochi Agreement, Russia already held considerable sway [39]. Similarly, Russia maintained control over the Transnistrian region with its peacekeeping forces, predating the formal dissolution of the USSR, while Armenia controlled Nagorno-Karabakh [40]. These dynamics enabled Moscow to maintain its influence over GUAM member states, even in the event of their departure from the organisation, while minimising

potential institutional conflicts from these spoiler states. These developments significantly influenced the decision to transform the CST into the organisational format of the CSTO. Consequently, the spoiler states ended their CST membership in 1999, and the CSTO was recognised as an international regional organisation in 2002. This reaffirms our hypothesis that the CSTO's function is evolving in alignment with Russian foreign policy objectives.

Meanwhile, smaller states affiliated with the "Russian camp" were not coerced into joining the CSTO. While renewing membership under the newly formed CSTO represented a logical progression for these states to maintain their commitment to the alliance, they also found compelling incentives in this transition. First and foremost, the elevation of the CSTO to an internationally recognised regional organisation within the UN framework under Chapter VIII solidified security commitments, transforming them into enduring assurances within a permanent institutional structure, distinct from the former transient agreement that required periodic voluntary renewals. Although this transformation may seem nominal, it carried several advantages for member states. It raised the cost of withdrawal, even though the original treaty allowed for member state exits. This alteration in the collective security framework implied a heightened degree of reciprocity in cooperation. At this juncture, member states harboured concerns regarding potential future instability. In response, Russia, the chief architect of the CSTO, emerged as a source of security guarantees through collective defence, thereby providing a Russian nuclear umbrella, preferential arms transfers, and free military training for these member states, thereby mitigating their concerns [41]. Moreover, the formation of the CSTO's successor structure assumed significance in mediating potential threats from former CST members, notably Azerbaijan and Uzbekistan, that could impact the domestic politics of CSTO member states like Armenia, Kyrgyzstan, and Tajikistan. This new organisation, led by Russia, held considerable weight, particularly given Tashkent's influence in the Tajik Civil War and Azerbaijan's adversarial stance towards Armenia [42-43].

Besides, the rise of the Taliban in Afghanistan and the spread of Islamic extremism and insurgent movements posed new security challenges for Central Asian states. In 1999,

President Nursultan Nazarbayev identified Islamic terrorism as a primary security threat to Kazakhstan and Kyrgyzstan. At the same time, Russia faced conflicts involving Islamic fundamentalist groups, including the Russian apartment bombings and the Tashkent Bombings in 1999, along with the Second Chechen War. These events coincided with Kyrgyzstan's conflicts involving the Islamic Movement of Uzbekistan during the Batken conflicts in 1999 and 2000, which involved Kyrgyzstan, Uzbekistan, and Tajikistan [44]. Consequently, the “junior partners” within the CSTO no longer relied solely on the dominant power for assistance in their individual conflicts and collective security concerns. Instead, they could also depend on Russia's support for their state-building efforts, thereby reducing the risk of state collapse resulting from potential conflicts with external or domestic actors. Moreover, the preferential sale and transfer of weapons from Russia further strengthened their position. This indicates that the transformation of the CST into the CSTO can be attributed to the mutually beneficial relationship between the dominant power and the other member states, reinforcing their individual commitments to collective security and further supporting our hypothesis on the reciprocal benefits of the CSTO.

The evolution of the CSTO after its inception

Important timeline of CST(O) events:

- 1992: Signing of the CST
- 2002-2006: Formation of the CSTO, Intervention request by Kyrgyzstan (2005)
- 2007-2021: Formation of the Collective Rapid Reaction Force (CRRF) (2007), Intervention requests by Kyrgyzstan (2010) and Armenia (2021)
- 2022: First CSTO intervention in Kazakhstan

In the mid-2000s, the CSTO reached a significant milestone with the formalisation of a new peacekeeping agreement, leading to the establishment of a CSTO peacekeeping force of up to 3,000 personnel in 2007. Shortly thereafter, in 2009, the CSTO created the Collective Rapid Reaction Force (CRRF), which comprised as many as 20,000 personnel—four times the size of the Collective Rapid Deployment Forces in the Central Asian Region of Collective Security (CRDF CAR) [45]. The CRRF had a broader range of objectives, encompassing both military and specialised tasks. The expansion of the

CSTO's capabilities can be attributed to two key geopolitical developments influencing the dominant power, Russia. The first involved a series of "colour revolutions" and the subsequent Arab Spring, which raised significant concerns among both Russia and the authoritarian CSTO member states [46]. These states sought to prevent the recurrence of such events within their own borders, especially following the collapse of Askar Akayev's regime in Kyrgyzstan in 2005. Secondly, perceived Western expansionist policies, including the War on Terror, European Neighbourhood Policies, and Eastern Partnerships, were seen by Moscow as increasing Western influence within its perceived "sphere of influence," fuelling suspicions of Western involvement in these revolutions. This sentiment permeated the CSTO's strategic direction, as underscored by President Vladimir Putin in his 2022 address to the CSTO, where he emphasised the organisation's "determination to counter any attempts at foreign interference in member states' internal affairs," particularly to thwart alleged colour revolution scenarios [47]. This position is also clearly articulated in the Russian Foreign Policy Concept of 2008, which elevated the importance of the CSTO, particularly following the Russo-Georgian War, which heightened tensions between Moscow and the West [48].

"[Russia] will promote in every possible way the Collective Security Treaty Organisation (CSTO) as a key instrument to maintain stability and ensure security in the CIS area... transforming the CSTO into a central institution ensuring security in its area of responsibility"

These shifts in narrative reflect two fundamental developments. Firstly, they mirror changes in Russian foreign policy, indicating a departure from a relatively conciliatory approach towards the West during the early 21st century and the War on Terror era. Secondly, they underscore a collective concern amongst authoritarian leaders within the CSTO regarding regime security. Notably, the structure of the CRRF resembles that of the United Armed Forces of the CIS (UAF CIS) from the preceding decade, which had sparked controversies among member states. This parallel suggests a greater willingness among CSTO member states to accept joint-command military institutions effectively under Moscow's control, aimed at addressing potential threats to security and regime stability, in contrast to their CIS

counterparts. Furthermore, the positions of Uzbekistan and Belarus regarding the formation of the CRRF are particularly noteworthy. Belarus did not support the establishment of the CRRF, while Uzbekistan ultimately refrained from ratifying the institution due to concerns about its potential role in resolving conflicts within the “zone of responsibility” [49]. Uzbekistan’s existing reservations about hosting foreign troops on its soil led to its withdrawal from the CSTO three years after the CRRF’s inception [50]. This evidence strongly supports our hypotheses: while the establishment of the CRRF provided incentives for member states to enhance their integration, it was not forcibly imposed by the dominant power, as evidenced by the opposition from smaller member states and the eventual withdrawal of a member state.

Despite these changes in the organisation’s outlook, it is crucial to highlight that the CSTO, in its primary capacity, remained largely inactive during this period. The CSTO did not intervene in the removal of Kyrgyzstan’s leaders, Askar Akayev (2005) and Kurmanbek Bakiyev (2010), despite formal requests for intervention, while also acknowledging the “unconstitutional” nature of these regime changes [51]. Furthermore, the organisation chose not to intervene when Armenia sought assistance during the Second Nagorno-Karabakh War, despite numerous incursions by Azerbaijani forces into Armenian territory—a pivotal moment in its policy orientation. These non-interventions understandably elicited discontent from the requesting member states and others. Even Aleksander Lukashenko, who had provided asylum to Kurmanbek Bakiyev, openly criticised the CSTO, questioning its effectiveness, “What kind of organisation is this if there is bloodshed in one of our member states, and an unconstitutional coup takes place, and this body remains silent?” [52]. For Russia, however, these were calculated risks. The Kremlin assessed that there would be no significant spillover of “colour revolutions”, particularly after the Kyrgyzstan case. Other member states maintained a narrative characterising the Kyrgyz revolutions as instances of socio-political instability [53]. In Armenia’s case, Russia reluctantly acted as a mediator in the Nagorno-Karabakh war, bypassing other member states who were already unwilling to intervene on Armenia’s behalf.

Thus, despite ongoing inactivity, the CSTO, as a regional organisation, effectively served Russia’s national interests

and foreign policy objectives. The organisation's sustained existence and evolution, despite its inactivity, functioned as a viable contingency mechanism should perceived threats of colour revolutions arise, particularly with the enhanced military capabilities introduced by the creation of the CRRF. The organisation's dormancy is not indicative of dysfunctionality, but rather stems from Moscow's lack of incentives to make military commitments, considering the potential backlash from the West and the absence of collective threats significant enough to affect all CSTO member states. While this corroborates our hypothesis that CSTO activities and evolutions are largely driven by shifts in Russian foreign policy objectives, it is essential to examine the responses of member states, even during periods of inactivity.

As demonstrated by Belarus, smaller member states possess the agency to challenge Moscow's leadership during periods of CSTO inactivity. Following the Kyrgyz Revolution in 2010, Aleksandr Lukashenko effectively disrupted a CSTO summit by threatening non-attendance, stating, "There is no agenda [unless the Kyrgyz situation is discussed]; I have nothing to do there" [54]. Simultaneously, he highlighted the presence of Russia's military bases on Belarusian soil, pointing out that Russia provided no financial compensation for these bases [55]. Similarly, Armenian Prime Minister Nikol Pashinyan caused a deadlock in 2022 in response to the unwillingness of other member states to make a political assessment in the CSTO declaration to assist Armenia against Azerbaijani border incursions. Pashinyan expressed his reservations by stating, "I believe that the draft of the CSTO Collective Security Council's Declaration and that on joint assistance measures to the Republic of Armenia submitted for signing is not fully elaborated, and in this edition, with all due respect, I am not ready to sign these documents" [56]. Also, in 2023, Armenia openly criticised the CSTO, declaring, "It became clear to all of us that the CSTO and the instruments of the Armenian-Russian strategic partnership are not enough to ensure Armenia's external security" [57].

Shortly after this statement, Armenia signed the Rome Statute, obliging Yerevan to arrest Vladimir Putin if he were to be on Armenian soil under the International Criminal Court's (ICC) arrest warrant [58]. By 2024, Armenia had suspended all participation in the CSTO. These incidents underscore another aspect of our hypothesis: the "junior

partners” within the CSTO possess agency and influence in the decision-making processes of the CSTO’s activities and functions. At times, they employ diplomatic tools to exert pressure on the dominant power, challenging the conventional view of the CSTO as merely a tool for Moscow to coerce member states.

The prolonged inactivity of the CSTO reached a critical turning point with its involvement in Kazakhstan in 2022, as the organisation invoked Article 4 for the first time to provide assistance to the Kazakh government amidst nationwide protests. This marks a significant “evolution” moment for the CSTO. Although the peacekeepers deployed did not engage in combat, this intervention signalled a shift in the CSTO’s trajectory and raised questions about Russian intentions regarding the organisation’s use. Several factors appear to have influenced Russian decision-making prior to this intervention. Firstly, Russia’s relationship with the West had significantly deteriorated over time, particularly following its annexation of Crimea in 2014. In hindsight, Russia was on the brink of war with Ukraine and had been preparing for an invasion shortly after its intervention in Kazakhstan. This suggests that Russian decision-makers may have anticipated worsening relations with the West. Consequently, the risks associated with triggering the CSTO’s collective defence function were perceived as minimal, especially as the Russian invasion of Ukraine occurred within a month of the CSTO mission in Kazakhstan.

Secondly, there was concern that if the protests in Kazakhstan escalated into a “colour revolution” scenario, potentially leading to the replacement of President Tokayev’s regime, it could disrupt Russian war planning, as such a regime change might result in the loss of one of Russia’s closest allies in its immediate neighbourhood, where Russia shares its longest uninterrupted border. Thirdly, within Russia, President Vladimir Putin’s domestic legitimacy and approval ratings were steadily declining. Despite periodic boosts in popularity during the annexation of Crimea (reaching 89%), nationwide protests, increasingly inspired by issues such as pension reforms in 2018, drove Vladimir Putin’s approval rating to a historic low of 58% [59]. This trend continued with Navalny-inspired protests in 2021, where his approval ratings fluctuated between 61% and 67% [60]. Interestingly, similar trends were observed in Kazakhstan during the same period.

In 2018, opposition figure Mukhtar Ablyazov called for protests against Nursultan Nazarbayev, former Kazakhstan President, which sporadically gained traction throughout the country [61]. Subsequently, protests erupted over socio-economic and constitutional reforms in subsequent years [62]. This suggests that the nationwide protests in Kazakhstan in 2022—a country traditionally praised for its political stability in the region—had the potential for significant spillover effects if they succeeded in bringing about regime change. In this context, the CSTO intervention provided clear incentives for Moscow.

Lastly, Kazakhstan holds a pivotal position within the CSTO and its sister organisation, the Eurasian Economic Union (EAEU). Unlike Kyrgyzstan or Armenia, Kazakhstan is not as economically dependent on Russia, although its main oil pipeline runs through Russian territory (accounting for approximately 80% of its volumes). A regime change in Kazakhstan, a country that had successfully pursued a multi-vector foreign policy, could shift its foreign policy away from Russia. Such a development would have profound implications not only for the future of the CSTO but also for Russia's regional leadership, explaining the sudden shift in CSTO activity [63].

These developments suggest that the CSTO's capabilities may have proven advantageous for Moscow, particularly in the context of its military engagements. While the possibility of CSTO involvement in the Russian incursion into Ukraine remains unlikely under the CSTO Charter, there were clear signs that the CSTO would become more proactive and functional following its intervention in Kazakhstan. Shortly after the Kazakhstan mission, CSTO General Secretary Stanislav Zas publicly praised the organisation's "relevance and effectiveness," emphasising its capacity to act swiftly and decisively. This positive appraisal stood in contrast to critical assessments from external observers, signalling the organisation's revitalisation with expanded functions and a significant restructuring [64]. As Davidzon and Libman [65] note, this ensures the credibility and commitment of the organisation on the world stage.

This trend was further reinforced by senior Kremlin officials following the invasion of Ukraine. Russian Defence Minister Sergei Shoigu, in a meeting with the newly appointed

General Secretary Imangali Tasmagambetov in February 2023, discussed plans to enhance military and military-technical cooperation within the CSTO, aiming to strengthen the organisation's military capacity [66-67].

Moreover, during the Shanghai Cooperation Organisation (SCO) meeting in April 2023, it was announced that Russia was increasing its combat readiness in Central Asia to counter attempts by the US and its allies to re-establish a military presence in the region [68]. Simultaneously, the CSTO has increasingly aligned with Russian perspectives on the ongoing conflict. In May 2023, the general secretariat stated that NATO's military infrastructure and intelligence activities were escalating, perpetuating a "permanently difficult" situation in the West and asserting that the state of security in Eastern Europe was, "contingent on the outcomes of the Special Military Operation in Ukraine and the subsequent peace agreement," demonstrating explicit support for Russia's military efforts [69]. In the same session, Tasmagambetov also highlighted the priority of enhancing the Combat Readiness of the CRRF and integrating CSTO peacekeeping capabilities into UN peacekeeping activities by 2025, signalling an ambition to transform the CSTO into a credible global military actor, a significant departure from its previously dormant role [70].

The CSTO's transition from a treaty to a more structured organisation, coupled with its evolving roles and levels of engagement, reflects shifts in Russia's geopolitical interests and foreign policy discourses, leading to corresponding changes in the CSTO's framework and operational approach. The prevailing power dynamics within the organisation invariably shape the CSTO's direction, aligning it with the strategic objectives of the dominant power. The organisation's previous inactivity before the events in Kazakhstan can be seen as strategically useful for Moscow at that time. Nonetheless, it is crucial to recognise the active participation of smaller member states within the CSTO, highlighting their distinct motivations and imperatives for meaningful engagement within the organisation. Challenging the dominant narrative of the CSTO as merely an instrument of Russian hegemony, a detailed chronological analysis of the organisation demonstrates the inadequacy of such a hypothesis through empirical timeline analysis. This bottom-up dynamic within the CSTO is further illustrated

through an exploration of Kyrgyzstan's involvement with the organisation, which is examined in the next section.

Kyrgyzstan as a Smaller Member State and its Relationship with the CSTO

Following the collapse of the Soviet Union, Kyrgyzstan quickly aligned itself with Russia, a major nuclear power, and did not hesitate to renew its security arrangements later within the institutionalised CSTO framework. This move by Kyrgyzstan exemplifies the tendency of smaller states, often lacking sufficient military resources, to rely on alliances through a strategy of bandwagoning [71]. With the dissolution of the USSR's security framework, China emerged as an external security concern for Kazakhstan, Kyrgyzstan, and Tajikistan, all of which share borders with this formidable nuclear power. During the 1990s, China's continuation of nuclear testing only contributed to a heightened sense of insecurity among the Central Asian republics [72]. The sudden collapse of the Soviet Union resulted in a loss of perceived security amongst the leadership of Central Asian countries, prompting them to seek collective ontological security and stability by aligning under a single entity [73].

It was these Central Asian states, excluding Turkmenistan, which formally opted for neutrality, that became the founding members of the CST [74]. The process of joining the CST was synchronised through preliminary negotiations and summits, demonstrating the active participation of Central Asian states in building a new security framework immediately after gaining independence, thus showing reciprocity in this effort [75]. This weakens the hypothesis that the CST was solely a tool to serve Russia's new foreign policy aims while it was creating its security structure.

Kyrgyzstan was particularly inclined to foster a closer relationship with Russia due to the imminent threat posed by the civil war in Tajikistan during the 1990s. Russia's active role in brokering a peace agreement between the conflicting factions in Tajikistan underscored its capacity to provide security guarantees, prompting Kyrgyzstan to seek a stronger alliance with a more powerful partner capable of sustaining peace arrangements. Furthermore, in 1999 and 2000, militants from the Islamic Movement of Uzbekistan (IMU) launched attacks from Afghanistan, targeting

Kyrgyz military and civilian locations, advancing through Kyrgyzstan's southern territories towards Uzbekistan, and passing through Tajik territory unimpeded. These incidents exposed the poor readiness and limited capacity of Kyrgyz forces to confront emerging security threats associated with instability in Afghanistan, further motivating the Kyrgyz government to adhere to the principles set by the CST and later institutionalise them within the CSTO framework [76]. Kyrgyzstan's commitment to addressing this significant strategic threat was demonstrated by its willingness to cooperate with Uzbekistan and other nations in conducting military operations, following the successful repulsion of IMU militants on two occasions. These efforts included coordinated actions with Kazakhstan, Kyrgyzstan, and Tajikistan, supported by a temporary joint command centre established in Osh, Kyrgyzstan, given that the conflict predominantly occurred on Kyrgyz territory [77].

The institutionalisation of the CST coincided with the War in Afghanistan, led by the US and its Western allies, which was actively supported by Russia and CST members. This alignment led to an agreement between Kyrgyzstan and Russia to host Russian forces at the Kant airbase while also allowing US troops to be stationed at the Manas airbase. However, the 2005 colour revolution in Kyrgyzstan sparked concerns that US influence in the region was growing. In response, Russia offered a lucrative loan to then-President Kurmanbek Bakiyev in exchange for the closure of the US military presence at Manas, an offer which Kyrgyzstan ultimately declined [78-79]. For Kyrgyzstan, the only viable alternative to the CSTO was temporary cooperation with the US during the War on Terror and some limited agreements on communication exchanges with NATO [80]. Consequently, US forces withdrew from Kyrgyzstan in 2014 following sustained pressure from Russia, which also promised closer economic cooperation and broader benefits [81]. Given Kyrgyzstan's geographical position, bordered only by former Soviet states and China, its decision to further align with Russia suggests a degree of coercive diplomatic pressure from Moscow. However, considering that both Russia and the US offered monetary incentives to influence Bishkek's cooperation, rather than relying solely on coercion, highlights Kyrgyzstan's agency amidst the geopolitical competition between Russia and the US.

Additionally, Tajikistan's irredentist border claims following the Tajik Civil War, combined with its superior, combat-experienced forces relative to Kyrgyzstan, represented a significant national security concern for Kyrgyzstan. The disputes included strategically critical access to irrigation water and transportation routes through mountainous terrain with limited communication options. In January 2023, Kyrgyz representatives reported that over 90% of the border had been delineated [82-83]. This progress emerged from intensive negotiations between border commissions from both countries, showing progress after larger-scale skirmishes in disputed territories in May 2021, which resulted in numerous casualties and the displacement of thousands of civilians in both countries [84]. The previous slower progress before the deadly confrontation in 2021 can be attributed to the lack of concessions over the densely populated, cultivated areas with scarce but vital water resources, which remain politically sensitive for both governments of the poorest CSTO members [85-87]. Tajikistan's long-serving President Emomali Rahmon's visit to the Vorukh exclave, surrounded by Kyrgyz-controlled territories, and other areas adjacent to Kyrgyzstan prior to the border escalation in 2021, indicated a determination to maintain his stance on the border dispute [88]. With Kyrgyz forces struggling with logistical challenges of navigating Uzbek and Tajik enclaves to maintain border security and lacking combat experience, they were ill-prepared to effectively deter Tajikistan, which remains better equipped due to foreign military aid received for its efforts against threats from Afghanistan [89].

Nevertheless, Kyrgyzstan's hosting of Tajik forces in CSTO military exercises in October 2023 signalled a return to reciprocal relations, overseen by Russia within the CSTO, following negotiations between Kyrgyzstan and Tajikistan mediated by CSTO Secretary General Tasmagambetov, despite prior abstention from joint exercises with Tajikistan [90-91]. Kyrgyzstan leveraged the CSTO's role to maintain security between itself and Tajikistan, fulfilling its commitments under Chapter I of the CSTO agreement [92]. This supports our hypothesis, demonstrating Kyrgyzstan's agency within the CSTO in its conflict with Tajikistan, relying on the commitments of all members to refrain from using force against each other and adhering to the CSTO's authority to maintain security among its members [93-94].

Overall, Kyrgyzstan's alignment with Russia and its participation in the CSTO reflect a combination of bandwagoning and omnibalancing strategies. The country's security environment, characterised by internal instability and external threats from neighbouring states, necessitates reliance on a powerful ally like Russia. The CSTO provides Kyrgyzstan with security guarantees and economic incentives, while also enabling it to navigate the complex regional dynamics of Central Asia. At the same time, the case of Kyrgyzstan illustrates the nuanced agency of smaller states within larger security alliances. Despite the asymmetry in power, Kyrgyzstan has successfully leveraged its strategic importance to secure tangible benefits from its alliance with Russia. These dynamics underscore the cooperative aspects of Russia's hegemony within the CSTO, where smaller member states receive security and economic support in exchange for aligning with Russian foreign policy objectives.

Conclusion

This article has explored two hypotheses regarding the Collective Security Treaty Organisation (CSTO) that challenge common perceptions. The first hypothesis suggests that the CSTO is gradually evolving into a functional organisation aligned with Russian foreign policy objectives. The second posits that the CSTO provides tangible incentives and opportunities for agency to its smaller member states. The timeline analysis was conducted to test these hypotheses by interpreting significant historical events throughout the CSTO's existence. The findings indicate that previous studies on the CSTO have only partially addressed the agency of smaller members, such as Kyrgyzstan, within the alliance [95-103]. The analysis also reveals that Russian foreign policy concerning the CSTO has been largely reactionary, particularly in response to the US military presence in Central Asia, broader foreign policy attitudes towards the West, and domestic political concerns. This is evident in the initial institutionalisation of the CST, which paralleled the US War in Afghanistan, and in developments within the organisation's military components, which coincided with declining regime stability and economic performance within Russia. Simultaneously, the ongoing security issues faced by smaller members, such as Armenia, Kyrgyzstan, and Tajikistan—sometimes involving conflicts with one another—suggest that the military alliance led by Russia

is essential in their statecraft. The potential for intra-CSTO mediation by the dominant power and the security guarantees provided by the organisation help mitigate the risks these states might face outside the alliance.

Within this context, the case of Kyrgyzstan serves as an instructive example to analyse both the evolution of the CSTO and its impact on member states, as well as the incentives and agency afforded to smaller members within the CSTO framework. Despite enduring threats from ongoing instability in Afghanistan, China's economic expansion, and border disputes with Tajikistan and Uzbekistan, Kyrgyzstan has effectively exercised its agency in an environment dominated by a single power [104]. The case of Kyrgyzstan illustrates that Russia does not rely solely on coercive diplomacy; rather, it employs a broader range of material and diplomatic incentives to encourage its partners to make decisions that align with its foreign policy objectives. This approach helps maintain the regional organisation and secures the cooperation of its 'junior partners'. This case study underscores the importance of understanding the strategies and agency of smaller states within regional security alliances. It highlights the complex interplay of coercive and cooperative hegemony, as well as the strategic considerations smaller states must navigate in their security environments. These insights may also be relevant to other smaller states in different regional organisations.

Overall, this study demonstrates that smaller members of a military alliance dominated by a central power can still exercise agency by seeking more independent roles in their relations with other countries. Additionally, the study aimed to refine previous perspectives that have emphasised Russia's dominant role within the CSTO. Moving forward, it is crucial to foster further discussion about the region and the organisation to accurately depict the geopolitical environment in the post-Soviet space and the intra-regional and intra-organisational politics within Russian-led regional organisations. Such discussions would help avoid the repeated mischaracterisation of smaller nation-states in the region as merely being within a "Russian sphere of influence". Moreover, deeper exploration of the CSTO is necessary to develop more nuanced theoretical approaches based on the Central Asian context.

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RE-EVALUATING RELATIONSHIPS IN MULTI-STAKEHOLDER EXTRACTIVE PROJECTS: THE CASE OF RIO TINTO

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Abstract

In 2021, the Australian mining company Rio Tinto Zinc (RTZ) announced it would invest \$2.4 billion in an underground mine in Serbia's Jadar Valley. The project would be the largest lithium extraction in Europe, putting the continent on the map to compete with South American rare earth element extractors and, importantly, China. Furthermore, Serbia needs foreign investment to offset its staggering government debt. Were the lithium mine to succeed, a Slovak battery company, InoBat, would also buy into the project by manufacturing car batteries and utilizing the mine's lithium to advance its electric vehicle (EV) manufacturing. However, the plan kept encountering local resistance. This was not RTZ's fault: but instead, the inheritance left behind by Chinese mining practices in the region over the last half decade. A side story, which bears on the Rio Tinto lithium mine, was the acquisition (63%) by China's Zijin Mining Group of Zijin of a heavily indebted copper mine. Zijin paid \$1.26 billion, outbidding Russian and Canadian companies, for RTB Bor copper complex. The Serbian government later took Zijin to court in 2020 for failing to address environmental complaints. Serbia is Europe's most polluted country, and among other issues, the Serbian government lacks the funds to properly address environmental concerns. Meanwhile, closer integration with the EU hinges upon Serbia's ability to clean up its environmental act. Beyond this, the EU wants to counter Chinese dominance in rare earth elements and critical supply chains [1]. The Serbian government had many reasons to want the Rio Tinto project to go ahead: the leadership lauded the mining project as an excellent opportunity for development and economic growth, but the government continued receiving resistance from the local communities over the pollution fears. Other green groups joined in with the mobilisation. In January 2022, Serbia revoked Rio Tinto's project license due in large part to the protests. Rio Tinto is in process of reviewing the legal basis over the revoked license, and the Australian behemoth will take Serbia to court over the breach of contract. The Rio Tinto and Jadar mine project in Serbia is a small vignette to illustrate the variety of stakeholders

present in an extractive project. This paper will introduce the stakeholders involved in such extractive investments and projects; it provides an exploratory overview of their various roles and interactions; and it attempts to understand to what extent their relationship might be important to the paradigms researchers use to conceptualise relationships among a large grouping of stakeholders.

Background

As the globe moves toward a low-carbon transition, the importance of critical raw materials and rare earth elements is growing. Fittingly, the research, policy analysis, and academic literature on mineral extraction, use, and investment projects is also growing, albeit in a fragmented way [2]. There is a value in parsimonious paradigms: straightforward frameworks help academics, policy makers, and observers make sense of complex ideas. A simple setup helps practitioners anticipate and react to occurrences within that framework.

Yet, while parsimony may offer one criterion for evaluating the merits of an explanatory framework, it is not the only one. There is also value in a paradigm's ability to adapt. A paradigm, if useful, should be robust to changes in the world around it, but equally, it should be able to evolve as and when those changes demand it [3]. In doing so, the framework continues to capture dynamics or events it attempts to describe in a way that makes sense. This is especially important in such a nuanced and quickly evolving industry as mineral extraction, where old systems, paradigms, and understandings are clashing with new needs and frameworks [4].

In the disciplines of International Political Economy, Development Economics, and Area Studies, a particularly illuminating paradigm applied to extractives and natural resources is a triangle. Originally inspired by the work of on the "program model," the adapted version seeks to explain the relationships among the distinct groups interacting with and around natural resource projects [5]. Whereas the three angles for Korten are "program," "organization," and "beneficiary," the three angles of the triangular paradigm as applied to resource extraction are "ruling elites" (including bureaucracies), "investors" (foreign and domestic), and "local populations." (As the triangle in Buur et al. uses the term "Ruling elites (Incl. bureaucracies)," when this paper

references the “Ruling elites” angle, the “(Incl. Bureaucracies)” will be implied, unless otherwise noted.)

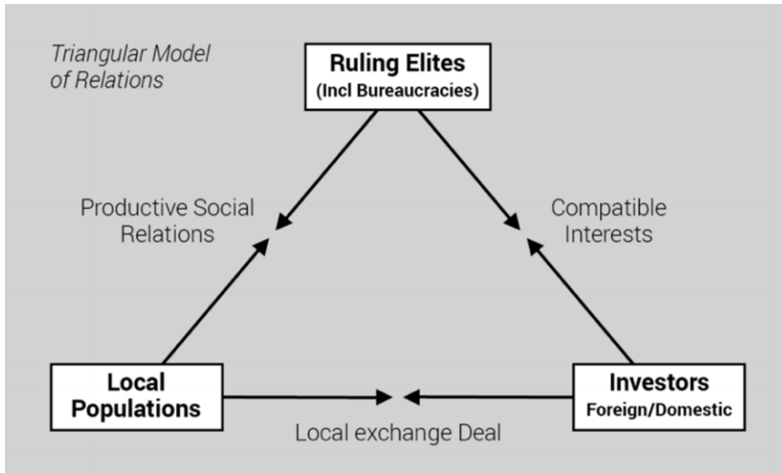


Figure 1: The triangular paradigm of exchange relations among stakeholders found on p. 6 in Buur et al., which the authors note draws on Korten (1980); Whitfield and Buur (2014); Whitfield et al. (2015), and Buur (2015).

This triangle’s use, like Korten’s original, is to capture and anticipate the complex relationships among the cast of actors introduced. Buur et al. and Whitfield and Buur use the paradigm to describe three sets of relationship groupings: (1) a “Reciprocal Exchange Deal” between the investor and local population; (2) “Compatible Interests” between ruling elites and investors, and (3) “Productive Social Exchange” between ruling elites and local populations [6]. The value of examining these relationships is in helping researchers and practitioners investigate them from a range of disciplines, respond, and contribute to debates within those disciplines. Aside from academic debates, there is value outside academia via policymaker, stakeholder, and public spheres in understanding the relationship among these actors.

One of the key purposes of Buur et al.’s paradigm and its departure from classic literature is the focus on “concrete types of exchange,” not just “abstract features of relating” [7]. They seek to move from theoretical debate to practical application: this means listing examples of where and how the different stakeholders act out their relationships. Regulation use, company policy, activist demonstrations, or (re)negotiating a contract are ways in which the ruling elites,

investors, and local populations interact with each other or prepare the stage for an interaction. This paper seeks to cast specific elements of those interactions as “stakeholder events,” representing unique data points.

These stakeholder events, framed as Principal-Agent interactions, can have significant effects on the equilibrium of a dynamic political economy model. For example, elites (the principal in this agency relationship example) fishing for more foreign currency might alter regulations to increase private property protection to lure more investors (who are agents in this relationship). Alternatively, an investor entering intense procurement bidding for a lucrative contract might lobby a government or offer special provisions to secure the bid. The government, seeing the value of the deal, might obtain special accommodations from the business or secure preferential terms. Local populations (here the Principal), facing an unsavoury investment deal in their region might protest, refuse to take part in a finished project or (if they can) vote out the government (the Agent) who agreed to such a deal. Each of these interactions is context specific. Elites might want less foreign property ownership, not more, or might benefit more from expropriation than from private property protection. An investor might be the only hope for a government that is desperate for a special project, in a way that reverses the relationship. Local populations might be content with their government’s dealings, or unaware. The outcomes cannot be known beforehand, and the nature of the agency relations are complex.

Consequent to the fact that each interaction is highly contextual that it makes sense to consider the triangular paradigm from a broad lens of relationships between principals and agents. The Principal-Agent approach helps us to interrogate the triangular paradigm and broaden the understanding of each angle within the context of varying relations. By doing so, this paper provides a conceptual approach that conceives of the interactions among stakeholders. It also considers new elements of “concrete types of exchange” for each angle. It is a bridge between the state-of-the-art theory present in the wider literature, descriptive information, and practical application.

Organisation is as follows: following this introduction, there are four sections, which will examine the three angles

of the triangle. It will start with “ruling elites,” then cover the “investor” angle, and finish with the “local population.” As in Buur et al., each section will articulate elements of the relation of the angle to others and concrete types of exchange. It will then introduce aid actors and return to the paradigm question.

Ruling Elites (Including Bureaucracies): Are They Synonymous?

What are “Ruling Elites” in the exchange relationships around an investment project; what are “Bureaucracies”? To begin, “Elites” could be understood in a government leadership context. Or an “Elite” could be a non-governmental individual who has sway over the systems that govern a project, through neo-patrimonial or patrimonial networks [8]. “Bureaucracies” could be grouped with “Ruling Elites” depending on the context. Positioning the two together might imply some cohesion—but equally, Ruling Elites and Bureaucracies could work against each other. Their dynamic depends in part on the Principal-Agent relationship.

If “Ruling Elites” are part of the government structure, one must differentiate between two groups contained within the overarching term: centre versus periphery (local/regional) governments. As this section describes in more detail, the central government and bureaucracy is more consolidated, though certainly not “one.” In combination, the central government and bureaucracy usually deal most directly with significant outside investors at the high-level and initial project cycle stage. Despite this first point of contact with the central government, it is the local, peripheral governments where projects usually take place; these local governments often are the point of contact later in the project cycle. It is also the local government that serves as the first line of contact with any local population reactions. Aside from the government and bureaucracy, a provision could be made for “ruling elites”—those who technically do not hold government positions, or those whose government position is accompanied by contain considerable influence that goes beyond their government position. Figure 2. sets out the various levels within the “Ruling Elites” angle (but does not address the relations between them).

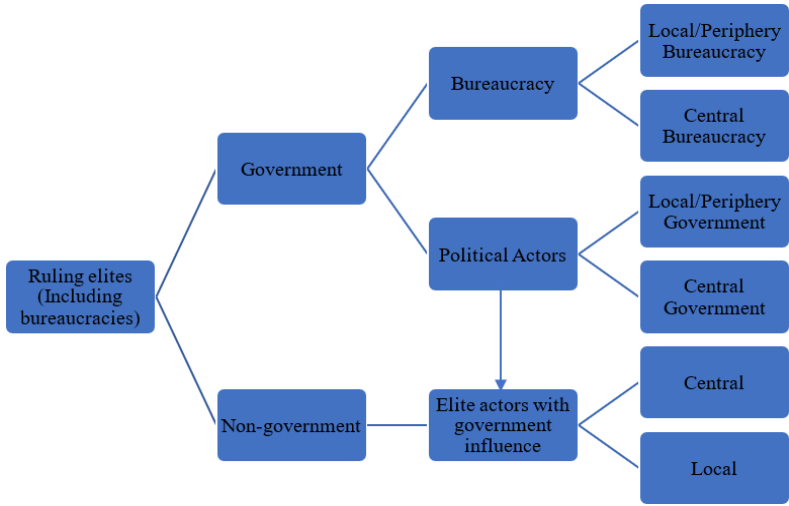


Figure 2: Expanding the “Ruling Elites (Including Bureaucracies)” Angle

“Elites” vs. “Including Bureaucracies”

There is a difference between the elites in government and the bureaucratic elements—a difference that is not necessarily mutually exclusive. As Whitfield et al. point out, the state is “bureaucratic rule,” in which “[b]ureaucratic agencies were seen as technically competent, united in purpose, and supporting national goals” and that their vision “prevented capture by rent-seeking social groups” [9]. By contrast, “ruling political elites [seek] legitimacy and survival in office through good economic performance” [10]. This distinction between bureaucrats and political elites is influential in Development State theory. The discussion is in part whether the state is a combination of politicians and bureaucrats who are pushing to ensure their self-interest, or whether bureaucrats are benevolent actors trying to advance the state while politicians, to survive, are beholden to interest groups.

The differences between the political elites and the bureaucrats gives different sets of principals and agents to respond to and impact their ability to influence their power via-a-vis the other two actors in the paradigm. With respect to outside stakeholders, elites are in an elevated position of power. They are well-placed to receive (or coerce) money—or rents—from deals; they can establish and maintain patrimonial or neo-patrimonial networks. By contrast, bureaucrats—though they can engage in petty bribery or extortion or seek future outside employment or investment opportunities—are

more of the “rubber stamp” on the relationships with outside stakeholders. As an example, the national parliament will pass a land-ownership law to entice foreign investors—the bureaucrats will file the paperwork to enforce it. Still, the bureaucrats can create their own variety of slowing or accelerating the process to meet certain ends, but their role in influencing the decision-making process *could* be diminished. We could consider Collier’s words on “divergent elites’ interests:” why not among political elites and bureaucracy [11]? If the bureaucracy is seeking to maximise its wellbeing and influence over budgets, decision-making, and power, they could find themselves pitted against the interests of outside investors. The result is to either sabotage the process or try to create networks in which they gain, through financial opportunities or future employment and power. Within the Principal-Agent relationship, bureaucracies may collaborate with outside stakeholder to secure jobs, shares, or influence.

Another debate revolves around the “local populations” angle: are bureaucrats safe from the constituency while political elites are not? Part of the notion behind elite survival is the idea that, in theory, politicians can be voted out of office by a displeased constituency. The bulk of bureaucracy, meanwhile, cannot be voted out. Offices stay even if political personalities do not. Though in non-democratic regimes, one can ask whether political elites are insulated from constituency repercussions. Further, political elites in less democratic settings tend to be part of a more explicit set of sub-elites. In these regimes, the president is often part of an elite that might include ministers alongside a network of political and non-political “elite” that serve to maintain the autocracy. Still, the theoretical feedback mechanism between the population and the governing bodies is important—particularly distinctions on the location/tier of government: local governments might be less secure and more likely to lose power from a reactive constituency than a central government. The differences between central and periphery government relations and between elites and bureaucratic elements are important distinctions that contribute to a better understanding of the “Ruling Elites” angle.

Central/Local Elites, Bureaucracies, and Government Actors
Every system has its own internal dynamics. One of those dynamics is the variation between elites at the central level and elites at the local level. These differences in part mirror

the differences found in the “local populations” section. The central government is often the initial point of contact for the project coordinator. The central governments are likely to have more power over the country. Local elites often owe their allegiance—and sometimes their position—to the central governing party and elites. In certain countries, the local representation is elected by, and therefore accountable to, the local population, but the governor or mayor is appointed by the central government (sometimes even the president) and is therefore more accountable to the central government than to the local population.

But the local government remains the point of contact for the companies, investors, and other stakeholders. The local government is also more accessible to the local population that is directly impacted by the project, positively or negatively. These factors might introduce differences in incentives for the way central government handles things versus the local government. While the central government would reflect the status of the country, the situation might vary from locality to locality when it comes to political power, education, hostility or graciousness to outside stakeholders, and the ability to amend a project. For procurement and licensing, the ultimate authority rests with the central government. The local and regional authorities can oversee the process, especially any environmental and viability reviews, and they can weigh in on royalties and tax revenue. If things with the project deteriorate, though, it is local authorities who are on the front line of local population. Issues like air, noise, or water pollution, ecological damage, and damage to quality of life will be laid at the feet of the local authorities. Within the exchange relations paradigm, this variation between the central and local governments creating varying costs and incentives. This can create tension points and concrete manifestations with the local populations *and* with the outside stakeholders.

Who are the Other “Ruling Elites”?

There is a question as to whether outside elites, or governments, ought to be included in this angle of the exchange relations paradigm. Even outside elites have power and influence, and they have a relationship with project investors. They could have a relationship to the local population as well, especially when investment projects have a broader mandate than profit/revenue. If there are elements of building society, improving transparency, governance, or way of life, for-

eign stakeholders might consult with the local population. Equally, foreign stakeholders might pursue their own preference or profit at the cost of the local populations but at the approval or gain of domestic elites. Domestic elites could collaborate with and piggyback off the actions of a more powerful foreign stakeholder (alternatively: the local elite might be more powerful, and the foreign stakeholder would need to curry favour to achieve their ends). Especially in a post-colonial order, which characterises this entire region [12], domestic elites might malign the foreign elites and use this tactic to prop up their own rule as preferential to control from foreign elites [13]. In a version of “devil the better you know,” domestic elites could argue to local populations that it is better to have “us” in charge, because it is better than those foreign unknowns. It evolves into a question of control: who or which actors filter incentives to change others’ behaviours?

While each angle must be considered and built independently, the value in the model is the sum of its parts. For example, in one bilateral relation, a foreign investor might be the Principal, but in another, the foreign investor might find itself as the Agent. The relationship between each angle is a defining feature of its usefulness in describing relationships and helping to understand, or even predicting, outcomes. An outside government will, firstly, impact the local government (central and/or periphery; elite and/or bureaucratic). The relationship is separate; the power exchange is separate.

Expanding Beyond “Investors” (Foreign/Domestic)

The “investors” angle in the extraction and resource research originally referred to private businesses that invested money into a project. But over the past decades, and certainly with the advent of public-private development and investment projects, low-carbon projects, and other natural resource extraction, new methods of investing have arisen that must be included in an updated consideration. Out of the three, this angle has had the most development. It is also this angle’s changes that are so relevant to many of the future projects in public-private partnership, development, investment in low-carbon and rare earth element resource extraction, and in infrastructure updates to facilitate better connectivity. Private public partnerships (PPPs) have become a significant external (or combination of internal-external) contributor to projects. Further, governments and lending institutions

have become major facilitators or detractors in projects in addition to the classic investor-only approach of earlier literature. As mentioned in the background, papers like Hodge et al., in 2022, are working to bring nuance to the firm side and the community side of extraction are studied, and the effects of both.

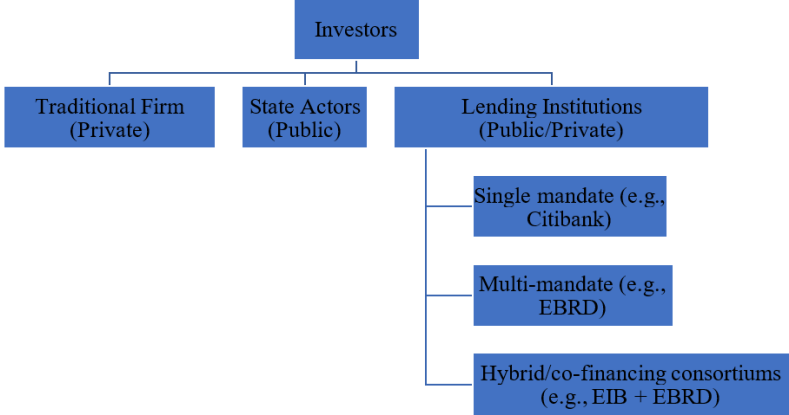


Figure 3: Ways to consider building out the “Investor” angle.

These new groups and their impact should be reflected in the exchange relations paradigm. This paper considers that they should be accommodated in the “investor” angle, which could be re-named as “external stakeholder.” Including them complicates the foundational exchange relation role that underscores that angle of the model. Private firms are driven to maximise profits. In the original paradigm, their relationship to the host country governments and the local population was through that lens of profit, or as project facilitator vis-à-vis profit. That approach must also be updated, as firms now face a multitude of drivers.

Other stakeholders have some overlap with private companies’ outcomes within the exchange relations paradigm, but the primary motivator varies. This matters because the pursuit of different objective—sometimes multiple—shapes outcomes and behaviours across stakeholder groups. It becomes more complicated when these stakeholders work together in combination (e.g., within a public-private partnership). In turn, this affects the relationships each actor or combination of actors has with the government and local population angles of the triangular paradigm; it affects the Principal-Agent setting and the constraints and incentives.

Beyond the original “investor,” this angle could reflect state actors, including foreign governments; lenders that have a profit-driven approach and lenders that have a broader mandate, like democracy promotion. Each actor or combination of actors represents a specific stakeholder or stakeholder combination in a particular relationship with other Principals and Agents. These each pursue a set of complex objectives, some of which could be regulated by different Principals according to a specific set of evolving constraints. The very reason these complexities are important is because the impact on the project or relations with other angles are endogenous to the nature of the stake-holding.

The Traditional Firm

The traditional firm is the darling of extractive literature. It is stylised as a profit-driven entity, which relates to the other two angles—governing elite and local population—through the lens of the profit-maximising objective. The firm is driven to undergo a project that it believes is profitable to itself and, if it is publicly traded (as is the case with oil and gas companies, for example), its stockholders. These firms will vary by size, which will affect their appetite for risk, tolerance to risk, and their overall risk exposure. The interaction of the firm with the other angles could take the form of private property protection and risk; firms could be deterred where expropriation is a risk. These private companies want assurances about the capital they buy or lease. Firms want clear directives about how much they will pay, and for what, and what their fees get them. Governments want clarity on access, tax, and royalties. With the local population, firms may need local labour (in a very labour-intensive job), or they might bring in their own labour (in a highly technical job). In other scenarios, firms impact the local population through the by-products, whether negative, like pollution, or positive, like increased infrastructure connectivity or capacity building. This can impact how firms relate to the local population and affects how firms might interact with the local government. Firms may want auxiliary projects—like infrastructure—to support their main project. These infrastructure projects take the form of rail, road, or sea export routes; ICT infrastructure; or basic waste removal. Companies will invest if, despite the risk, relations, and expectations, the expected return on their investment brings positive profits or some other value or benefit.

One shift in conceptual mapping of firms is the emergence of mixed-mandate projects. These include public-private infrastructure projects, low-carbon investments, and development projects. Much emphasis is put on each of these projects and the optics surrounding their narrative, in which wholesome projects are pitted against dirty extractive or exploitive projects. But the nature of the project does not *necessarily* make its stakeholders less profit driven. Firms can be motivated by more than just profit.

In this new generation of investors and companies, the firm's objective function becomes more complex. Market share, social responsibility, visibility and optics, and partnership have become value drivers along profit-driven motives. A debate continues to rage about the role of customer relations services (CRS) and customer management systems (CMS) and "greenwashing" in companies that have any stake or role in the low-carbon market, sustainability, or infrastructure projects. These developments missing from the traditional extractive companies and profit-driven firms in the natural resource literature. This shows that within the pre-existing term there is a shift in how the model might fail to account for the exchange relations between a new era of companies.

State Actors

Governments outside of the project host country have an interest in investment progress—or sometimes they have an interest in their disruption or end. Geoeconomics—the way state actors can use economics to impact change or relationships among other state actors—is at the heart of this. Projects can reflect relationships among states or can be the foundations for deeper relationships. Outside countries might compete for primacy in the project host country or region as a part of a broader geostrategic statecraft [14]. This competition accompanies the licensing, regulation, and requirements of a project: one external state actor might have a secure financial payoff but higher requirements for the project country, while a competing state might have a riskier financial investive but lower regulations [15].

One must consider the immediate payoffs and costs along with the long-term situation [16]. Stakeholders and government elites might be won over by easy money and low requirements from elites for a project in the short-term, but that very same lack of transparency and rigor could eventu-

ally block integration with the spurned economic actors that require heftier regulation but the promise of a longer-term gain [17].

What should stakeholders facing competing incentives do? If external governments have a particular long-term interest in winning over the project host country, they might go to significant lengths to draw the host country away from a geoeconomics adversary, such as the battle between the European Union and China for influence in the Balkans and Central and Eastern Europe through investment in infrastructure projects (China and the EU), opportunities to deepen trade cooperation (primarily the EU, but some China), or access to lending markets (primarily the EU) [18]. It is worth considering that external state actors can provide conditioning effects—sometimes geopolitical or geoeconomic in nature, that also enter this equation. These manoeuvres are not about projects per se but changes the landscape in which projects take place [19].

A Variety of Lending Institutions

It is perplexing that the current paradigm has no role for project money/financing sources outside firms. Lending institutions play a vital role in a project's advancement or abandonment. Especially with riskier projects, a lending institution brings perspective to a proposed project by backing it or walking away. Lending institutions are sensitive to risks, but like most groups discussed, there are still distinguishing features amongst lending institutions: those with a more profit-focused mandate, and those with a broader mandate, like democracy building or resilience.

Single-Mandate Lenders

The single mandate lender already enjoys a broad inclusion in the literature and a space of recognition in the minds of readers. These are the global operators—big, recognisable names, like JP Morgan, Citibank, and Goldman Sacs. Most are a moving money force behind investment projects. A bank wants its part in the profit pie. But banks rarely tolerate highly risky situations. This is visible in the natural resource and project literature to date, and for the FSU and CEE region, it is highly visible in the actions of global lending institutions during the volatile 1990s (as well as the economic dips in the 2000s and 2010s, and for examples of western withdrawal, one need look no further than the mass depar-

ture of western companies from the region following Russia's February 2022 invasion of Ukraine).

Additional Mandate Lenders

While big lenders are starting to build certain projects into their portfolios and charters, some lenders have been doing this all along, like the European Bank for Reconstruction and Development (EBRD). These lending organisations facilitate projects that push the state(s), or the entire region toward sustainable, resilient development. Other entities include: the Asian Development Bank, the World Bank, and even the US-affiliated IMF. These lenders have supported states' development and advancement through funding projects that are assessed to bring an extra benefit to the project host country. Most of the projects through these development lenders are partnership projects with a set of co-hosts as stakeholders.

One role contained within this group, among others within this paradigm, is to act as an anchor investor to pull in other groups and investors. Lending organisations with a broader mandate write these risks and requirements into the charters, and they use that framework to assess projects in the region beyond a simple "is it profitable?" metric [20]. There is a question of profit, but also one of viability—"Will the project be *viable* even if it isn't immediately *profitable*?" There is also a sense of contribution—what does the proposed project contribute to the host country? Is it filling an infrastructure need? Will the project be passed on to the host country government? Is there a difference between the builder and the operator? And with development-specific organisations, there is a desire for projects that will contribute to the short- and long-term development of a country, whether through connectivity, governance standards, labour regulations, or through encouraging SME and entrepreneurship. Using this wholistic approach, a broad mandate lending institution might approve a project that a traditional lending institution might overlook. Even if the broader mandate lender does not fund the project outright, they might work with the project leads to get the proposal to a point where it *can* be approved. Or the broad mandate lender might suggest revisions, amendments, or modifications to make the project possible to support. Returning to the anchoring concept: in practice, a green light and assurance from these lending institutions sends a signal to others. Their involvement changes the investment calculation for stakeholders on the fence by lower-

ing risk, taking on costs that would have fallen on the other stakeholder, and/or mitigating reputational damage.

There is also a hybrid option. The investment world, particularly in low-carbon, development, and infrastructure projects, is witnessing the rise of special purpose investment vehicles (SPV) and co-financing consortiums between a spectrum of lenders. For example, a recent project that is the work of the European Investment Bank and EBRD, is being coordinated with private banks. These hybrids, together with the lenders, come with their own Principal-Agent relationships. Lenders have reputations to uphold and shareholders to keep happy. Participating countries want to put a best foot forward, but they are also competing for project funding. Firms working with lenders are balancing a desire for cooperation and outreach with their own concerns over risk. These lending actors still have complex objective functions that must be accounted for in the paradigm. For example, the Masrik-1 Solar Power Plant in Armenia is a \$35.4 long-term debt financing project through an SPV. The project is supposed to fulfil the EBRD's own Green Economy Transition (GET) objectives and decrease emissions, while also meeting guidelines set out by the Armenian government's Ministry of Nature Protection. The project is meant to assist with Armenia's power transition and increase the country's renewables potential while decreasing its reliance on natural gas from Russia [21].

The Complexity of the “Local Population” Angle

The body of literature on extractive industries and traditional extractive practices is vague when it refers to “local populations.” How should an outsider or a researcher consider this term? How does the term capture, or not, the value of civil society, which ought to be front and centre in mobilising response to government and external stakeholders? Does this term refer exclusively to resident citizens of the country where the project is taking place? How does it include (or why does it exclude) non-citizen residents, such as expats, migrant workers, and other groups at the local level, who may have more/less interest in the project or more/less power in facilitating or preventing a given project? How does the current label consider non-resident citizens, either a considered diaspora or a migrant worker population living outside the home country's borders?

There are four broad categories for the term “local population,” grouped by two variables: citizen/non-citizen; resident/non-resident. This gives four groups: a resident citizen, which is perhaps the group that most readily springs to mind, and the one most frequently addressed in the current literature; a resident non-citizen, which would be a foreigner who is living and working in the country where the project is taking place; a non-resident citizen, which is a person who is living abroad from the country where the project is taking place, either comprising the diaspora or a migrant worker—this group could also come to include non-resident non-citizens, but people who are part of a diaspora that strongly identify with the “home” country of heritage, despite never having been there or never living there; and finally, non-resident non-citizens, who do not qualify for the “local community” angle, but might be found as actors within the corresponding “external stakeholder” angle. (This group could also be interesting with respect to how it interacts with the local community at community action level, where social networks, friendship, and other connections matter in effecting change.) This is crucial in places like Central Asia, where the remittance money that non-resident citizens provide shape incentives and behaviours of the local population as well as the responses of the state [22]. And crucial in some part of the FSU, like Central Asia and some South Caucasus, are the remittance money that non-resident citizens provide to home. In some parts of Central Asia, remittances account for between 20–30% of GDP [23], which can shape incentives and behaviours.

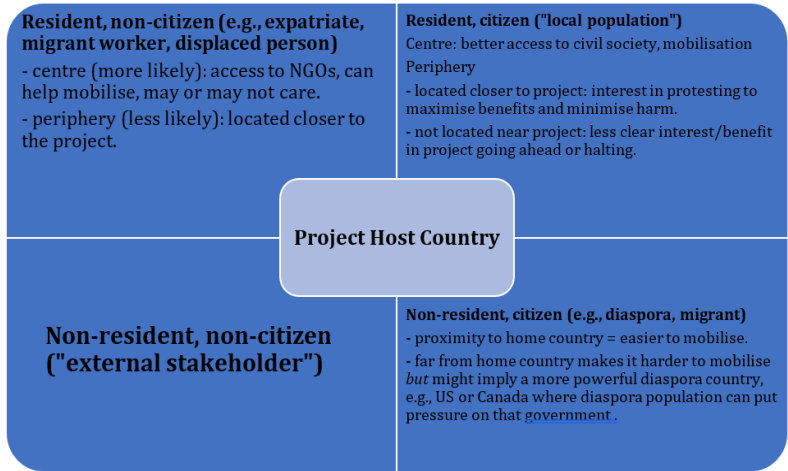


Figure 4: The “local population” angle, expanded.

Citizen, Resident: Local, Central Persons

This is the most obvious group, which is chiefly mentioned in the extraction literature. These are locals whose land, lives, and livelihood are affected by projects—investment, construction, extraction—in their home country. At times, these projects might even impact their immediate region, town, or neighbourhood. The most local population can be impacted in positive and negative ways. On the positive, this population might benefit from labour opportunities; from increased attention (domestic and otherwise) in their region. Depending on the project, the investment and underlying investment could bring new advancements to their area to increase connectivity, like ICT, transport, or energy infrastructure—even basic infrastructure like water [24].

On the negative, projects could bring a lowered quality of environment, from noise, air, or water pollution. Labour might not be distributed to the region. Beneficial infrastructure projects might cut through important natural resources or impact local land, water, or other access and use (e.g., World Bank on air pollution in Kazakhstan) [25]. Once begun, the effects of large projects might be far-reaching and difficult to reverse. For either of these, the most local population might go directly to their local government administration to petition (in the positive or the negative); they might try to apply pressure to the central government by, e.g., travelling to the capital city for singular or extended protest [26]. They also might interact with the outside stakeholders. Local community leaders alone (or in conjunction with local government leadership) might try to meet with NGOs, businesses, or even representatives from organisations.

The next level is a citizen population that is based in the project country and that is not local to the project. This group has some different interests at stake, driven primarily by lack of proximity to the project itself. These are more likely reliant on formal CSO to organise interests for those that fail to realise they have interests; whereas, in local areas, it can be that villages or towns call community meetings without the need for CSO facilitation directly. In this way the community forms a direct relationship with the investor, rather than via a CSO/NGO. The project, regardless of where it is located, still has some effect on this population, regardless of whether they realise it. But this group, too, can be broken into two sub-groups: those that live in large cities (especially the capi-

tal) and those that are in villages, away from large cities, but not close to the project. There is overlap, but also significant differences between the two. Tackling the large city/capital population first: A large city would be a non-capital city that still has a major population centre and is connected. In Poland, this would be a place like Katowice (a major mining region), or Kraków (with more low-carbon and tech start-ups). In Kazakhstan, this would be the difference between Astana (the capital) and Almaty (not the capital, but a major population, financial hub, and cultural centre). Some countries in the region this research covers have only one major city, which is also the capital. Armenia, for example, has only Yerevan, but there are peripheral towns that are major extractive centres. These sub-groups are important because they introduce several important population characteristics.

The capital city holds the seat of government. If there is a place to mobilise to get the attention of the central government—like a sit-in protest outside the prime minister's office, or the offices of parliament—the capital city is the place to be. Capital city residents have access to government. They also have readier access to outside groups, as most foreign governments have their primary representation in the capital city. Most NGOs, lending institutions, and international organisations will also have their primary offices in the capital city. Educational centres are more likely to be found in the capital city. All of this means fewer barriers to protest, or vocalisation of support/dissent of a project. Collaboration in the affirmative or the negative is easier. Grassroots organisation is likely to be easier and more readily available.

Populations in major metropolitan areas that are *not* the capital city are a variation on the capital city. They have similar access in terms of connectivity and knowledge of projects, but they might lack the immediacy of a local on-the-ground population that will be directly impacted, unless it is a project that will impact the country more broadly through a more externalised harm.

Periphery populations are tricky. They might lack a lot of the fundamentals that prompt any sort of action in support or disapproval of a project. They might even be unaware that the project is taking place. If they are aware, they might lack initiative or feel that the situation does not impact them. They might not have the resources for mobilisation, or a call to ac-

tion, or even the ready connectivity that such action requires. On the periphery, there could be few opportunities to make a show of power. This would entail travelling to the project site or the capital city—a hassle and time away from home, which may be deemed not worthy of the expense. There may also be a perception that their involvement is not necessary, and there is no reason to get involved—why bother?

There is a big caveat to this: suppression of protest is also easier in capital cities, and the stakes are higher for the sitting government. Protest might be quashed in particularly brutal or unsympathetic ways. Governments, especially in more fraught countries, might be concerned with regime survival. Dissent for a certain project might be hijacked by more extreme groups or co-opted within a political context, as in Uzbekistan and Tajikistan, where governments have inflated the risk of small factions of extremist groups to make an excuse to ban entire swathes of opposition [27]. On the other hand, capitals offer more social networks for residents to narrow the information gap, mobilise, and promote civil society activity. Each of these matters in terms of changing the decision-making calculations of the governments and the local population. Both actors must consider incentives, payoffs, and risks of acting or not acting.

This paper considers the local population within the paradigm and attempts to expand the small angle. But the full spectrum of variation is much greater. While this is beyond the scope of the paper, it would be a place of further research to try to understand how cultural practices, background, and a sense of agency or denied agency might manifest, as well as how local populations or individual actors might understand their relationship to a given project [28]. Certainly, there is much to suggest that the actions of an individual, or the emergence that arises from the collective action of a group of individuals, has a tough time being boiled down into a paradigm of exchange relations. Still, by exploring the various groups and some of their interests, this paper tries to introduce some of the ways to bring nuance to the “local population” angle and expand it beyond the current definition.

Citizen, Non-Resident Persons

Diasporas are an important mobilising community recognised by their original home countries and adopted home countries alike [29]. There are many reasons why citizens

might be temporarily or more permanently outside of their home country: work, studies, emigration, family are a few examples of non-resident communities. Each comes with its own qualifiers and reasons for engagement (or non-engagement). A migrant worker community might have interests in a project, especially where labour opportunity or regulations are involved [30]. Students could have the education and foreign experience, and community to mobilise abroad to bring attention to an issue at home. A diaspora population from individual or family emigration might very well have more interest and power from abroad given their differing networks, possible higher salary, and outreach options, than a resident citizen population. But a non-resident population would not be directly affected by the project (unless they had family still living in the affected area). Therefore, their incentive for involvement would vary based on personal circumstance or trends. Still, those working abroad are a source of remittances for home country GDP and home connection spending; as such, those non-resident citizens are contributing to the state of constraints which govern the behaviour of other stakeholders, most of all the government and locals.

Non-Citizen, Resident Persons

Absent from the extractive-resource literature are non-citizens who are resident in the project host country. These could be expats, foreign workers, students, spouses, or children of citizens who have re-located, long-term tourists, or even displaced persons. They are likely to be a small fraction of the population, but that does not mean their voice need be small or ignored. Foreigners might be especially vocal and/or feel empowered or capable of exacting change, especially if they are able to successfully use voting, protest, or other means to affect change in their home country. They could be a force to begin inroads with NGOs, especially if those NGOs are from their home country. Non-citizen residents might also, depending on the country, feel secure against equivalent government crackdown that citizen residents might feel. The platform of non-citizen residents might also be larger if they are able to travel to their home countries and mobilise there—an option that citizen residents might lack. The reverse could also be true, Russians in Georgia, for example. They also might be more likely to be engaged by international organisations in the country, such as the UN, the World Bank, or the OSCE.

How should aid organisations be included in this sketch of stakeholders? These various actors, introduced below, could be grouped as organisations providing “aid,” which could include linking with project initiatives and investments. These would include things like Aga Khan Development Network (AKDN), the Gates Foundation, Soros’s Open Society Foundations, but also government-affiliated aid arms like the Canadian International Development Agency (CIDA), the US Agency for International Development (USAID), and the Japan International Cooperation Agency (JICA). These, in turn, are different to International Organisations, like the OECD, which provide best practices for things like lending and public-private partnership. And what about NGOs, often representatives of civil society and civil society issues with a stake—but not an investment—projects.

Aid Organisations

Government-affiliated

Direct, official, state actors, are obvious sources of aid. They operate through bilateral and multi-lateral relationships, high-level meetings, public agreements, and press statements. In addition to these tools, state actors can affect countries’ internal workings through direct aid (ODA) and through government-affiliated aid organisations. Organisations like CIDA, USAID, and JICA are government-affiliated arms that facilitate aid disbursement and project management abroad, including in the FSU and CEE. But these government-aid groups operate differently than a high-level meeting. They are another instrument in the toolbox of governments; their mandate is aid-centric, not government-centric.

Aid missions can act as an element of soft power held by state actors [31]. Like broader mandate lenders above, many projects are in partnership form. Despite contributing to the interests of a state power, aid organisations retain a degree of autonomy. Therefore, they are listed separately. The way that a US government official visits with a host country and its government, promotes the visit’s talking points, and is publicly accountable to that visit, its publicity, and the message it sends, is distinguishable from the operations of an on-the-ground aid agency, which has a mission of aid relief

and local project support. The two can interact, as many elements in this angle do, but they are separate. This also affects their Principal-Agent context. An aid agency could be considered an agent of a principal—the government they represent. Sometimes, the aid organisation and the government will work in tandem as the principal, with overlapping interests, with a local group the agent. The particular context and goal matters.

Like state actors, official government aid has a key role in propelling progress. They often work closely with government organisations to promote the specific elements of policy recommendations. Consider the importance of the US Department of Labour on the issue of cotton slavery and child labour in Uzbekistan: it took a combination of trade regulations and barriers put up by the US trade office, policy recommendations and high-level meetings and visits from the US Department of Labour, and on the ground support for improved projects by USAID to help bring about a change [32]. These are separate ways of addressing the problem, but they work toward a common cause. Each strategy might work separately or together on other angles of the paradigm.

Private Foundations

Outside government-affiliated aid organisations, there are also private organisations and foundations as part of the mix. These are a hodgepodge. In some cases, these are closer to the banks described above, in others more like DFiD and in others like NGOs. The role of government-aid organisations in terms of their financial involvement in certain projects cannot be understated. But other organisations, like the AKDN and the International Development Research Centre (IDRC), the Gate's Foundation, and Soros's Open Society Foundations, among others, are huge contributors. Like government aid, these private foundations come complete with local networks, offices, on-the-ground missions, and regular stakeholder engagement. But the line between public or government-funded work and these private foundations is blurry. Their executive boards might include government representation. Private organisations might have a broad and diverse representation in their team or be quite region or country specific.

The role of private foundations within the exchange relations paradigm is like government-affiliated aid organisations, or

even private companies: conceive an idea, pursue it, and work with the local government and local population to enact that idea. Private foundations are not profit-driven, which distinguishes them from firms. But they are private, which brings in a comparison of agility in movement. Private companies are not bound by the same public actions and accountability to citizens as state actors and international organisations can be. Private foundations also have a great deal of flexibility in choosing the tasks they take on. But back to the relationship: private foundations might have a physical presence in the host country. They might employ citizens in the host country (exclusively or at least in addition to employees from the foundation supporter's primary base). Private foundations can collaborate closely with the host government at various levels without being bound by the same constraints as a state actor. If they so choose, some private foundations also have the resources to work with the local population on a closer level. Within the "external stakeholder" angle, private foundations can cooperate with, share information with, or assist any of the groups mentioned. They might work closely with their home country's aid programme or meet with diplomats from their home country. They might help or a platform to local or international NGOs. Private foundations might even cooperate with select private companies that fit the profile of the foundation's mission.

International Organisations

Mix governments, lending organisations, aid organisations something emerges that begins to approach, but does not reach, non-lending international organisations. An international organisation will not necessarily provide investment money. It will not necessarily be a source of direct political pressure, like a state actor would be. It is not an aid organisation. Nor is it non-governmental, because international organisations are backed by governments and governments have an official presence through diplomatic missions to the organisation. And those governments bring their needs, requirements, and visions to the organisation of choice. In its role, an organisation can set forth a set of requirements a project must follow to receive a certain certification that is favoured by banks (a sort of currency of viability). Organisations are secondary spaces for state actors and lenders to work through, a platform for meetings and discussions that have slightly less focus than bi-lateral meetings and visits, but with plenty of back-room conversations that signal a

country's displeasure of their priorities. International organisations often offer frameworks, best practices, and international norms that other stakeholders can reference in their dealings with project host countries. There can be benefits to joining international organisations—a sort of stamp of approval—while being left out can bring costs. This has implications for the Principal-Agent relationship for members and aspiring members, as well as co-operating stakeholders (and those seeking other avenues).

Within the paradigm, there is a lot of overlap and association for international organisations within the “external stakeholder” angle. But inclusion of international organisations in the broader paradigm also impacts the host government and the local population. Starting with the host government: membership in the international organisation can bring certain benefits, like increased FDI [33]. This, among other benefits, can be a highly incentivising tool to socialise a country to meet certain standards and requirements within the extractive infrastructure project goal [34]. The World Bank, World Trade Organisation (WTO), and World Health Organisation (WHO) have put out extensive reports detailing the role of connectivity and membership in facilitating better cooperation between member states and potential member states [35]. Aside from this, once a member, the platform to facilitate complaints, vocalise concerns, or help set and contribute to the priority agenda is vital to a government to act out its state-ness [36].

The local population can also feel the effects of membership, non-membership, or the membership accession process. They can support or refuse a membership. Should they support membership, the local population can rally in support of membership and/or vote politicians into power. The local population could also protest a membership of which they disapprove. Once a member, the local population has a place and list of things to keep the government accountable. They also have a place of recompense where they can plead their cause (e.g., The World Bank's International Centre for Settlement of Investment Disputes), should the host country government be unable to effectively redress or even address their complaints to begin with.

Non-governmental Organisations (NGOs)

The final group in this bracket is non-governmental organ-

isations (NGO). Like private aid groups, NGOs are tricky to pin down. A defining feature of NGOs in this paradigm of exchange relationships is how broad the variation can be among the NGOs at the country-to-country and regional levels. They overlap with the previous groups while being separate from these groups. They are not investors: some are not investing in projects. Indeed, most operating in the FSU and CEE space represent civil society interests of one form or another, especially the interests of the local population. These are not lending groups, though they can facilitate funding from private donors and act as a conduit for grants and loans. They are not government organisations, though some might receive funding from one or more governments or apply for specific government grants to fund their cause. They are not international organisations, though they might cooperate with international organisations, or their purpose might be to champion the findings or policy recommendations from one or more international organisation. An NGO might be specific to a country, and not exist anywhere else. Another might exist in a handful of countries with a commonality (e.g., the Black Sea NGO Network (BSNN) or the South Caucasus Network of Human Rights Defenders). Still another might be present in the entire region, and even in regions not covered by this research, as part of a global goal of outreach on particular subjects, for instance, climate change or human rights.

Even within NGOs, there are three groups to consider: external NGOs (international), local NGOs, and hybrid NGOs, with a local-external crossover or cooperation. Like some of the groupings above, the distinction between each impact how the NGO will relate to external stakeholders, the government in the host country, and the population of the country affected.

External/International: Doctors without borders. Oxfam. Greenpeace. Human Rights Watch. International Rescue Committee. These are some immediately recognisable names of international NGOs. Each has its own focus or a combination of issues it addresses. There is no shortage of NGOs—big and small—focused on energy and extraction. (There are fewer focused specifically on “infrastructure,” but plenty that address ecological issues more broadly, many of which are impacted by infrastructure.) NGOs offer some of the slickness of private groups with the reach and mobility

of government-led groups. They can be agile, but their networks are extensive. They usually have the benefit of having a large number of volunteers at their disposal to mobilise on a certain issue. The volunteer aspect also lends credibility and brings a passion to the work. It is more than just a job. The optics of NGOs tend to be quite good—better, usually, than governments and without the self-serving deliverance of private companies.

In the exchange relations paradigm, NGOs play a vital role. Few NGOs “side” with private companies—at least certainly not those deemed to be soulless. And where the environment and development issues are concerned, NGOs tend to side more with “progressive” issues. Still, NGOs will collaborate with private companies, international organisations, and even state actors. But more important, one must consider the way NGOs interact with the local government and with the local population as well as when NGOs can become potential investors. There are many incentives at play here: governments might try to align with NGOs they perceive to be popular on issues. Governments might also try to influence NGOs into adopting strategies/policies that align with government preferences. The same applies for big international funding organisations. NGOs themselves are agents to the principals—donors, philanthropists, and head offices.

Local NGOs: Local NGOs can be grassroots organisations or even local government led. Beginning with grassroots level: Local NGOs will be organised by the local population. They can be small but mighty, and they are very driven as the issue or project affects them directly. They also know the country’s ins and outs, its mobilising networks, and they should be more aware of the laws governing NGOs in the country. Rules on domestic NGOs will vary from country to country.

At the government level, the government can create official NGOs. These have the benefit of government support and can act efficiently outside the country’s borders. These have the downside of being government-directed, and so their focus might compliment, rather than challenge, the official government line on a topic. Both groups of local NGOs could be places where the local population could turn to assist with a complaint or with a project they want to see go ahead. Here, the Principal-Agent relationship can take many forms, depending on context, some in which NGOs act on behalf of

the local population, which are also financed by an organisation affiliated with a foreign government (like USAID); and some in which NGOs can act on behalf of the local government. For their part, NGOs can gain or lose reputation for effectiveness, funding to expand their project outreach, if they have a mission, and influence.

Hybrid NGOs and Other Combinations: Hybrid is the space for external-local cooperation. This could take the form of a large international NGO that has an on-the-ground office, employing residents, as part of its mandate within the country. It could also be a situation where a small, local NGO is cooperating with a larger external NGO that does not have a presence in the country, or who has presence in-name-only, with no large team or field office. This secondary cooperation could include funding. The hybrid model is tricky in countries where NGOs are less welcome. The extent and embeddedness of civil society in different countries can function as a conditioning factor to predict the success, failure, or influence of NGOs; for example, Kyrgyzstan, which has a highly active civil society, is home to many more influential NGOs than a country like Tajikistan. This can also be impacted by other factors, like geographic location, accessibility, and connectivity. Some governments, like Russia, have enacted “foreigner rules,” and these can extend to foreign cooperation, as famously done in Russia in the 2010s or Hungary in 2017—laws that have been replicated in other countries, through foreign declarations, tax laws, and other means [37].

Rethinking the Paradigm

The three angles of the triangle do present an attractive paradigm. So far, this paper has outlined their use, explained their internal complexity, and introduced directions for expansion. As introduced at the outset, the Principal-Agent relations are complex around major project investments. This research is outlining it in this way because by rethinking this I can show you a holistic picture of these exchange relations around one or more *stakeholder events*. Returning to the Rio Tinto mine in Serbia from the introduction: How could one make sense of this? Within the classic triangle, we have the government (Serbia), the local population (Serbian population protests), and the investor (Rio Tinto). It looks something like this:

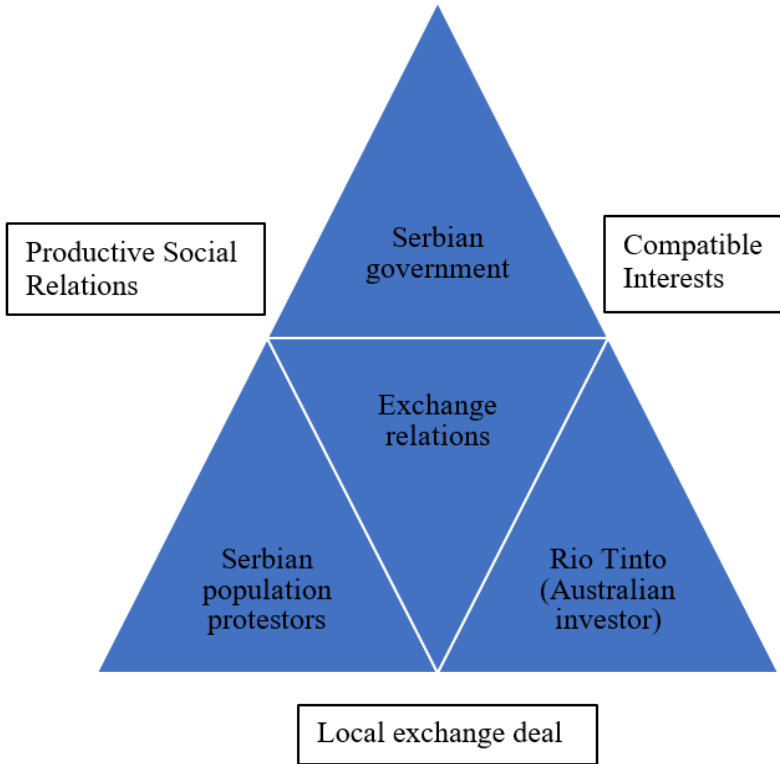


Figure 5: The mining deal through the triangular paradigm using the triangular paradigm of exchange relations among stakeholders found on p. 6 in Buur et al., which the authors note draws on Korten (1980); Whitfield and Buur (2014); Whitfield et al. (2015), and Buur (2015).

How do we introduce the EU-Serbian context? Or the green groups that joined and helped mobilise the Serbian population protests? Where does the Chinese project enter in, and the general competition between the west and China for dominance in the Balkans? There was no “local exchange deal” between Rio Tinto and the Serbian population, but the population went to the government to protest, not Rio Tinto. Though there were compatible interests present between Rio Tinto and the Serbian government, the deal broke down.

The Principal-Agent approach frames this differently. At the outset, it seemed as though the Principal was Rio Tinto, a powerful and wealthy western mining company. Or the EU interests in gaining an edge over China would triumph. Even the Serbia government had lots of gain by courting local regional companies and accepting cash to salve its budget

woes. But in the end, the Principal was the Serbia population and the pollution concerns of the green groups that won out overall. Considering previous literature on the changing landscape—figurative and literal—and interactions of local population with these larger projects, this makes sense (for now). Since Rio Tinto has legal means at its disposal that it could pursue, a sketch of the situation looks like this:



Figure 6: The outset of the mining deal.

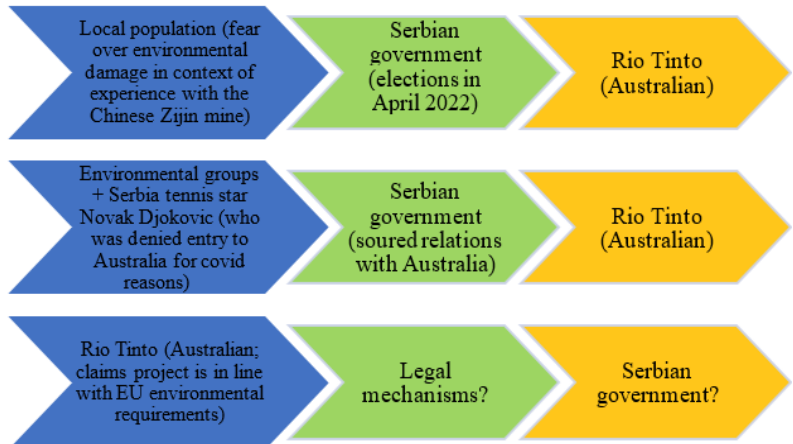


Figure 7: The end of the mining deal.

The saga is ongoing. Rio Tinto might appeal to legal mechanisms—rule of law and property protection—to uphold the deal. The Australian company could also put pressure on the EU by using the threat of Chinese influence in the Balkans. The new Serbian government, which did not want to face elections against the scenes of road blockades and accusations of putting foreign money above local issues, might back down and re-issue the license now that election season is over. The environmentalist groups have promised they will keep protesting until all lithium mining is banned, and less dedicated local groups might shy away from such extreme

claims. The context changes, and the actors respond to the new context, as illustrated by the Principal-Agent paradigm.

Conclusion: Just the Beginning

Each of the angles in the original triangular paradigm contains its own micro-biome: diverse groups interact within it, thereby creating a unique climate. Similarly, each of the groups interact separately with the other groups within the corresponding angle. This is important because broadly, the interaction between the government and investor indicates one type of relationship/interaction (as in Buur et al., who detail these interactions). But an interaction between “central government” (contained within the “government” angle) and “western-based company” (contained within the expanded “investor” or “outside stakeholder” angle) could result in different dynamics and outcomes.

Different variations could even pit sub-groups against each other: an unpopular local project with highly localised ecological damage but a high payoff for the company and country coffers might yield a divide between a central government (“elite/government”)-company (“external stakeholder”) alliance against local administration (“elite/government”)-western-NGO (“external stakeholder”)-international organisation (“external stakeholder”)-locally-based population and diaspora population (“local populations”) groups. At this point—which group emerges as the victor? Does success in these relationships become a matter of stacking up how many allies each side has? Does one group or sub-group have the final say in a project’s success or failure? In other words, under what conditions are actors in projects, with power, constrained to act in efficient ways or even in the public interest? These are questions subsequent research will address, explore, and respond to with help of the framework.

This paper has made an argument to expand the triangular paradigm of exchange relations that is found in the resource extraction literature in line with calls to bring more cohesion to the paradigms researchers use to understand the growing stains of literature on extraction in the present era. As a part of this argument, the paper has laid out the spaces for expansion, such as the real parameters, constraints, and the complexity of the relationships, which are often overlapping. The paper has begun to explore, within these actors,

groups, and relationships, the incentives, and barriers to act within the dynamic political economy model that underpins the project vision, completion, and success or failure. As a part of these three goals, the paper has named and detailed the various parties to a project, and the ways each of those groups relate to the project and relate to the other angles of the exchange relations among government, population, and external stakeholders. It has identified places for further research in the individual actions and motivations or group dynamics that would require more in-depth ethnographic, anthropological, or case-study work, which is unfortunately beyond the scope of this paper.

If this paradigm is to be adaptive to the new low-carbon situation, researchers and policy makers could consider swapping out the term “investors” for “external stakeholders” to reflect the wider variety of non-company actors that play such a vital role in project vision, funding, and completion. A place needs to be found for NGOs. The paper has articulated the underlying complexity of the simplified triangular paradigm. It has explored whether that simplified paradigm might prevent researchers from understanding how the world works in specific contexts and/or whether there are other conditions and parameters in which the simple version might not be the most efficient choice. It has suggested a Principal-Agent relationship paradigm as the least constrained, most generalisable way to consider the relationship among stakeholders, even within inner-angle relationships.

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THE RISE OF THE AUTOCRATIC TIDE: AN IN-DEPTH ANALYSIS OF CHINA'S POLITICAL EVOLUTION IN THE 21ST CENTURY

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Abstract

This paper explores the gradual yet significant shift towards autocracy in China during the 21st century by drawing from theoretical literature on autocracy and China-specific studies. After identifying the key drivers of this transformation, the research concludes that Hu Jintao was primarily responsible for reversing China's democratic transition while Xi Jinping accelerated authoritarian backsliding, which contradicts the popular view among Sinologists that the latter is solely to blame for both phenomena. To determine this, special emphasis was placed on domestic economic and socio-political changes and power consolidation within the Chinese Communist Party during Hu's and Xi's tenures, comparing them with the relatively neoliberal policies implemented by their predecessors. Therefore, this paper also shows how the China-specific case study contributes to existing theories about authoritarian consolidation and democratisation worldwide. In doing so, it addresses the once-prevalent, misguided view that China would politically evolve like South Korea and Taiwan instead of pre-World War II Japan and Turkey, and determines that increased geopolitical relevance often instigates, instead of hinders, authoritarianism. The latter contribution is especially salient as the causes of authoritarian backsliding have not yet been explored extensively by the academic community.

Introduction

China's evolution from economic backwater to superpower has stunned experts not only in its meteoric growth, but also its authoritarian consolidation since it was largely expected to democratize. Therefore, they have sought to examine why this happened, with many attributing it to Xi Jinping's accession in 2012. Such predictions highlight a wider assumption within the existing scholarly literature: that autocrats will eventually grant their citizens more civil liberties. This assumption has exacerbated the dearth of literature on au-

thoritarian consolidation. This paper will make two main contributions; the first is a China-specific case study, which comprises arguments that Hu Jintao was more responsible for China's backsliding than most critics currently acknowledge, focusing on his authoritarian economic and internal security policies, whilst also emphasising how Jiang Zemin's authoritarian tendencies in the cases of succession and the social credit system are largely overlooked. This analysis is also pivotal as it indicates how China will continue to evolve politically, which will have global impacts given its sizable economic and political capital. The second contribution addresses how China's backsliding serves as an example for authoritarian consolidation generally, arguing that internal uprisings and increasing power abroad can significantly precipitate this. This paper constitutes an important contribution to the debate on how increased authoritarianism around the world might impact global affairs in the 21st century.

Methodology

This paper will use qualitative methods to extract data, with a specific focus on using articles found on JSTOR and Google Scholar, in addition to press statements from the Chinese Communist Party (CCP). The paramount strength of this research effort is the breadth of the range of papers which were analysed, both regarding the authors themselves and their viewpoints, which was made possible due to the free access to the websites. Additionally, many of them were written by experts and subsequently fact-checked, thus ensuring that the empirical evidence obtained to write this paper is factually correct, a view which is corroborated by Jensenius "the benefits of GS [include] the reliability and consistency of its citation counts" [1].

This paper largely avoids synthesizing data from blog posts, news articles, or opinion pieces, to maintain the quality of information the paper, although it took quotes from interviews which were uniquely conducted by these outlets. Typically, these sources are not reviewed to the same extent and are presented to persuade, not inform, as demonstrated by Otto: "concepts like soft news or infotainment lack conceptual clarity" [2]. However, the number of papers regarding the conditions for general authoritarian consolidation are limited; consequently, this paper's contribution on the subject is written without derivation from other sources.

Having explained the specific advantages of this paper's methodology, the exact research process will be outlined. After compiling a list of articles which have related titles to the topic at hand, they are thoroughly reviewed, and any relevant arguments and supporting facts are typed and added to the case file. Common themes and conflicts between them are identified, and the latter are explored further until one side appears to be more convincing than the other. This is often determined by finding that a source 'cherry-picks' its evidence to make its argument more convincing—excluding data which undermines it [3]. These flaws are thus addressed in this paper while the common themes are briefly stated, a crucial part of its overall contribution. However, due to the opaque nature of the CCP's affairs, it is relatively difficult to determine precise details of certain events mentioned in this paper, such as the internment of the Uighur population. Therefore, estimates based on drone footage, eyewitness accounts, etc. are used instead, thus mitigating the impact of a challenge to this research process.

Literature Review

A popular view in the relevant scholarly literature is that Hu Jintao followed in the footsteps of Jiang Zemin and Deng Xiaoping by liberalizing the economy and granting China's citizens greater political freedoms, and it was Xi Jinping who initiated authoritarian backsliding. Some of the criteria are assessed to support this view; papers such as Shirk's *China in Xi's "New Era": The Return to Personalistic Rule* heavily emphasize social reforms in particular, and frequently point to the introduction of Xi Jinping Thought (XJPT) and curtailment of freedom of expression as evidence [4]. By contrast, other papers primarily analyse the structure of Chinese leadership, and the mass purges during Xi's 'anti-corruption' campaign and his abolition of two-term limits on his presidency are often referenced to this end [5]. To buttress this argument, most of them also note that Hu launched the most ambitious intra-party democracy campaign and gave significant responsibilities to senior members of the Chinese Communist Party (CCP). There are also papers such as Sinkkonen's *Dynamic Dictators: Improving the Research Agenda on Autocratisation and Authoritarian Resilience*, which incorporate both aspects in their assessments [6].

However, there is relatively little focus on Xi's domestic economic reforms, which this paper argues is due to their case

being weakest by this metric. Of course, there are exceptions; it is briefly addressed in Tsang's *Has Xi Jinping Made China's Political System More Resilient and Enduring?* and Whyte's *China's Economic Development History and Xi Jinping's 'China Dream': An Overview with Personal Reflections*. These point out that Xi significantly increased subsidisation and warned private companies that they must 'obey the Party' if they wanted to keep their dominant economic positions, among many other measures [7].

Conversely, experts such as Dan Blumenthal have argued that authoritarian backsliding began under Hu whilst largely agreeing that it has accelerated under Xi; yet they place a disproportionate emphasis on China's assertiveness abroad instead of the underlying increase in political and economic control to prove this [8]. Nevertheless, they argue that while Hu did advocate for more intra-party democracy, the neo-Marxists ended up emerging victorious from these efforts. They demanded not only greater state intervention in industry (which these scholars mainly highlight by referencing Hu's large subsidies for 'strategic' sectors) but also a return to Maoist crackdowns on dissent and personalistic rule.

Guo's *China in the Twenty-First Century* and Xing's *Hu Jintao's Political Thinking and Legitimacy Building: A Post-Marxist Perspective* further detail how Hu implemented the neo-Marxist economic agenda; namely, by slowing down the privatisation of China's manifold state-owned enterprises SOEs [9-10]. Additionally, papers such as Taylor's *China's Digital Authoritarianism* and Brussee's *Social Credit: The Warring States of China's Emerging Data Empire* reference the inflection point of social repression that occurred under Hu's, and to a lesser extent Jiang's, tenures [11-12]; Lim's *Explaining military reforms under Xi Jinping: military effectiveness, power consolidation, and party-military relations in China*, Wei et al.'s *Layering Ideologies from Deng Xiaoping to Xi Jinping*, and Choi et al.'s *From Power Balance to Dominant Faction in Xi Jinping's China* give a host of reasons why Hu initiated centralisation of power to a considerable extent [13-15]. Moreover, those who propose that authoritarian backsliding began under Xi tend to overlook Hu's adamant resistance to greater liberalisation, which is epitomised by his censorship of Wen Jiabao's (his own premier's) advocacy for an independent judiciary and more public input into government affairs [16].

The answer to when and why China experienced authoritarian backsliding in the 21st century has become more relevant than ever. As China becomes increasingly dominant on the world stage, its domestic policy will have ever more ramifications for global economy and security. For example, the championing of Chinese (SOEs) by the CCP will deepen animosity between China and defenders of free trade (primarily the United States). Moreover, greater centralisation of Chinese political influence can lead to more policy blunders, as shown by the economic downturn following Xi's restrictions on the property market in the form of the 'three red lines' and his 'zero covid' campaign, which have created sizeable dents in global trade. Since there is still a moderately powerful pro-Hu bloc within the CCP, determining its stance on authoritarianism would be helpful to forecast potential support for autocratic proposals and their possible codification into law. China's authoritarian backsliding also holds significance as a case-study for a similar global trend, to demonstrate why and how it happens, and hence provide solutions on how to mitigate it.

The latter contribution is especially important due to the lack of existing literature on the subject, as there is an underlying sense of optimism in the relevant scholarly literature that authoritarian regimes will eventually become democratic. Moreover, most contemporary literature on authoritarian backsliding focuses on democratic countries, such as the United States and Germany, which they attribute to growing populist neo-nationalism among the public due to free trade [17-18]. These will not be analysed in this paper as their theses are largely irrelevant to the China-specific case study: China has no democratic framework, and its working class has benefitted from the rise of globalisation. Ben Rhodes argues on Stanford's *World Class* podcast that autocrats tend to consolidate their power when they are given excuses to do so, as shown by Vladimir Putin's cancellation of governor elections after the 2004 Beslan attacks, citing a 'war on terror' [19]. Similarly, Hu used the Jasmine Revolution as justification for increased surveillance on the Chinese public, and Xi eliminated many of his rivals, including Bo Xilai and Zhou Yongkang, from the CCP on dubious charges of corruption. Another cause for China's authoritarian backsliding—which is currently under analysed—is China's growing power, as it can now violate civil liberties with impunity from the international order. This is particularly pivotal because

it contradicts the conventional theory that integration into global economy generates state wealth and therefore democratisation, which was evidenced by the political development of South Korea and Taiwan. Arguments against this supposition are presented in Johnson's *The Democratisation of South Korea: What Role Does Economic Development Play?*, Nilsson Wright's *Contested Politics in South Korea*, and Auklend's *What factors facilitated the democratisation in Taiwan?* [20-22]. They instead show that countries become more authoritarian if they keep their citizens happy, something which is proven in the China-specific case by Cunningham et al.'s *Understanding CCP Resilience: Surveying Chinese Public Opinion Through Time* [23]. Ambrosio's *Beyond the Transition Paradigm: A Research Agenda for Authoritarian Consolidation* also points out that other countries can influence authoritarian backsliding through economic incentives.

This paper acknowledges that China has always been a Marxist-Leninist autocracy in name; no Chinese leader has altered Mao's label of China being a "democratic dictatorship" [24]. On the economic front, Mao Zedong's plan to journey along the "long road to socialism" was directly echoed by Deng Xiaoping's plan to "uphold the socialist path", and all subsequent leaders have pledged to follow "socialism with Chinese characteristics" [25]. Nevertheless, this paper classifies the fact that Deng, and to a lesser extent Jiang Zemin, implemented capitalist policies and allowed more public participation in politics, as liberalisation of China in practice. At some points, Deng even contradicted these socialist principles by postulating that "as long as the cat catches mice", "it does not matter whether the cat is black or white" (i.e. irrespective of what economic system China adopted). Conversely, the reversals of such liberal attitudes, mostly under Hu Jintao and Xi Jinping, are defined in this paper as authoritarian backsliding even if their ideologies have remained constant in name, and this paper therefore uses several metrics to measure such backsliding.

The first is economic, most clearly evidenced by the extent of state-owned enterprise (SOE) domination of the economy, which will be examined in this paper by assessing subsidisation and their market share. As this is a relatively contentious measure to assess, this paper argues that restricting businessmen from achieving prosperity—said prosperity being accomplished via free and competitive engagement with

their peers—is fundamentally autocratic in nature. Authoritarianism can also be assessed by analysing social policies, such as restrictions on civil liberties and glorification of the Chinese leadership. Lastly, centralisation of power, whether through increasing a leader's number of allies in government or decreasing the number of overall decision-making staff, is a significant (and arguably the most important) indicator of authoritarian backsliding. After these three areas have been evaluated, this paper will conclude that while Xi Jinping accelerated authoritarian backsliding, Hu Jintao, and in a few areas Jiang Zemin, were the leaders who initiated it.

To summarize, the overarching contribution of this paper is twofold: it emphasizes the work of those who believe that authoritarian backsliding happened under Hu, which is largely overlooked in the status quo, and points out the flaws of some of those who hold the conventional stance that overwhelmingly blames Xi for it. Moreover, it outlines what resources will be used to examine why authoritarian consolidation happens generally, with several case studies in various countries, something which is currently under analysed. Further reading on the empirical chapter includes *Hidden Hand* by Clive Hamilton and Mareike Ohlberg, which details the internal politics of China, and *Getting China Wrong* by Aaron Friedberg, which expands more on why China did not democratise. In addition, Cheeseman et al.'s *The Rise of Authoritarianism is Misunderstood – and it Matters* expands more on the nature of authoritarian consolidation in general.

Empirical Chapter

Sinologists such as Elina Sinkkonen correctly point to the flurry of policies that Xi implemented to centralise his power as evidence that he was responsible for authoritarian consolidation. To this end, one of his strategies was reducing the number of people involved in CCP decision-making, as demonstrated when he dissolved eight ministerial-level bodies and seven vice-ministerial-level ones to introduce 'consultative democratic' measures which strengthened executive authority. Moreover, he reduced the control of those remaining; whilst subnational expenditures had grown from 45% in 1981 to 85% in 2013, Xi rapidly reversed this trend during his 'anti-corruption' campaign, citing debt concerns alongside this [26]. He has created Central Leading Groups to overrule existing institutions, and diluted the premier's power, nota-

bly by taking the position's power over economic decision-making for himself. Such consolidation was also present in the judiciary; he prevented local CCP figures from electing judges, reserving that right only for central or provincial CCP authorities [27]. This trend continued to the top of the CCP, as Xi designated himself as 'core leader', a role which Hu had never assumed [28]. In a similar vein, many experts repeatedly reference Hu's attempts to introduce greater intra-party democracy. This included expanding the number of officials involved in foreign policy such that the Ministry of Foreign Affairs' role in decision-making was diluted, allowing senior CCP figures to govern policy and build patronage networks.

Xi also consolidated power by filling CCP positions with loyalists. Out of the seven members of the Politburo's Standing Committee, four are affiliated with Xi and one with Jiang Zemin (whose faction is pro-Xi). His accolades also occupy lower echelons of the Party, and by the end of his first term, they fill 56% of Politburo seats, 42% of provincial Party secretaryships, and 26% of provincial governorships. By contrast, Hu's supporters made up a mere 33% in the four tiers of government by the end of his tenure, and had half the Standing Committee seats as Jiang did in 2007, although Hu had far more allies in the lower ranks than Jiang ever did [29]. Xi's success can partly be attributed to his deposition of the third most senior CCP official, Zhou Yongkang, in December 2014, which deterred Party members from resisting his changes.

However, many Sinologists also cite Xi's decision to ignore the previous CCP constitution and stand for a third term as evidence that he initiated autocratic backsliding, an assessment which ignores the nuance around the reasons why other leaders had stood down. The other leaders, particularly Jiang Zemin, had displayed tendencies of bending the term limits themselves, since Jiang served thirteen years instead of the customary ten as China's General Party Secretary, and Hu Jintao held a seat at the Politburo Standing Committee for twenty years, half of which he spent as Secretary. Moreover, Jiang had even resisted the transition of power after his thirteen years in office ended in 2003, especially by retaining his positions of Chairman of Central Military Commissions of the CCP and PRC until 2004 and 2005 respectively [30]. Indeed, this subsequent domination of party affairs got to the point where the *South China Morning Post* commented "a new era has begun... it is not that of Vice President Hu

Jintao... it is a new era of President Jiang Zemin". Experts such as Lea Shih have even suggested that Deng Xiaoping successfully extended his own 'term limits' as he was able to nominate both of his next two successors, thereby securing his influence within the party, and having enough allies to remain the *de facto* leader afterwards [31]. While this evidence proves that Xi has certainly solidified his power within the CCP to an unprecedented extent, it demonstrates that the past three Chinese leaders had also made similar, albeit smaller, manoeuvres to cling onto power.

Hu Jintao's stance did not warrant the optimism of many contemporary experts that China would democratise, just as South Korea or Taiwan had [32]. When Wen Jiabao, Hu's premier, argued that an independent judicial system and allowing anti-government criticism would ensure that power "truly belongs to the people", only 23 party elders supported him, and Hu quickly censored these ideas [33]. Additionally, whilst Hu had not controlled the Party with the same authority as his predecessors, he formalised party interference in the People's Liberation Army (PLA) for the first time, allowing party members to override commander-issued orders regarding military affairs [34].

Scholars such as Keyu Jin typically point to Xi's extensive government purge, one of the most drastic in human history with 2.3 million CCP officials being removed by 2022, to demonstrate that Xi initiated China's authoritarian backsliding [35]. Even though this figure is likely to have been inflated in party records to display Xi's influence, purging a number close to that is staggering. The casualties included several high-ranking officials aside from Zhou, such as Bo Xilai (minister of commerce and Hu's likely would-be successor), Xu Caihou and Guo Boxiong (vice-chairmen of the Central Military Commission, or CMC), and Ling Jihua (Director of the General Office of the CCP under Hu) [36]. Xi's control is so strong that he had Hu himself removed from the 20th Party Congress, and attempted to downplay tributes to Li Keqiang, the former pro-Hu premier, after his death. Hu's investigation of 1.53 million officials is not comparable to this, but he also went after high-ranking members including Zhang Wenkang (the health minister) and Meng Xuenong (the mayor of Beijing) [37]. More importantly, the fact that no significant government purges had happened under Jiang shows that Hu set a precedent for Xi's actions.

Ironically, Hu's campaigns for greater intra-party democracy resulted in the rise of the neo-Marxist faction, who called for greater social and economic authoritarianism. Of course, civil liberties had been brutally suppressed before either Hu or Xi came to power; for example, Deng had called for censorship since the early 1980s and approved the Tiananmen Square massacre, and Jiang began construction of the 'Great Firewall' in 1998.

Despite this, the general trend of Deng's and Jiang's tenures was that of 'resilient authoritarianism' by allowing the promotion of civilian grievances through village elections, civil society activity, and legal adjudication, and they created appropriate policies in response. Hu had initially followed in their footsteps to the point where the year 2008 was appreciated as the zenith of Chinese civil society, and had pledged the previous year that "citizens' participation in political affairs [would] expand in an orderly way." [38]. However, when the calls for free speech and more accountability for local officials grew too loud for his liking, Hu reversed the party's stance on 'consultative democracy' towards the end of his term since he feared that the people would eventually ask for concessions that would undermine the CCP's supremacy [39]. In addition, the democratic revolutions of the late 2000s-early 2010s in the Middle East and Central Asia made Hu believe that the Chinese public would attempt something similar, as they did during the Jasmine Revolution. Hence, he appointed Zhou to carry out sweeping autocratic reforms, from improving internal security apparatus to changing court procedures.

Hu Jintao's attitude is also evidenced by his media control, particularly when he faced criticism for his response to Tibetan unrest, the Sichuan earthquake, and the melamine milk scandal. A prominent turning point was when Hu silenced local human rights activists in the lead up to the 2008 Beijing Olympics, as shown by the jailing of demonstrators Yang Chunlin and Hu Jia, to reduce the international attention on its checkered human rights record, setting a precedent for other authoritarian measures [40]. These included new restrictions on journalism and more severe punishments for those who violated them. He then launched a campaign in 2007 to 'purify the internet' which led to the formation of the Ministry of Industry and Information Technology a year later, which is still responsible for online censorship to-

day [41]. His use of propaganda and ideological education was more extensive than Jiang's as well, encompassing initiatives like the "Eight Honors and Eight Shames" and the "Core Socialist Values" [42]. Moreover, whilst authors such as Sinkkonen wrongly label the social credit system as Xi's initiative—which rewards pro-Party behaviour with financial gain—it was under Jiang Zemin's tenure that the initiative was conceptualised, in line with his remark in 1995 that the CCP needed to "accelerate realizing the informatisation, automation, and 'intelligenti-sation' of economic and social management." [43-44]. Meanwhile, Hu had significantly expanded the system from various local pilot schemes to a nationwide one, whilst also adapting it to distribute social services based on the rating individuals received.

Xi has certainly carried out more authoritarian social reforms, such as prohibiting media and classroom discussions of universalism and the historical mistakes of the Party. In 2016, he even ordered the news organisations Xinhua, People's Daily, and CCTV to pledge loyalty to the Party, and even himself [45]. He has also made unprecedented interventions in the everyday lives of Chinese citizens, cracking down on the use of cryptocurrency, youth gaming, celebrity culture, and 'sissy men'. This only proves that Xi's authoritarianism is not a rejection of Hu's legacy, but rather a more extreme embodiment of it. Such social authoritarianism is also reflected in the cults of personality which these leaders build. In this sense, titles such as Shirk's *China in Xi's "New Era": The Return to Personalistic Rule* are partially misleading, since Hu's leadership had initially moved towards personalistic rule, even though Xi's had lurched towards it. For example, 4% of Hu's speeches during his tenure highlighted his ideology, 'Scientific Outlook on Development', whereas only 1% of Jiang's speeches mentioned his 'Three Represents'. In Xi's first term alone, Xi Jinping Thought (XJPT) was referenced as much as Maoism (i.e., 4% of speeches) and it has since been added to ideology textbooks; some analysts even predict it to be as influential as Maoism or Dengism. Xi's acceleration of ideological control is also evidenced by his demand that party members learn XJPT by heart and that copies of XJPT be distributed to schools, businesses, and other public areas, displaying a cult of personality which no other leader had shown since Mao launched his 'little red book' containing his own political proverbs [46].

Hu's increase in personalistic rule from Jiang's era, and Xi's acceleration of such control from Hu's tenure, is also shown by the content of their respective ideologies. Whilst the closest thing to social control that Jiang advocated for in his 'Three Represents' was to 'represent the orientation of advanced Chinese culture', Hu declared in his 'Scientific Outlook on Development' that he wanted to 'continuously improve people's ideological and moral quality', and Xi's first of his 'fourteen achievements' in XJPT is 'ensuring Communist Party of China leadership over all forms of work in China' [47]. The increasing personalistic rule of each Chinese leader is also complemented by a plea to Chinese citizens to embrace 'struggle', which is often correlated with authoritarianism as the CCP uses societal issues as excuses to consolidate its power, and these calls increased under Hu to Maoist levels for the first time [48].

By contrast, although all three Chinese leaders demonstrated authoritarian responses to human rights, Xi took an unprecedented hardline stance when it came to repressing protests and minority freedoms, prompting Xu Chenggang to say in an interview with *The Guardian* that Xi is presiding over a 'comprehensive shift from authoritarianism to totalitarianism' [49]. Even though Xi's actions are difficult to assess due to the lack of CCP data on this subject, forcing this paper to rely on eyewitness accounts, drone footage, and the estimates of others, the conclusion from these is somewhat clear. For instance, punishments including torture, organ harvesting of prisoners, and sudden disappearances had always occurred in periods of unrest.

Whereas Jiang and Hu Jintao had subjected thousands of prisoners to these measures when responding to riots in Urumqi and Tibet and persecuting the Falun Gong, Xi has introduced the notorious Uighur 're-education' camps, which house an estimated 1.8 million people. In Hong Kong, Xi's predecessors avoided the question of universal suffrage and implemented a few changes to the city's Legislative Council. Xi flatly rejected genuine universal suffrage (by forcing all voters to elect Beijing-approved candidates as Chief Executive) and attempted to implement draconian policies such as the Extradition Bill and the National Security Law. Moreover, Xi was able to use novel technology, notably artificial intelligence, to censor and monitor his citizens more effectively than his predecessors.

Authoritarian backsliding under Hu was most evident in his economic policy, even though many experts maintain that Hu used socialist rhetoric to promote Deng's capitalism [50]. Not only was privatisation terminated, the CCP also heavily subsidised 'national champion [SOEs]' to compete with foreign companies, favouring SOEs in regulatory measures. Although several pro-Hu academics observe that the share of SOEs in Chinese business dropped to 5%, this is a largely irrelevant measure to assess their control, and their combined output remained at 26% regardless. Hu's attitude was partly a response to public support for Lang Xianping, a Hong Kong-based professor who denounced Chinese free markets by pointing to the draining of state-owned assets [51]. Lang's broad support can be attributed to widening economic inequalities in China under Deng and Jiang, which many blamed on the idea that 'some people [should] get rich first'.

During his tenure, Xi Jinping has gradually pivoted away from such tenets of Deng's policy, primarily by advocating for 'common prosperity' instead. This has also been reflected in his policies; he has increased the dominance of SOEs by removing the upper limit on the number of private firms that they can buy and given \$900 billion to businesses with 'strategic value' [52]. This is paralleled by his crackdown on large private firms such as Alibaba and Tencent, which forced the latter to spin-off into six different divisions and its founder, Jack Ma, to go into hiding. Not even foreign companies have been safe, since his personnel have also raided the Chinese offices of Mintz Group, Capvision, and Bain on 'national security grounds'. Therefore, this chapter confirms our initial stance that authoritarian backsliding mostly began under Hu and occasionally Jiang but was significantly quickened under Xi. Most notably, Hu began a widespread media crackdown, made his rule more personalistic than his predecessor's, and strengthened the state's economic control, whilst Jiang extended his term limits and formulated the social credit system. By contrast, Xi began to repress protest and centralize his position within the CCP more than his predecessors did, although he expanded on many of the authoritarian reforms that Hu had undertaken.

Contribution to Theories of Authoritarianism

Now that we have addressed how authoritarian consolidation occurred in China, we can investigate how this contributes to the wider debate on how backsliding happens. This

paper argues that the China-specific case study hints at three conditions under which this occurs. The first, and arguably the most controversial, is that an increase in power results in greater authoritarianism for countries without a strong democratic tradition beforehand. If China did not have the backing of other countries in international organisations such as the United Nations (UN) due to its sizeable influence abroad, it would likely have been held more accountable for its domestic repression, and thus scaled it down. For example, a majority of nineteen nations in the UN Human Rights Council vetoed the proposition of having a debate about China's treatment of its Uighur population, fearing that China would diminish their significant bilateral economic ties [53]. Indeed, while China had donated several billion to the Asia Infrastructure Investment Bank and other regional organisations by 2012, this pales in comparison to the \$4 trillion which it has given under Xi's Belt and Road Initiative, precisely when China began to be more authoritarian [54]. This is also demonstrated by the rhetoric of Chinese leaders; Xi's predecessors were fond of following Deng's original proverb that China should "bide [its] time", whereas Xi has been more confident in his speeches, claiming that "we will defeat any aggressor" [55-56].

After Mao Zedong's death, there was a misguided consensus that China would have democratized like South Korea and Taiwan as it grew economically, a view which was mainstream even until very recently [57]. However, this paper argues that authoritarian consolidation occurs when their citizens are either happy with the status quo, or the state has the power to repress their dissent. The former is evidenced by the Middle East and pre-war Japan; in both cases, the public gets richer under an increasingly authoritarian state and thus tolerate their governments [58]. Incidentally, post-war Japan is often used as an example of a state that democratized even as it got wealthier, while the fact that it was leveraged to do so by the United States is overlooked.

Increasing public wealth is not always the reason behind their support, as seen when Recep Tayyip Erdogan's strongman reputation and nationalist, defensive posture allowed him to slowly erode Turkish media independence and jail his opposition. Another modern illustration would be that of El Salvador's Nayib Bukele, who managed to stay in power beyond his term limits due to his 91.7% approval rating in

January 2024, thanks to his extensive successes in reducing crime [59]. These examples parallel the China-specific case study, as Xi Jinping had a 95% approval rating in 2017 due to his vows to address financial risk, addressing poverty, and alleviating pollution [60]. Conversely, the South Koreans and Taiwanese were frustrated with the violent and ineffective policies implemented by their governments and revolted to the extent that the government was not strong enough to crush it [61-62].

However, when the state is powerful enough, it will often strengthen its position when it feels threatened, as was China's after it survived the Jasmine Revolution. This authoritarian consolidation may also be temporary, which was evidenced by China's crackdown on social media and detainment of people for holding up white pieces of paper during the COVID-19 lockdowns. Additionally, this explains why the attempted coup in 2016 led to greater authoritarianism in Turkey, including a thorough purge of the judiciary and other branches of government. It is also worth noting that superpowers have significant influence over the political evolution of their allies; for example, Georgia's public rejected an authoritarian bill on 'foreign agents' as they believed that it would decrease their chances of accession into the EU (though it was later passed by Georgia's parliament in May 2024 against popular outcry). Conversely, Russia has influenced several states, notably those in Central Asia, to become more authoritarian by rewarding them [63].

Some experts, such as Livio Di Lonardo in his paper argue that *Autocratic Stability in the Shadow of Foreign Threats*, authoritarian states consolidate power only in specific instances that would give them an excuse, such as when their international relations are precarious. History presents manifold case studies to support this, several of which are detailed by Giorgio Agamben's *State of Exception*, such as Napoleon III permanently giving himself vast emergency powers considering Patrice de Macmahon's planned coup d'état in 1877, and more recently Putin has used the Beslan attacks of 2004 to justify cancelling elections [64-65]. However, the China-centric case proves that the opposite could happen; while China was beginning to experience authoritarian backsliding under Hu Jintao from 2002-12, its relations with countries that it has historically regarded as adversarial were improving. This is evidenced by Barack Obama signing more bilat-

eral agreements with China from 2008-2016 than any other American president, and the United Kingdom's Boris Johnson encouraging students to learn Chinese and declaring 'I love China' in 2012 [66].

Moreover, Di Lonardo's conclusion ignores the fact that the complexity of a state's history and its foreign and domestic affairs also allows them to make up almost any excuse to become more authoritarian, especially since government propaganda systems have become more potent over time. For example, China currently claims that the US's treatment of its African American citizens and its 'War on Terror' render Western observations and criticisms of ongoing Uighur internment hypocritical. Hence, this paper argues that a state's foreign aggression may also be a result of, but not a cause for, its authoritarian consolidation, refuting Di Lonardo's narrow view that only the latter holds true [67]. Overall, this demonstrates how China's political evolution highlights wider trends in authoritarian backsliding, while exposing the inaccuracies in the widespread optimistic view that China would democratize like South Korea or Taiwan.

Conclusion

This paper has therefore shown that while authoritarian consolidation accelerated under Xi, as is commonly agreed on by experts, it began in many aspects of Chinese life and the CCP structure under Hu, and in a few under Jiang. This is evidenced by a plethora of Hu's policy changes, ranging from ideological education to censorship to extensive subsidization. To the credit of scholars who place an overwhelming emphasis on Xi's authoritarian crackdown, Xi has initiated authoritarian backsliding in several areas during his reign. He has centralised his position within the CCP whereas Hu made ambitious efforts to introduce intra-party democracy, but he is often blamed unfairly for removing the CCP's two-term limits and purges of government officials, as Hu and Jiang had made similar attempts. Additionally, Xi's rule has marked a turning point under which dissent was dealt with much more harshly than before, but this proves to be the exception rather than the rule.

Moreover, the China-specific case study has proven that authoritarian consolidation can happen under three specific conditions; when already-autocratic states become more

powerful as they are able to defend their actions on the international stage, when their citizens are content enough with their standard of living to ignore authoritarian backsliding, and alternatively, when they perceive and manage an internal threat such as the Jasmine Revolution. This paper shows why traditional comparisons of China's political evolution to those of South Korea and Taiwan are misguided and are more likely to follow those of pre-war Japan and Turkey.

Further research would include a deeper investigation into why Xi, instead of Hu and Jiang, is mostly blamed for beginning authoritarian backsliding in the first place, and why China's trajectory was never compared to pre-war Japan's. This could encompass explanations regarding Xi's more assertive personality, or the global community gaining more information to Chinese events due to technological advancements since 2012. Moreover, another area would be how this paper's contribution will help scholars predict China's future political evolution, and what ramifications this will have.

Notes

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BOOK REVIEW

REVIEW: CHIN, WARREN. *WAR, TECHNOLOGY AND THE STATE*. BRISTOL: BRISTOL UNIVERSITY PRESS, 2023.

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“War makes the state, and the state makes war,” goes the aphorism by Charles Tilly. Technology, however, makes both, Warren Chin might add – and it might yet unmake them. In *War, Technology and the State*, Chin adopts Tilly as a starting point for an exploration of how technology has shaped the relation between war, the state, and society, drawing on a whistle-stop history of war and technology from the Middle Ages to the future. Engaging with this critical topic at a time where – as Chin notes – the relationship between warmaking and Western societies is radically changing, this book unfortunately suffers from approximations in its historical narratives and excessive abstraction in its argument. Chin’s book grapples with the problem of technological determinism. In questioning the war-state-society relationship, Chin seeks to demonstrate the centrality of technology as a force shaping these interactions and reject its independent agency; ergo, technology is also a product of the social, political, and economic forces which it conditions (p. 6). In Chin’s narrative, the story is mostly one of the state’s emancipation through technology, as the state become the prime mover in war and security, at the expense of the other two institutions. Chin traces this operation primarily through economics: as technology becomes increasingly central to warmaking, the state becomes the sole command agent, excluding military procurement from market forces through directed research and acquisition. In parallel, the state asserts control of society through “military Keynesianism” (p. 94) and conceptions of all-encompassing national security technology, including the expansion of surveillance technologies.

Linear Time and Historical Causality

Chin seeks to back his assertions through a historical narrative ranging from the 15th century (and before) to predic-

tions about the future of war, a tall order to accomplish in just 160 pages. Unfortunately – and perhaps because of the extreme brevity – this history is undermined by multiple and major errors, temporal confusions, and lacking nuance which both overstate and undermine his argument. Chin's initial contention is that there is a value to spatiotemporally limited technological determinism (p. 8), which leads him to ascribe a leading role to technological innovation at the expense of other causes, arguing that technological innovations led to economic, social, and political reform. By collapsing context, however, he overstates the role of these military technologies, often by the way of temporal confusions.

Chapter 3 compresses the developments from the second half of the 19th century to the end of World War II; Chin juxtaposes the development of iron-hulled ships in the 1860s and 1870s) and the emergence of airpower, which “in this period [...] emerged from being an auxiliary activity in the form of balloons to become a decisive arm in the prosecution of war on the land and at sea.” (p. 46). In discussing the development of airpower, Chin overstates without supporting evidence the state's role in driving early aircraft development, claiming it “play[ed] a leading role in the research, development and production of aircraft of all types during the war and after” (p. 51). In the United States, the state was virtually absent in the development of military aircraft until 1917; after the end of World War I, it was keen to return technical innovation to the civilian sector in what Craig F. Morris termed a “civil military industrial program”, leading to the stagnation of the US Army Air Service (later Air Corps) [1]. Chin neglects the pivotal role played by Gianni Caproni – an aircraft manufacturer – in developing bomber aircraft, shaping American airpower doctrine as well as Giulio Douhet's theoretical innovations, and establishing the heavy bomber as the *primus inter pares* of military aircraft [2].

The result is an overstating of the revolutionary effect of mechanization and industrialisation which, by being rendered into a single moment, neglects the profound political, social, and organisational changes throughout the century from 1850 to 1945. While an argument could be made for a technological driver of modern social integration, mass politics, and economics, Chin avoids that argument by collapsing these developments into *sui generis* military technologies. In Chapter 4, Chin asserts that “the speed and scale of [nu-

clear] destruction [from the 1940s onwards] made the mobilization of industry and the population pointless because it could not instantly replace such losses on the battlefield" (p. 66), omitting the fact that American nuclear doctrine until well into the 1950s relied precisely on this mobilization: the warfighting plans of the late 1940s and 1950s established three categories of targets: "Delta" (disrupt industrial capacity), "Bravo" (blunt the USSR's atomic offensive), and "Romeo" (retard the USSR's ground invasion of Europe); this plan's objective was specifically to enable the large-scale mobilization which would allow the United States and its allies to launch a counteroffensive in Europe [3]. The abandoning of these plans would only come towards the late 1950s and early 1960s as a result of further technological and tactical innovations, namely the intercontinental ballistic missile, Strategic Air Command's alert procedures, and the development of the Single Integrated Operations Plan (SIOP) as well as second-strike capabilities, while planning for conventional ground war would return from the 1970s onwards [4]. Furthermore, Chin neglects the immense efforts made to enable the continuation of civilian life and institutions despite the very possibility of nuclear war, particularly throughout the 1950s [5]. It is not anodyne that nuclear planners such as Daniel Ellsberg have argued that the American strategy aimed not only at warding off nuclear war itself but that making the possibility of waging – and winning – an offensive nuclear war [6]. Such developments challenge his assertion of a nuclear-led gradual separation of the military and civilian spheres (p. 74) once we take into account the heavy investments in civil preparedness, sheltering, infrastructure resilience, as well as the central role of the failure of the Vietnam War in leading to the end of military conscription in 1973. While the importance of these elements may be challenged, collapsing timelines and this evolution into a single event overstates the role of technological innovation – the atomic bomb – in determining sociopolitical transformations.

In both cases, Chin distorts chronology partly due to space constraints. The result, however, is a historical narrative which is excessively curated, abstracted and manicured to present complex developments as linear [7]. Historical approximations and losses of context in the process omit key factors which are necessary to grasp the developments he proposes and his arguments concerning the changes in state-society-war relationships. What results is an excessive-

Discourses of Prediction

A second – related – issue concerns the lack of critical distance from the technological discourses with which he grapples, particularly evident in the latter three chapters (which address contemporary and future war). Chin alludes several times – perceptively – to the problems of discourses of technological determinism. In other words, perceptions of technological determinism may shape the effect of technology on state-society relations as much – if not more – than actual technological innovations. Yet, in seeking to appraise future technological developments in warfare and sociopolitical dynamics, Chin often relies uncritically on predictions about future technological diffusion and innovation. In addition to copious quantities of uncited data (see p. 97-98 for instance), many key points are prefaced by “it is claimed” and left uncited, with no indication of by whom, how, and why such claims are made. These predictions, however, themselves shape politics, a feedback loop which Chin replicates in accepting many of these predictions uncritically. In so doing, he departs from his initial intent – to analyse the relation between war, state, and society through technology – to replicating these discourses without critical distance. In his history of *The Future of War*, Lawrence Freedman notes that predictions about war often serve an agenda-setting function, prescribing courses of action and security futures [8]; in hewing too close to the technological discourses he purports to analyse, Chin falls in this trap. Chapters 5 and 6, furthermore, fall into the adjacent trap of focusing on “hardware” due to the tangibility of material technologies, rather than the political technologies which activate them [9].

Absent Relationships

Chin’s *War, Technology and the State* is very much about the first two of the title’s terms. Paradoxically, the state is the great absent of this relationship, appearing occasionally as an economic agent before receding into the far background. The state, as a political agent, as a technology of power and “political order” (p. 19), is absent from this story. Chapter 6, which analyses the six first months of the 2022 War in Ukraine, thus remains a quasi-strictly military history, dis-

cusssing new battlefield technologies, operations, tactics, air defence, and the organisational sources of the failure of the initial Russian offensive. To the extent that he considers the state a form of “political order” (p. 19), this state is largely absent. By Chapter 7, it is now war that is absent: Chin contends that technologies associated with the “fourth industrial revolution” – automation and AI, mostly – which, for some of them, derive from military technology, will radically transform social relations by disrupting labour relations and the economic base of the state (p. 144-152). In parallel, technological transformations lowering the barriers for military action may lead to increased instability and contestation by non-war means. Through these two dynamics, Chin hints at the potential downfall of war as an institution of the international system – and by extension of the state – under pressure from non-state actors who erode the state’s core function, providing security and a monopoly on violence. In addition to the highly speculative nature of this assessment, the tension between this conclusion – the potential twilight of war and the state – and that of Chapter 6, that the 2022 War in Ukraine represents the return of traditional war and security, “a throwback to the era of modern wars, which were dominated by mass, and the pursuit of victory on the battlefield” (p. 133), remains unmentioned.

In sum, readers of Chin’s book will find much to consider in the first chapter, which considers conceptual problems in technological determinism, recalling Skinner’s arguments from “Meaning and Understanding in the History of Ideas” [10]. Readers will want to read Chin’s argument in the rest of the book in comparison with other works exploring some of its absent themes, such as Stephanie Carvin and Michael John Williams’s *The Liberal Way of War* on the role of moral progressivism in American attitudes towards military technologies and Lawrence Freedman’s *The Future of War: a History* on the role of future-oriented thinking in warfare. Elke Schwarz’s *Death Machines* deals expertly with the ethical-political impacts of algorithmic thinking and technologies while Antoine Bousquet’s *The Scientific Way of Warfare* charts the intellectual shifts which animate technological innovations. Finally, Tami Davis Biddle’s *Rhetoric and Reality in Air Warfare* and Mark Clodfelter’s *Beneficial Bombing* address the interplay between political ideas, military thinking, and technological innovation in interwar air power.

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8. Another revealing error of this kind occurs on p. 13, where he notes that "It took 38 years for 50 million people to start using radio, 13 years for the same number to use television, four years for 50 million to get the iPod, and three years for the same number to access the internet." Of course, the spread of internet connectivity preceded the iPod (which was introduced in 2001); Chin reproduces an error in the original source, which distorts the timeline to present a linearity which does not exist.
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REVIEW: SULEYMAN, MUSTAFA AND
MICHAEL, BHASKAR. 2023. *THE COMING
WAVE: TECHNOLOGY, POWER, AND THE
TWENTY-FIRST CENTURY'S GREATEST DI-
LEMMA*. NEW YORK, CROWN.

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In 2003, the Human Genome Project concluded its decade and a half endeavor of mapping the entire sequence of the human genome. The project cost \$2.7 billion and was a monumental achievement by scientists across the globe. Less than two decades later, a company called Odin began selling DIY Genetic Engineering kits to modify anything from jellyfish cells to human embryonic kidney cells [1]. Clearly, the 21st century wave of rapid innovation in key sectors such as biotechnology has arrived.

Mustafa Suleyman, in his most recent work *The Coming Wave*, argues that Artificial Intelligence (AI) will be the most significant invention in human history. He portrays the evolution of technology as a series of waves that have risen and fallen throughout the centuries, with each wave reshaping society in fundamental ways. However, he argues, AI will surpass even that of Gutenberg's printing press. Suleyman asserts that AI will usher in a new epoch where technology not only supports but actively participates in decision-making processes that define the entire spectrum of human interactions. This next wave, he suggests, will be characterized not merely by advancement in how we use technology but by how technology uses us.

The portrayal of AI as a dominant force capable of shaping the very fabric of human society brings with it a chilling echo of historical techno-alarmism [2]. As the former director of telecommunication studies at the Cato Institute, Adam Thierer, puts it his highly renowned 2013 paper on technological threat inflation: "[M]ost fears surrounding new information technologies are based on logical fallacies and inflated threats that lead to irrational technopanics and fear cycles" [3]. While in certain points throughout the book, Suleyman is optimistic about AI use cases, his overall tone leans

towards caution, emphasizing the need for a framework to manage AI's expansive capabilities. Suleyman concedes that there is no longer the possibility of AI non-proliferation. However, he asserts that society must put in place "containment" strategies to mitigate potential catastrophe (p. 274). Effective containment, Suleyman argues, involves setting up rigorous regulations and developing ethical guidelines within technologist circles which control the deployment and limit the misuse of AI technologies. He suggests creating international bodies to oversee AI development, like those managing nuclear technology, to prevent a runaway effect where AI's impact becomes irreversible. However, Suleyman argues that unlike nuclear technology with its tightly controlled fissile materials, AI models are freely available for almost instantaneous access from sites like GitHub and Hugging Face.

In the first few chapters, Suleyman delves into the metaphor of waves, drawing parallels between historical floods and the current technological surge. He recounts flood myths from various cultures, emphasizing their shared theme of a giant wave sweeping away the old world and giving rise to a new one. "Permeating humanity's oral traditions and ancient writings is the idea of a giant wave sweeping everything in its path, leaving the world remade and reborn" (p. 5). Just as the seasonal flooding of great rivers nurtured the growth of civilization, these modern technologies have the potential to bring unprecedented advancements. Yet, as with any powerful wave, there is inherent danger. Suleyman's use of this metaphor underscores the dual-edged nature of technological progress—capable of both creation and destruction. In Suleyman's own words, "From where we stand today, it appears that containing this wave—that is, controlling, curbing, or even stopping it—is not possible" (p. 6).

While he is vague on how exactly AI on its own could lead to devastation, he touches on it quite explicitly in terms of synthetic biology throughout this work's middle chapters. While preforming genetic experiments used to be inaccessiblely expensive, affordable DNA synthesizers have now democratized the ability to rewire life itself, placing powerful tools on desktops (and sometimes being 3D printed) [4]. With the right knowledge and motivation, an individual could engineer biological agents that could outstrip any natural disease in terms of virulence and resistance. It is clear to readers that this accessibility ushers in both unparalleled op-

portunity and unprecedented risk. Suleyman's warnings are compelling, but there is another perspective that suggests he might be overstating the potential perils of AI. It is common for pioneers in the field to develop a sort of tunnel vision, focusing intensely on the dramatic impacts of their sector. Suleyman, deeply entrenched in the AI industry, as the co-founder of DeepMind and Inflection AI, may be seeing the potential negatives through a magnifying lens. While I tend to agree with many of Suleyman's conclusions, his alarmism may need to be tempered with the recognition of resilience of human societies in adapting to and shaping technological waves. For instance, the industrial revolution brought about fears of mass unemployment and social unrest due to mechanization. However, human societies adapted through the creation of new industries and job opportunities. Roy Amara, former president of the Institute of the Future, encapsulated this phenomenon with Amara's Law, which states, "We tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run" [5]. This perspective might help balance the defeatist narrative around AI, suggesting that while immediate disruptions may seem daunting, the long-term benefits will likely prevail.

In the last few chapters, Suleyman reflects on the inevitable exponential change brought by AI and other technologies. He argues that regulation alone is insufficient to contain the rapid advancement so the coming wave, emphasizing the need for a comprehensive approach. Suleyman outlines ten steps for containment, including technical safety measures, audits, choke points, responsible development, cultural understanding, and international alliances. He stresses resilience and preparation, stating "Containment is not a resting place. It is a narrow and never-ending path" (p. 275). He finishes this section with a call to action stating "While the sheer scale of the challenge is huge [and...] it will require an awesome effort to fundamentally change our societies, human instincts, and the patterns of history, [...] meeting the great dilemma of the twenty-first century must be possible" (p. 278-279). The future hinges not just in technological innovation but in our capacity to reshape society's ethical landscape to guide this unprecedented power wisely.

Suleyman's concluding chapter, aptly named "Life After the Anthropocene" highlights the potential impact of AI and draws parallels to the Luddite uprisings against mechanized

looms in the 19th century. He argues for technology to be adapted to human needs, rather than disrupting lives as it had in the past. Suleyman envisions a future where AI becomes integral to daily life but is ethically managed by its users. He concludes with a compelling call to action: “The risks of failure scarcely bear thinking about, but face them we must. The prize, though, is awesome: nothing less than the secure, long-term flourishing of our precious species. That is worth fighting for” (p. 286).

The Coming Wave would be an excellent read for technologists and ethicists, as well as the public interested in understanding the future landscapes that AI might shape. Beyond Suleyman’s potential alarmism about a catastrophe on the horizon, the book’s greatest strength lies in its compelling call for a broad ethical discussion among all stakeholders. Suleyman emphasizes the need for collective wisdom in shaping policies and practices that harness AI’s potential responsibly. As he states, “Containment is not, on the face of it, possible. And yet for all our sakes, containment must be possible.” (p. 19). This paradox highlights the urgency and complexity of the challenge, underscoring the necessity for initiative-taking engagement with AI’s development. The future of AI will depend on our ability to navigate its potential with wisdom and foresight.

Notes

1. “The Odin.” The ODIN. <https://www.the-odin.com/>. See also Gronvall, Gigi. “The security implications of synthetic biology.” In *Survival* 60.4, pp. 165-180. Routledge, 2023.
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3. Thierier, Adam. “Technopanics, Threat Inflation, and the Danger of an Information Technology Precautionary Principle.” *Minnesota Journal of Law, Science and Technology* 14, no. 1 (February 2013): 309-386.
4. Kim, Junhyeong, Haeun Kim, and Duhee Bang. “An Open-Source, 3D Printed Inkjet DNA Synthesizer.” *Nature News*, February 14, 2024. <https://www.nature.com/articles/s41598-024-53944-x>.
5. Amara, Roy, “The Age,” October 2006. Referenced in *Oxford Essential Quotations* 5th edition. Edited by Susan Ratcliffe, <https://www.oxfordreference.com/display/10.1093/acref/9780191843730.001.0001/q-oro-ed5-00018679>. See also: Naudé, Wim. “Artificial Intelligence: Neither Utopian nor Apocalyptic Impacts Soon.” *Economics of Innovation and New Technology* 30, no. 1 (2021): 1–23. doi:10.1080/10438599.2020.1839173.