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International Systemic Power Transition: China and the United States in Focus

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PROGRAMA DE PÓS-GRADUAÇÃO EM RELAÇÕES INTERNACIONAIS

Transição Sistêmica de Poder no Sistema Internacional: China e Estados Unidos em Foco

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Área de Pesquisa: Governo e Política Externa

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Abstract

This research delves into the evolving hegemonic transition between China and the United States (U.S.) by proposing a move away from traditional, linear power-transition narratives. By adopting the Complex Hegemony framework, this study interprets the international system as an emergent, self-organizing phenomenon where power emerges from the dynamic interplay of economic, political-ideological, technological, and military domains. This study contextualizes the evolution of international power from 2001 to 2024, tracing the transition from traditional military-centric dominance toward a complex, metastable systemic configuration. While the U.S. remains the predominant military power, its hegemonic position faces growing constraints ranging from economic volatility and military overstretch to a declining capacity to sustain international consent. By contrast, China has emerged not only as an economic force but as a strategic entity capable of navigating and reshaping international trade, finance, and technological infrastructures. What these developments reveal is that hegemony should no longer be evaluated and perceived as a matter of simple supremacy or formal leadership. The 21st century shows that hegemony is embedded in complex, networked, and metastable configurations where influence is exercised through infrastructure, standards-setting, and systemic interdependence.

Keywords: Complex Hegemony; International Systemic Power Transition; China; United States; Hegemonic Rivalry; Belt and Road Initiative.

Resumo

Esta dissertação examina a transição hegemônica em curso entre a China e os Estados Unidos (2001–2024), afastando-se de narrativas tradicionais e lineares de transição de poder. A partir da teoria Complex Hegemony, o sistema internacional é entendido como um fenômeno emergente e auto-organizado, no qual o poder resulta da interação dinâmica entre as forças e domínios econômico, político-ideológico, tecnológico e militar. Neste estudo, sustenta-se que o protagonismo militar dos EUA persiste, mas sua posição hegemônica enfrenta restrições crescentes, associadas à volatilidade econômica, à sobreextensão militar e à erosão da capacidade de sustentar consentimento internacional. Em contraste, a China emerge como força econômica e como ator estratégico capaz de navegar e reconfigurar comércio, finanças e infraestruturas tecnológicas. A partir do estudo feito, é possível assumir que hegemonia não se reduz à supremacia ou liderança formal: ela se ancora em configurações complexas, em rede e metastáveis, nas quais a influência opera por infraestrutura, definição de padrões e interdependência sistêmica.

Palavras-chave: China, Estados Unidos, Transição de Poder, Hegemonia, Complexidade Hegemônica; Rivalidade Hegemônica; Rota da Seda

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This journey has been one of the most rewarding experiences of my life, not only for the academic growth it provided but for the profound bonds I formed along the way. I have come to believe that while we may enter and leave this world alone, the journey between is never meant to be a solitary one. It is defined by the friendships, bonds, and companionships that sustain us: the family we are born into and the family we choose. Love and fellowship are the strongest bonds there are, and I view them as a true gift from God.

To my family, I owe everything. Your support has been massive and unwavering. I especially want to thank my mom, Lenita, and my uncle, Anfrísio, my biggest supporters and, in every sense, my parents. I also want to honor my late grandmother, Anfrisina, who taught me that my first and most important love should be my studies and my independence; I hope this work stands as a testament to her wisdom. I dedicate everything I do to you, and I hope to always make you proud. Furthermore, I also dedicate this first major achievement to my nephew, Ezequiel, and my niece, Elena (my Nena). I love you both so much. Moreover, I want to express my deepest love and gratitude to my dear friends Juli, Marcela, Marília, and Rebeca. You are my sisters and soulmates. If it weren't for your constant encouragement and for not letting me give up on my application, I would never have even attempted this master's.

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I hope to carry the lessons from this journey into my future academic adventures. To close, I would like to include a quote from Bram Stoker's *Dracula* (my favorite book), the words of Van Helsing to Mina Harker (much cooler in the book than the movies):

> *If ever Abraham Van Helsing can do anything for you or yours, I trust you will let me know. It will be a pleasure and a delight if I may serve you as a friend; as a friend, but all I have learned, all I can ever do, shall be for you and those you love. There are darknesses in life, and there are lights; you are one of the lights.*

Summary

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List of Abbreviations

A2/AD – Anti-Access/Area-Denial

AI – Artificial Intelligence

AIIB – Asian Infrastructure Bank

ASAT – Anti-Satellite

ASL – Anti-Secession Law

ATA – Algorithmic Text Analysis

AUKUS – Australia, the United Kingdom, and the United States

B3W – Build Back Better World

BRI – Belt and Road Initiative

C4ISR – Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance

CDB – China Development Bank

CHIPS – Clearing House Interbank Payments System

CHIPS and Science Act – Creating Helpful Incentives to Produce Semiconductors

CSL – Cybersecurity Law

COVID-19 – Coronavirus Disease 2019

DoD – Department of Defense (U.S.)

DPP – Democratic Progressive Party

DSL – Data Security Law

DSR – Digital Silk Road

FDI / OFDI – Foreign Direct Investment / Outward Foreign Direct Investment

GDP – Gross Domestic Product

GERD – Gross Domestic Expenditure on R&D

GSR – Green Silk Road

HSR – Health Silk Road

ICT – Information and Communication Technologies

IMF – International Monetary Fund

IR – International Relations

ISO – International Organization for Standardization

LIO – Liberal International Order

NDB – New Development Bank

NSS – National Security Strategy

OECD – Organization for Economic Co-operation and Development

PAFACA – Protecting Americans from Foreign Adversary Controlled Applications Act

PIPL – Personal Information Protection Law

PLA – People's Liberation Army

PRC – People's Republic of China

R&D – Research and Development

SIPRI – Stockholm International Peace Research Institute

SLOC – Sea Lines of Communication

SOE – State-Owned Enterprise

SPC – State Platform Capitalism

TRA – Taiwan Relations Act

TRIPS – Trade-Related Aspects of Intellectual Property Rights

UN – United Nations

U.S. – United States

WTO – World Trade Organization

Introduction

The international system is going through significant changes marked by the hegemonic rivalry between China and the United States (U.S.). The post-Cold War context highlighted a period when U.S. international dominance was solidified, particularly through economic and military power, ideological influence, and technological leadership. However, China's rapid economic growth, technological advancements, and assertive foreign policy initiatives – such as the Belt and Road Initiative (BRI) – have increasingly challenged U.S. hegemony through the subsequent years (Zhang 2021, 43; Zeng 2020, 328). Chinese impressive growth happened mainly due to its approach to economic reforms initiated by Deng Xiaoping, who positioned the nation as a big player in the international system (Zhang 2021, 43).

China's growth and its impact on the U.S.-led status quo have fueled debates regarding whether China will take its place as the next dominant country. That incites the reflection on whether the international system is being complexly reshaped rather than having a straightforward hegemonic transition (Hass 2021, 103). The competition that escalated between these two nations, particularly in the late 1990s after the Asian Financial Crisis, made China demonstrate its strength by avoiding the major effects of that crisis. Later, the Chinese economic performance resulted in increasing tensions in trade, technology, and military domains (Mazarr et al. 2021, 175). Hence, the rivalry has expanded beyond the Asia-Pacific region and reached an international level, involving international institutions and alliances (176). Not surprisingly, both countries have made remarkable investments in military capabilities, creating a new context with mistrust and instability regarding security aspects (193).

To better understand power transitions in the international system, with a focus on China-U.S. relations, this research adopts the Complex Hegemony framework. This framework was chosen to propose an alternative perspective on power transitions, moving beyond the traditional and linear lenses (Williams 2019a). Developed by Alex Williams, Complex Hegemony was initially coined as a political theory of power. Yet, its analytical tools demonstrated clear applicability to International Relations (IR), especially in the study of systemic power transitions. Through the Complex Hegemony lens, Williams (2019a) updates the understanding of Gramsci's (1971) hegemony by examining how political practices and

theories are shaped, and often distorted, by features such as complexity, abstraction, and scale (Williams 2019b).

In this research, Complex Hegemony is employed as a bridge between political theory and IR, offering a systemic and relational lens to analyze international systemic power transition, focusing on the evolving rivalry between China and the U.S. The framework conceptualizes hegemony as an emergent, self-organizing phenomenon arising from the interactions of multiple entities — states, institutions, and non-state agents — across diverse domains (Williams 2019a, 138-39). This approach allows a more comprehensive analysis of the China-U.S. relations by examining structural power, ideological influence, and the role of international institutions in shaping hegemonic stability and transition (Strange 1988, 24-25).

This research analyzes how China's rise impacts the international system's hegemonic structure and its U.S.-centered arrangement. To identify how U.S.-linked coalitions and infrastructures react, economic, political-ideological, technological, and military domains are examined as analytically distinct yet dynamically interdependent forces. It is also outlined how these domains both shape and are shaped by systemic rivalry, framed as analytical interdependent variables of the study. Economic aspects play a crucial role in achieving broader hegemony (Williams 2019a, 170-71; Gramsci 1971, 242-45). Thus, economic structures – such as production, distribution, and capital ownership – create patterns that shape political dynamics (Williams 2019a, 169). Political and ideological aspects influence public perception and social organization, like a form of social semiosis (163). Technology and infrastructure also serve as key battlegrounds for hegemony, establishing the space where political struggles unfold (176).

Although Williams (2019a) does not delve into the military as a distinct variable, this research incorporates it, drawing on Gramsci (1971, 180-85), given the centrality of military force in IR analyses of great-powers rivalry. Additionally, the state, by definition, controls the legitimate use of force within its territory (Williams 2019a, 173). Therefore, many of the most important technological advancements of the past century were based, at least partially, on national governments through military apparatuses (179). By delving into the interplay among these interdependent variables, this research investigates both the historical and contemporary dimensions of China-U.S. interactions.

Furthermore, given the unique and complex nature of the China-U.S. rivalry, this research adopts a single case study methodology. This approach seeks not to generalize a phenomenon, but rather understanding the case itself, in all its particularity and complexity, because the case

is inherently important (Baxter and Jack 2008, 548-59). The rivalry examined here is approached as a complex phenomenon worthy of in-depth analysis on its own terms. As methods to collect and analyze data, a literature review ensured a rigorous theoretical and empirical foundation, while qualitative content analysis of discourse, policy documents, and economic indicators provided a comprehensive understanding of the ongoing hegemonic rivalry (Kleinheksel et al. 2020, 127). By integrating this methodology, this research aims to contribute to a broader understanding of hegemonic competition and international systemic change, and not to perceive this rivalry dynamic as a theoretical abstraction, but as a clear configuration of power within an evolving and complex international system.

The chapters are organized to reflect both the time and the systemic progression of the rivalry. Chapter 1 introduces the theoretical and methodological foundations and the historical background of the rivalry from the Cold War to the 2000s. Chapter 2 addresses the rivalry progression focused on the 2001-2012 period, when the competition intensified. Chapter 3 analyzes the BRI as a hegemonic mechanism and the U.S. response from 2013 to 2024. Chapter 4 investigates how technological and military domains can accelerate the systemic transition. Lastly, this research's conclusion integrates theory and analysis to assess the self-organizing characteristics of the rivalry and its implications for international order.

In summary, this research begins by briefly discussing the evolution of power dynamics from the Cold War through the early 2000s as a contextual background and focuses in depth on the period from 2001 to December 2024, when systemic tensions became more evident and complex. It ends by showing how the U.S. remained the predominant military power, yet its hegemonic position faced growing constraints — from economic crisis, such as in 2008, and a military overstretch to a declining capacity to keep consent abroad — while China emerged not only as an economic force but as a strategic entity able to navigate and reshape international trade, finance, and technological infrastructures. What these developments reveal is that hegemony can no longer be reduced to military supremacy or formal leadership. The 21st century highlighted that hegemony is embedded in complex, networked, and metastable configurations in which influence is exercised through infrastructure, norms, and systemic interdependence.

The BRI illustrates this metastable hegemonic mechanism by building durable platforms that reorganize trade, finance, and connectivity while continually recalibrating through thematic reframing (e.g., Digital Silk Road, Health Silk Road). Viewed through Complex Hegemony,

China's strategy couples emergent patterns generated by infrastructures and finance with downward entrenchment (e.g., standards, rules, and narratives that stabilize those patterns) so contemporary systemic rivalry is increasingly driven by reinforcing interactions among standards-setting, data governance, R&D ecosystems, and security dynamics. Then, assessing how these configurations enable self-organization, generate resistance, and shape the future trajectory of the international system.

Chapter 1: Understanding International System's Characteristics and Power Relations

The study of the characteristics of the international system and power relations serves as the theoretical and conceptual foundation for this research. Within this context, the rivalry between China and the United States (U.S.) is examined through the framework of Complex Hegemony, developed by Alex Williams (2019a), alongside the case study methodological approach that sustains this research. A comprehensive analysis of the China-U.S. rivalry within Complex Hegemony requires at least a brief understanding of power dynamics during the Cold War and post-Cold War (1990s) periods. These historical contexts provide the groundwork for assessing contemporary shifts in power between these two nations. It also identifies key characteristics of the international system, particularly in relation to non-traditional perceptions of power transitions in International Relations (IR).

The study of Complex Hegemony theory offers insights into international power structures by defining concepts of hegemony and complexity (Williams 2019). Hegemony, as the legitimized dominance of one group over others, requires the management of interactions across multiple domains for it to be effective (Gramsci 1971, 12; Williams 2019a, 161). On that premise, it is important to analyze hegemonic perspectives on power structures to further refine this discussion (Strange 1988, 6, 17).

Systemic forces driving power transitions — economic, military, technological, and political-ideological — are the core interdependent variables in this analysis (Gramsci 1971, 242, 245; Williams 2019a, 161-62, 170-71). In complex social systems, hegemony relies on interactions across multiple domains, requiring the management of interactions between different layers, domains, or functions (Williams 2019a, 138-39). Examining these forces allows for an assessment of the potential power transition between China and the U.S.

This Chapter covers case study selected (China-U.S. rivalry), scope of analysis, literature review, and qualitative content analysis while acknowledging research limitations and the extent of generalization (Baxter and Jack 2008, 550; Siddaway, Wood and Hedges 2018, 751; Waddington et al. 2012, 360; Kleinheksel et al. 2020, 127). The case study method facilitates a nuanced understanding of the hegemonic rivalry’s theoretical contributions to IR and enhances assessments of how Chinese power is perceived within an interconnected international system

(Hancock, Algozzine, and Lim 2021, 9). Before delving into the specifics of China-U.S. relations within the Complex Hegemony, the following sections of this chapter will establish the theoretical and methodological foundation for this analysis.

What is Hegemony and Complexity?

The concept of hegemony has evolved significantly since its introduction by Antonio Gramsci (1971), one of the most influential Marxist theorists of the 20th century. Originally, hegemony referred to the dominance of one group over others, achieved through either consent or coercion (Gramsci 1971, 57-58). While Gramsci (1971) provided the essential DNA of hegemony through his focus on ideological and the integration of civil society, the contemporary international system (characterized by non-linear and financial networks) requires the additional conceptual tools provided by Complex Hegemony (Williams 2019a). This analytical approach examines how power is sustained through a network of multiple interacting forces — such as economic, social, and ideological — that foster consent and stability across diverse entities, rather than relying solely on coercion. Williams (2019a) does not merely apply Gramsci's notion of hegemony but formalizes and systematizes it through the lens of complexity theory, giving conceptual tools to analyze how hegemony operates within dynamic, non-linear systems.

Changes within the international system are driven by a variety of interconnected factors, which Gramsci (1971) identifies as hegemonic forces. These include economic and financial power, population, technological and military advancements, domestic political dynamics, international relations, ideological currents, and geopolitical positioning (Gramsci 1971, 116, 176, 182, 264). Economic and financial potential is crucial, as states with major economies possess resources to form alliances, influence international markets, and achieve hegemonic status, especially during periods of crisis. Population further broadens a state's ability to project power, by providing workforce and military potential (Gramsci 1971, 264).

Furthermore, technological and military advances are critical catalysts for systemic change, as they allow states to alter the geopolitical landscape by shifting the balance of power (Gramsci 1971, 176). Domestic and political dynamics, such as internal instability or transformative movements, can result in assertive or isolationist foreign policies, thereby impacting international alliances and engagements (264). The interplay of international relations and ideological currents additionally influences systemic shifts, as the spread of technologies and

ideas reshapes alliances and power structures (116, 176). Finally, a state's geopolitical position has a significant impact on its strategic considerations, access to trade routes, and vulnerability to external threats. All of it determines its role and influence within the international system (116). Together, these contributors reflect the multidimensional and interconnected nature of systemic transformation, reinforcing the relevance of applying hegemony in analyzing international dynamics.

Hegemony remains the foundational concept for comprehending power dynamics. In the context of international relations, hegemony involves understanding how a state or coalition of states can exert influence through more than mere coercion (Gramsci 1971, 176, 182). Gramsci's concept suggests that the dynamics of the international system can be viewed through the lens of hegemony, where states strive to establish power via a combination of force and consent. This involves constructing hegemony apparatuses by the ruling group, which may eventually dissolve due to various internal or external factors, including the development of a strong collective political will in opposition (12, 176, 182, 264, 365).

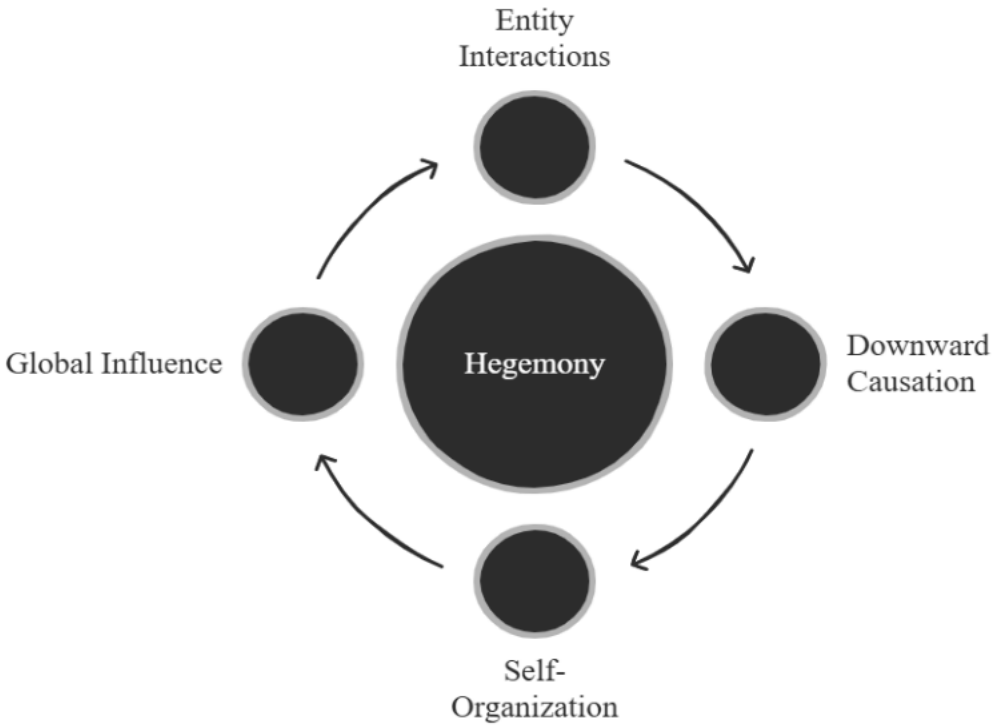

Figure 1.1 Hegemony as a self-emergent property.[1]

Source: Elaborated by the author. Based on Williams' (2019) and Gramsci's (1971) work.

[1] Economic social relations (Gramsci 1971, 272).

In a formal sense, complexity goes beyond being merely "complicated" or hard to understand (Williams 2019a, 16). It refers to systems that are more than the sum of their parts, where order emerges from the interactions between components (4). A key distinction in complexity theory is between complexity and mere complication, with emergence serving as the concept that differentiates the two. Complexity theory examines the properties of systems through connected causality rather than isolating individual elements.

The development of complexity theory stemmed from multiple disciplines, including thermodynamics, cybernetics, nonlinear chemistry, network analysis, mathematics of dynamic systems, and chaos theory, initially within the natural sciences (Williams 2019a, 18). Early thinkers such as Alfred North, William James, Friedrich Nietzsche, and Henri Bergson anticipated some of its core ideas (4).

Complexity theory is characterized by several key features. *Emergence* refers to a system-level behavior that cannot be reduced to the actions of individual components (Williams 2019a, 24-27). *Structure* denotes the interaction of relatively autonomous elements within a system. *Time* emphasizes the irreversibility of complex systems. *Dynamics* describes the non-linear causal relationships where effects are not directly proportional to causes. *Interwoven causality* highlights the interconnected processes and trajectories shaping the system. *Holistic study* underscores the importance of analyzing systems as a whole, as the relationships between parts are significant as the parts themselves. Finally, *relative autonomy* acknowledges that individual components retain some independence and are not entirely subsumed within the system.

Complexity theory has been applied across numerous disciplines (Williams 2019a, 4-5), including IR. It provides a framework for understanding how real-world complex systems – such as social and political structures – function (16). By integrating diverse local logics of organization, it explains how hegemony within complex social systems emerges from interactions across different *layers*, *domains*, and *functions*, which represent distinct but interconnected subsystems (161). Moreover, complexity theory offers valuable insights into political and social stability and instability, contributing to the analysis of change within these systems (29).

Table 1.1 Subsystems within social systems.

Layers	Domains	Functions
Stratified levels of social systems, where higher layers depend on lower ones but not vice versa. Examples: natural world, biological systems, human production systems, and social-political institutions.	Distinct fields of social activity with their logic. Examples: economic, social, and political-ideological.	Roles or activities that ensure social coherence. Examples: ideological, economic, and political.

Source: Elaborated by the author based on Williams' Complex Hegemony theory (2019, 161).

The Complex Hegemony Theory: Analyzing International Power Structures

Different societies value distinct principles, which shape practices and institutions; the same applies to states, markets, and international organizations. Thus, it demands a deep and structural analysis of the interplay between these entities to make sense of power dynamics (Strange 1988, 6, 17). To comprehend how the international system operates and how transitions happen within it, especially in the context of the China-U.S. hegemonic rivalry, a relational ontology and Complex Hegemony theory will guide this analysis. Relational ontology is used to highlight the interconnectedness of entities (states, international organizations, corporations, and others) and the dynamic interactions through which systemic patterns take form.

In this research, *entities* refer to the causally relevant components of complex socio-political systems, understood as internally differentiated and operating across multiple scales (e.g., state apparatuses and institutions, organizations, corporations, infrastructures, and standards regimes). For conceptual precision, this research avoids the term *actor* since it may imply unitary and fully intentional agency. Instead, it uses entities to identify what components matter, and *configurations* to describe the patterned assemblages through which multiple entities interact to generate systemic effects. For example, a tech-security configuration may involve the combined operation of export controls, standard blocs, data localization, and alliance coordination.

A relational ontology allows an analysis of how interactions between China and the U.S. simultaneously influence and are influenced by the international system, considering the systemic dimensions of worldwide processes, and the historical relevance of the relationship

between China and the U.S. through IR lenses (Fagioli and Malito 2024, 5; Hamilton 2016, 136-39). Complex Hegemony conceptualizes hegemony as an emergent and metastable configuration produced by multi-domain interactions, where dominance operates largely through indirect environmental shaping rather than direct command (Williams 2019a, 138-39).

While this research uses relational ontology as its main lens to highlight the interconnectedness of entities and the dynamic interactions shaping the international system, it is grounded in the critical realist meta-theory that supports Williams' work (2019a, 40-45). Critical realism posits that reality is stratified and that entities possess latent "causal powers" housed within deep structures. Following William's (2019a, 50, 88, 135) critical realist approach, stratified reality refers to a multi-layered ontology where deep, often unobservable structures and "causal powers" (the real) generate the events we observe "empirically", allowing for an analysis of power that moves beyond immediate surface-level interactions. This research prioritizes a relational approach because the core goal is to analyze the process of transition and the specific interaction between the China-U.S. rivalry that may generate a systemic change.

Table 2.2 Comparison Table: Relational Ontology vs. Critical Realism.

Feature	Relational Ontology (Primary)	Critical Realism (Meta-theory)
	Core Focus	The **interaction** and process between entities
View of Entities	Defined by their position in a web of relations	Defined by their internal mechanisms and latent powers
Role in Research	Helps the analysis and the attempt to explain **how** China and the U.S. interact and change the system.	Helps the analysis and the attempt to explain **why** certain structures (such as standards) have power to begin with.

Source: Elaborated by the author based on Williams' Complex Hegemony theory (2019, 50, 88, 135).

Therefore, using it in IR will help recognize the interplay of multiple forces - economic, political-ideological, technological, and military – in shaping the international system and hegemonic transitions (Gramsci 1971, 116, 176, 264; Williams 2019a, 138-39). Understanding

the hegemonic concept through a Complex Hegemony theory lens, together with a relational ontology, makes it possible to explore how China's and the U.S.'s rivalry both shape and are shaped by the evolving structure of the international system. Please note that these forces are analytical cuts, not ontologically separate spheres. They co-evolve, interact non-linearly, and mutually condition one another, meaning they are not independent and linear variables[2].

Characteristics of the International System within Complex Hegemony

From a Complex Hegemony perspective, hegemony can be understood as a metastable attractor within a phase space[3] of possible systemic configurations (Williams 2019a, 147-48). In other words, hegemony refers to a condition of relative stability that persists for a time yet remains open to transformation as systemic forces evolve. This premise assumes that complex systems can settle into stable patterns while still retaining the potential to shift into new stable states (55). Hence, a system is neither fully static nor fully chaotic. In this framework, attractors are emergent properties of dynamic systems: they structure system behavior by drawing trajectories toward certain relatively stable patterns (58). Attractors are not permanent; they may change, disappear, or multiply over time (147). A metastable attractor, therefore, is a stable configuration that can endure, but whose stability is provisional, continually shaped by forces that may eventually push the system toward another configuration (55).

Viewing hegemony through this lens highlights it as a dynamic process in which power shifts tend to unfold through patterns of metastable stabilization (Williams 2019a, 147). In this sense, hegemonic shifts are not merely arbitrary; they often take the form of transitions between different stable configurations within the limits defined by the system's dynamics (158). Metastability thus helps explain how hegemonic change can be both patterned and contingent. Although Complex Hegemony is developed mainly as a theory of social and political power, its core principles provide a coherent basis for multi-layer analysis, including international

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[2] While the term "variable" may appear to lean toward a positivist linearity that contradicts William's (2019a) ontology, they are employed here as *methodological abstractions* to facilitate systemic analysis. Following Williams' (2019a) critical realism, these "variables" are treated as capacities and tendencies housed within specific domains — economic, technological, and military — rather than independent units. In this research, they represent coupled domains of interaction; they are "variables" only in the sense that they are the specific sites where hegemonic pressure is applied to shape the system's "initial conditions". Throughout the analysis, it is constantly reminded that these domains are interdependent/entangled, meaning changes in the "technological variable" (e.g., 5G standards) non-linearly trigger shifts in the "security variable" (e.g., A2/AD capabilities and alliance formation), eventually feeding back into the systemic configuration of Complex Hegemony.

[3] Phase space is an abstract. A space of possibilities. It is a multi-dimensional space that represents all possible states of a system (Williams 2019, 58)

power dynamics. From this perspective, hegemony is not reducible to the dominance of a single state over others; rather, it is an emergent property produced by the shifting interplay among international entities across multiple domains (138-39).

This interplay represents a self-organizing system shaped by downward causation, where entities exercise influence on others and guide the international system's dynamics (Williams 2019a, 129). This guided self-organization nature highlights the dominant power's role in influencing worldwide processes, norms, and entity relations. This reinforces that this structure is not imposed but rather created by these interactions. Complex Hegemony theory refines the traditional understanding of hegemony in IR (see Figure 1.2). This premise will be further explored in this chapter.

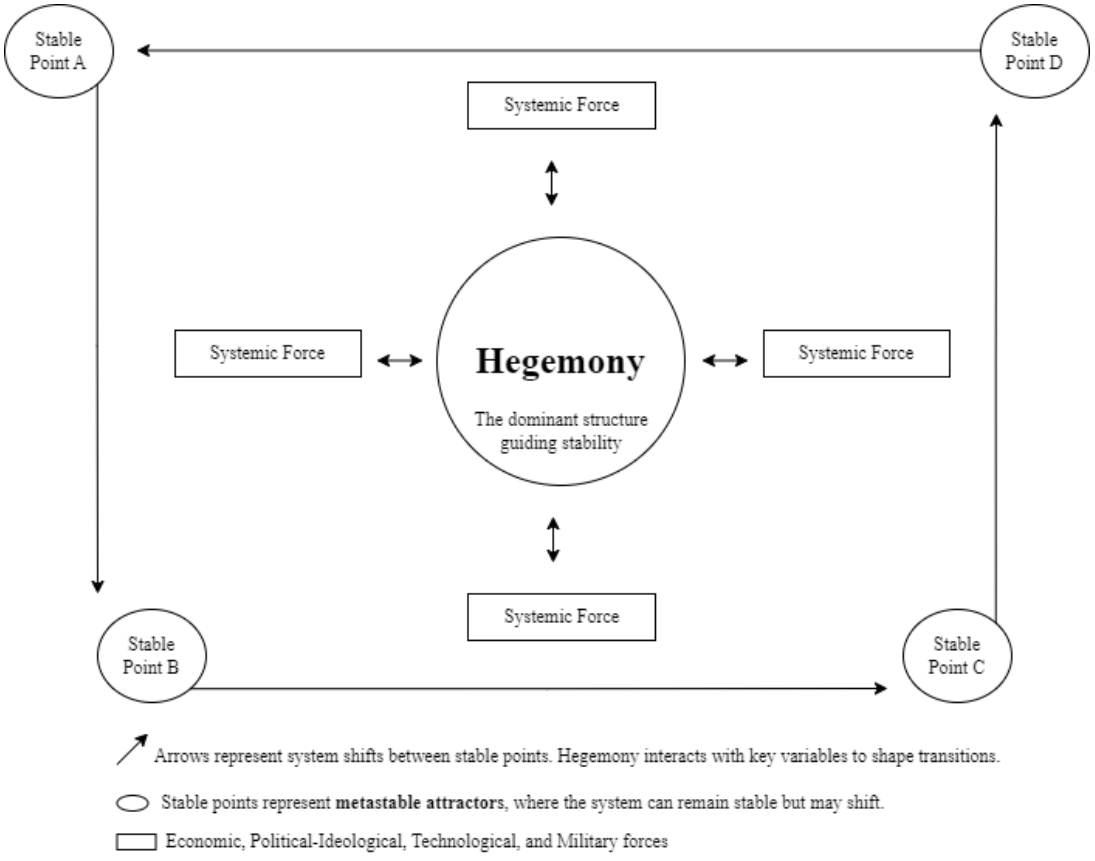

Figure 1.2 Metastability within Complex Hegemony

Source: Elaborated by the author based on Williams' Complex Hegemony theory (2019a, 147-48).

Williams (2019a) extends their application to the study of power and hegemony while based on systemic features of complexity theory. Hegemonic orders can be understood as complex systems that reproduce and adapt through distinct yet interrelated mechanisms. These

are: emergence, guided self-organization, generative entrenchment, and navigation. Together, they describe how power, influence, and order evolve within a metastable international system.

Emergence, within the context of complex hegemony, concerns the appearance of new configurations of power that result from the cumulative and often unintended interactions among diverse entities. These patterns of order arise from relational processes rather than deliberate design, reflecting how systemic change is generated from below through distributed interactions (Williams 2019a, 156).

Guided self-organization captures the capacity of dominant entities to influence systemic evolution indirectly. Instead of existing direct control, hegemonic powers shape the environment — its rules, infrastructures, and flows — within which other entities interact. This subtle steering effect allows order to be sustained through coordination and adaptation rather than coercion (Williams 2019a, 129, 234).

Generative entrenchment refers to the process by which certain material, institutional, and technological arrangements become embedded within the international system. Once established, these frameworks — such as worldwide supply chains, digital infrastructures, or regulatory standards — generate dependencies that stabilize existing configurations and make structural change more gradual and path-dependent (Williams 2019a, 156, 234).

Also, navigation illustrates the adaptive dimension of hegemony — the ability of dominant entities to adjust strategy and orientation in response to uncertainty and feedback. Rather than imposing fixed outcomes, they guide the system through continuous recalibration, ensuring coherence while allowing transformation (Williams 2019a, 234)

Collectively, these mechanisms showcase that hegemony is not a static condition of dominance but an evolving and self-correcting process that sustains stability through adaptation. They also reveal how hegemonic power in the international system depends on the capacity to generate, coordinate, and sustain complex interactions across multiple domains.

International transitions can be seen as a result of the dynamic nature of the system itself and can be described by periods of relative stability but with punctuated transformative crises (Gramsci 1971, 182, 455; Williams 2019a, 7, 53, 153). These transitions are driven by a complex interaction between internal and external forces that cover economic, political, social, technological, and military dimensions. Thus, shifts in the balance of power are not simply the result of isolated actions by dominant states. These moments of transformation often redefine

the trajectories of the international system's structure, presenting opportunities for rising powers to challenge the current norms and structures while dominant powers seek to sustain them. For research purposes, these forces will be considered as interdependent variables to analyze the probable power transition happening between China and the U.S.

Hegemonic systems like the current one led by the U.S. world order can be perceived as attractors within a socio-political phase space (Williams 2019a, 147). Considering metastability, these hegemonic systems, seemingly stable, are not permanent (148). They are always subject to the potential for change and can transition to new states of stability or different attractors. This is important for understanding how the international system could move from a U.S.-led order to one leading toward China's hegemony. Hegemonic forces such as technological, economic, political-ideological, and military ones are key variables due to their effect on the entire international system when altered. They can destabilize an existing hegemonic system and potentially lead to a shift (55, 150). A U.S. political and economic decline, plus China's technological and economic rise, could be very much the chain of events leading to a new stability (149).

This theory enables an examination of China's soft power[4] strategies as mechanisms for building influence. Furthermore, it allows for an investigation of whether China's rise is not just a challenge to U.S. military hegemony, but also an attempt to reshape international norms and institutions, as well as the self-organizing aspects of the worldwide system. For instance, in East Asia, regional dynamics will reconfigure in response to China's rise (Williams 2019a, 235). This framework highlights the role of intellectuals in shaping and maintaining hegemonic systems. China-U.S. rivalry is a case in point on how international institutions, media, and scholars establish ideological battles over technology and development models (Gramsci 1971, 13, 58; Williams 2019a, 179).

Building upon Gramsci's (1971) emphasis on the organic links between economic and political struggle, Complex Hegemony formalizes these interactions through the lens of complexity science. It doesn't replace the Gramscian focus, but rather maps it onto the multi-dimensional, non-linear arenas of 21st-century rivalry (see Figure 1.3). China's assertive foreign policy is an example of how economic and political-ideological aspects interact with each other. Fortifying China's strong presence in the world by developing countries, rather than

[4] Nye (2004; 2013) defines soft power (in behavioral terms) as an "attractive" and "manipulative" power to win "hearts and minds".

focusing solely on class-based economic interactions, and additionally, it challenges U.S. leadership (Williams 2019a, 91). The Complex Hegemony framework provides a strong foundation for exploring the complexities of China's rise and its effects on the international system structure. Each hegemonic force and its interaction with the others, considering the Complex Hegemony framework, will be closely explored throughout the next sections.

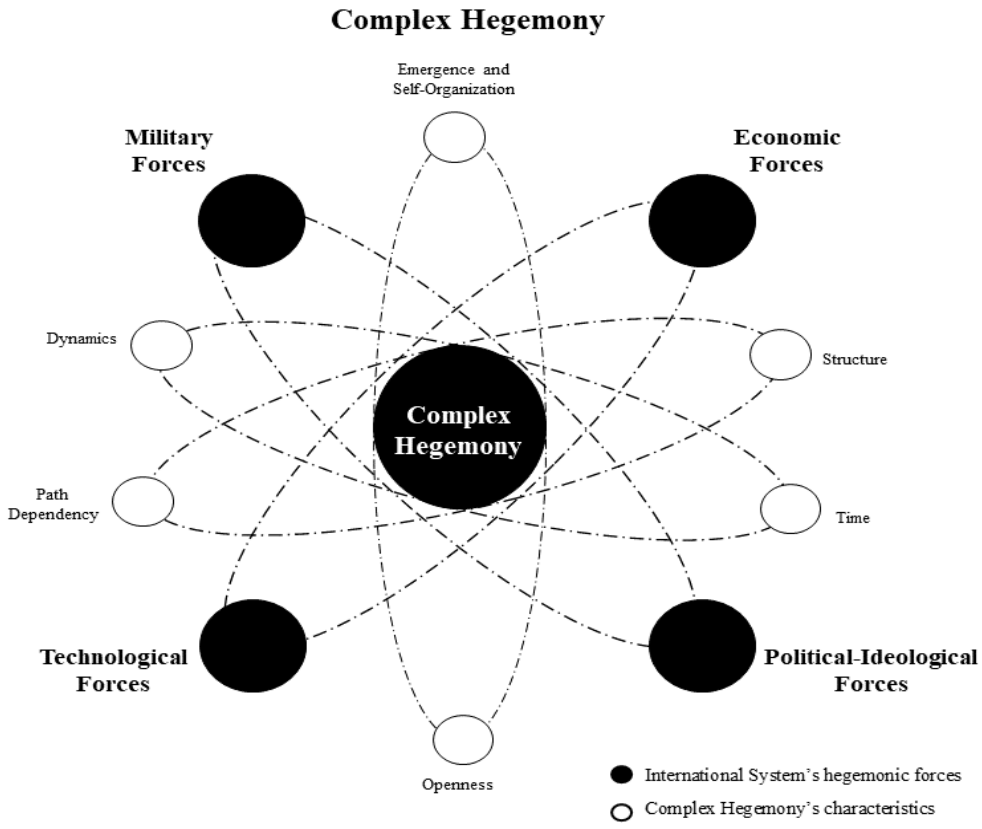

Figure 1.3 Complex Hegemony Representation.

Source: Elaborated by the author. Based on Williams' (2019a) Complex Hegemony theory and Strange's (1988) States and Markets.

Following Williams' (2019a) Complex Hegemony and Strange's (1988) States and Markets, Figure 1.3 was elaborated in this chapter to help visualize these dynamics (as a heuristic device). The drawing uses an "atomic" inspiration to illustrate the metastable configuration of international power. The nucleus represents the core of coupled domains — structural sectors or analytical cuts where interactions are concentrated — that establish the system's initial conditions. The "electrons" symbolize the recursive interaction between the characteristics of the hegemonic order (white) and the systemic forces (black) driving transition. This model

emphasizes that the international system is an open, non-linear assemblage where stability emerges from constant movement and feedback, rather than direct centralized command, keeping a dynamic equilibrium until a *threshold effect* triggers a systemic reconfiguration.[5]

Systemic Forces Driving Power Transitions

Systemic forces driving power transitions encompass interconnected economic, political-ideological, military, and technological dimensions (Gramsci 1971, 182, 455; Williams 2019a, 7, 53, 153). These forces play a pivotal role in both sustaining and destabilizing existing hegemonic systems, potentially leading to shifts in international order (55, 149, 150).

Analyzing these forces as variables is essential for understanding the China-U.S. rivalry, as it offers a framework to assess the complexities of their interactions and the potential for power transitions (Williams 2019a, 161). These forces do not operate in isolation but rather interact dynamically, shaping the competitive landscape between the two nations. Traditional IR theories, which primarily focus on state-to-state power relations, often fail to fully capture the influence of these structural forces in shaping international power dynamics (Strange 1988, 10-11,34).

Examining these variables enables a more precise assessment of the progression or resistance to systemic power transitions between China and the U.S. Understanding how these forces enhance or constrain each nation's strategic policies helps clarify the evolving nature of their hegemonic rivalry. Viewing them as interdependent variables provides deeper insights into the broader characteristics of the international system and the shifting dynamics of international power relations.

Moreover, these systemic forces offer a valuable lens for contextualizing transformation in international power dynamics from the Cold War to the present. Observing China's economic rise and its subsequent expansion sheds light on how the U.S. has perceived and responded to these changes. A structural analysis of these variables can, therefore, provide a more comprehensive understanding of the evolving international order and support informed decision-making in international politics.

In sum, conceptualizing these forces as variables offers a rich analytical framework for dissecting the interconnected dynamics of the China-U.S. rivalry and identifying potential power transitions. This approach facilitates a nuanced, multidimensional analysis of the

[5] A threshold effect acts as the non-linear trigger within the metastable "atomic" configuration, where accumulated systemic pressures reach a critical point that demands a phase transition toward a new hegemonic attractor.

interplay between these forces in shaping the international system. Throughout this research, economic, political-ideological, technological, and military aspects will be referred to as "forces" when they work as directional pressures that "push" and "pull" the system and shape outcomes; and used as "domains" when referred to as "arenas" or "fields" of interaction where rivalry unfolds.

Economic Power in the International System

Economic power is a fundamental force shaping state influence, alliance formation, and hegemonic potential (Lee, Bettani, and Sims 2024, 383; Mao and Wang 2023, 318). A strong economy enables states to exert influence over international markets, form strategic partnerships, and sustain hegemonic dominance (383-385). Economic structures also shape political dynamics, affecting domestic and international decision-making (Gramsci 1971, 264). Moreover, economic interdependence fosters negotiation and potential compromise between major powers even amid strategic rivalry (Chen 2019, 112).

This structural force extends beyond individual states, operating within an integrated and complex international system (Leoni 2022, 322). Transitional corporations, financial institutions, and worldwide markets play a key role in this framework (Williams 2019, 171). Financialization – the growing influence of financial institutions and the financialization of non-financial sectors – reshapes political dynamics and power structures. The liberalization of world finance and increasing national debt function as transnational disciplinary tools, influencing both household and state-level economic policies. Additionally, economic sanctions serve as an international disciplinary tool, exerting pressure on targeted states (171-72).

Moreover, economic power is exercised through deliberate strategies, including economic and financial statecraft[6] (Mao 2023, 326). Thus, financial power enables states to achieve foreign policy objectives by leveraging their economic and institutional expertise (321). These strategies employ both positive (incentives, consultation, permissiveness) and negative (coercion, protectionism, sanctions) approaches (322).

The interdependence between the U.S. and China necessitates a careful balance between economic interests and national security matters (Mao 2023, 321). Their deep economic integration has created mutual dependence, shaping both cooperation and competition (Wei

[6] Financial statecraft refers to the strategic use of financial tools to achieve foreign policy goals, strengthening s state's political and economic influence (Mao 2023, 321).

2019, 25). Finance has emerged as a key battleground in their rivalry, with both nations leveraging financial power to advance strategic interests (Mao 2023, 318).

The dominance of the U.S. dollar grants Washington significant leverage, enabling financial sanctions and wealth extraction. However, relying too much on sanctions might push to an alternative currency by adversaries (Mao 2023, 319-20). Additionally, China seeks to influence the international system through agenda-setting[7] and strategic statecraft[8] (Mao 2023, 3021). Thus, expanding financial linkages and reforming its monetary system is important to its efforts to strengthen international financial power (324-25).

Political and Ideological Power in the International System

Political power embraces a range of elements, including strategy, tactics, strategic planning, propaganda, command structures, and political organization (Gramsci 1971, 176). It operates on multiple levels: international forces, internal societal dynamics, political competition among parties, and immediate political relations. Moreover, political power is shaped by the organic relationship between a state's domestic and foreign policies (264).

Ideological power, like the political one, influences how nations perceive and engage with the world. It shapes international narratives, frames discourse, and establishes international norms (Mao 2023, 319). Ideologies play a crucial role in organizing social groups, defining the terrain on which people recognize their positions and engage in political alignments on both national and international levels (Gramsci 1971, 182).

These structural forces are deeply connected, as hegemony relies on both coercion and consent (Williams 2019a, 94). Political leadership influences the mechanisms of self-organization within a system, while ideological dominance engages both rationality and affect[9] (emotions) to sustain hegemonic projects (163). In this context, China and the U.S. compete ideologically, particularly in shaping domestic and international orders (Jie 2020, 189). China

[7] Agenda-setting involves shaping the key priorities and frameworks that shape international economic and political order (Mao 2023, 319;321)

[8] Strategic statecraft refers to the deliberate use of strategies, methods, and techniques to inhibit a state's resources into power. In the economic sphere, this corresponds to policies and mechanisms for economic leadership (Mao 2023, 325-326)

[9] In this case, *affect* refers to the emotional and experiential dimension of ideological hegemony. It influences how people perceive and engage with the world around them, often in ways that are not consciously rational or deliberative (Williams 2019, 165).

remains cautious of perceived Western destabilization efforts, while the U.S. expresses growing concerns about China's expanding political influence (Jie 2020, 189; Jisi and Ran 2019, 7).

Hegemony within complex social systems depends on the dynamic interplay between different domains of power (Williams 2019a, 161). Effective hegemony requires leveraging interactions across political, ideological, economic, and military spheres. This dynamic is reflected in international relations, which do not exist in isolation but evolve in response to broader social structures. As Gramsci argues:

> Do international relations precede or follow (logically) funda-mental social relations? There can be no doubt that they follow. Any organic innovation in the social structure, through its technical- military expressions, modifies organically absolute and relative relations in the international field too. Even the geographical position of a national State does not precede but follows (logically) structural changes, although it also reacts back upon them to a certain extent (to the extent precisely to which superstructures react upon the structure, politics on economics, etc.). However, inter- national relations react both passively and actively on political relations (of hegemony among the parties) (Gramsci 1971, 176).

This perspective shows how transformations in social structures drive shifts in international relations, which, in turn, influence political hegemony. The China-U.S. rivalry will be further analyzed in subsequent chapters, examining its evolution across key structural variables.

Technological Power in the International System

Technological power refers to a nation's ability to leverage advancements in innovation, and research and development (R&D) for economic, military, and political influence in the international system (Xu and Lu 2021, 106; Zhu and Long 2019, 141; Wu 2020, 102-103). Key technological developments often serve as catalysts for industrial revolutions, enhancing national power and reshaping international structures (Zhu and Long 2019, 141).

In the economic realm, technological advancements – such as artificial intelligence – can significantly boost Gross Domestic Product (GDP) and national competitiveness (Zhu and Long 2019, 142). In the military, cutting-edge technologies play a decisive role in shaping future defense capabilities and determining the balance of power (Yao 2021, 208; Wu 2020, 102). Information and communication technologies (ICT) have become key to geopolitical influence, affecting economic infrastructure, public opinion, and military systems (Xu and Lu 2021, 105). Given these dynamics, nations that dominate key technologies often position themselves as

world leaders, making technological superiority essential for keeping their hegemony (Zhu and Long 2019, 141-42).

China-U.S. rivalry exemplifies the strategic importance of technological power. Both nations lead in emerging technologies, especially artificial intelligence (AI) and military applications, shaping the trajectory of international power dynamics (Zhu and Long 2019, 142). China's rapid technological advancements have enabled it to reduce dependency on foreign innovations and strengthen its high-tech manufacturing sector (Yao 2019, 94). Meanwhile, the U.S. has taken measures to sustain its technological hegemony, including increased investments in R&D, export controls, and strategic alliances in areas such as 5G and AI (Lee 2021, 165; Kania 2021, 213-15). A major concern for the U.S. is China's potential to surpass it in AI, a development that could shift the balance of the current international system's structure (Zhu and Long 2019, 140).

Technology and infrastructure serve as crucial battlegrounds for hegemony by shaping spaces where political struggles unfold (Williams 2019a, 176). Successful hegemonic projects often emerge within stable and long-standing technological frameworks, making sure to have continuity despite political shifts. From the perspective of Complex Hegemony, technological power operates across multiple domains each with its localized logic and internal dynamics (78). Hegemony in complex social systems depends on the interplay between these different structural powers. Additionally, technical knowledge has historically been linked to the emergence of hierarchies and power asymmetries. As Qi (2021, 296) notes, "Technology has never been an apolitical and amoral force, and so it remains today."

Military Power in the International System

Military power extends beyond direct coercion or dominance; it operates in conjunction with other forces to shape the international system. Effective hegemony requires managing interactions across multiple spheres of influence, including the military (Gramsci 1971, 13, 57-58; Williams 2019a, 91). While military power is not explicitly mentioned as a structural force in Complex Hegemony theory, it is considered key for this analysis because it is one of the three key dimensions of Gramscian hegemony – structural, political, and military (Gramsci 1971, 180-85) – thus, should not be ignored.

The military force is a key aspect of state power for being its control over the legitimate use of force within its territory (Gramsci 1971, 13, 57-58; Williams 2019a, 173). Military capabilities not only reinforce a state's authority domestically but also enable it to assert influence in the international system and shape the balance of power (Lee 2024, 385). Hegemony functions by integrating multiple societal forces, ensuring coherence across institutions, policies, and strategic sectors (Williams 2019a, 104).

As a structural force, military power also plays a crucial role in shaping international perceptions and diplomatic influence, contributing to a state's ability to set international norms and engage in international diplomacy (Lee 2024, 401). However, military power alone has limitations. Advanced military technology can counterbalance the disadvantages of a smaller human force, but geopolitical factors may constrain its effectiveness (389).

China's land-based military dominance contrasts with the U.S. naval power, which complicates efforts to assert regional hegemony across different domains (Lee 2024, 389-90). Thus, military power must be complemented by economic strength and soft power policies to sustain long-term influence (Mao 2023, 319). Meaning that military power is deeply interconnected with all structural forces previously mentioned in this chapter, and the interplay between them can shape the international system (Lee 2024, 385; Williams 2019a, 104, 161-62). Consequently, this interaction between the forces can influence how states and other entities project power, pursue their interests, and contest hegemony (129).

To clarify the mechanism of power used in this study, Table 1.3 summarizes the core components of Williams' (2019a) framework as they are operationalized within the context of the China-U.S. rivalry and a probable international systemic power transition:

Table 1.3 Key Concepts in Complex Hegemony.

Concept	Complex Hegemony	How to recognize it in the analysis	China-U.S. Rivalry (Application)
Entities	Internally differentiated group with latent "causal powers" that interact across multiple scales. They are emergencies rather than fixed.	Identify agents with the capacity to constrain others through **downward causation** (e.g., infrastructures, influential or regulatory authority that lock-in behavior).	The U.S. and China as institutional ensembles; platform firms (TikTok, Alibaba, Verizon) as extensions of national power; standards bodies (e.g., International Organization for Standardization - ISO).
Domains	The **structural** sectors or **analytical cuts** into the social whole where interactions are concentrated (e.g., technical, military, or economic) and are not ontologically separated.	Map where the **arenas' structural sectors are** entangled: how a technical standard (tech domain) generates a security dilemma (military domain) or reshapes market access (economic domain).	**Technological**: 5G/6G and AI standards. **Military:** A2/AD and maritime corridors. **Economic**: semiconductor supply chains and data localization. **Political-Ideological:** technological norms as either "open/democratic" or "sovereign/security-centric".
Forces	The **qualitative pressures** or **systemic energy** that drive the co-evolution of domains; they function by shaping **environmental parameters** and **initial conditions** rather than direct command.	Trace **recursive feedback loops** and **non-linear paths**. Identify an **indirect steering** where the hegemon alters the landscape so that other entities **self-organize** in a preferred direction.	**Securitization of data flows** and platform ownership (e.g., TikTok and the platform competition and securitization within the China-U.S. rivalry), and the **cumulative interaction** of threat perceptions (see Figure 1.3)
Attractors	Relatively **stable patterns** in the system's **phase space** toward which dynamics converge; they represent emergent **systemic tendencies** rather than entity preferences.	Identify **patterned convergence** where the system returns to a specific state after shocks.	**Technological bifurcation** and the "**digital iron curtain**"; competing techno-institutional orbits (e.g., U.S.-led market networks vs. China-led state-centric connectivity).
Metastability	A state of **dynamic equilibrium** where a configuration is stable enough to endure but remains sensitive to disturbances that can trigger rapid phase shifts.	Identify periods of surface-level durability that mask accumulated pressures. Signs include **threshold effects** where a single shock triggers a systemic shift.	**COVID-19** as a disruptive disturbance that accelerated the shift toward de-risking and resilience.

Source: Elaborated by the author based on Williams' (2019a) Complex Hegemony theory.

Methodology

Selecting an adequate methodological approach is key to provide a strong structure for this research. It ensures rigor, minimizes bias, and enables a coherent understanding of the China-U.S. rivalry within the Complex Hegemony framework (Siddaway, Wood, and Hedges 2018, 751). Considering that this is qualitative that this qualitative study investigates the phenomenon of international systemic power transition, a single case study — the China-U.S. hegemonic rivalry— will be used as the all-embracing methodology (Baxter and Jack 2008, 548-50).

The case study offers an opportunity to deepen and explore the power transition phenomenon amid the ongoing rivalry between China and the U.S. (Baxter and Jack 2008, 544). The selected dimensions—economic, political-ideological, technological, and military—enable the analysis of one phenomenon through interconnected forces and actions, revealing the subtleties of the China-U.S. rivalry. Furthermore, this methodology, by aiding in understanding the power-transition process in the current setting, allows for an evaluation of what this rivalry adds to IR debates about Chinese power (550). In summary, this approach allows a detailed understanding of an interconnected system within the specific context selected (Hancock, Algozzine, and Lim 2021, 9).

In addition to the case study and ensuring methodological coherence, a literature review will serve as the method of data collection, and qualitative content analysis will be used as the method of data analysis. A literature review provides a structured and transparent way to curate the content of analysis and to synthesize relevant knowledge (Siddaway, Wood, and Hedges 2018, 751). It is the first step in the entire research, such as this dissertation, by offering a holistic overview of existing work, identifying gaps, and situating this study within the current debates (Kraus et al. 2022, 2579).

To add rigor and reproducibility, the literature review defines criteria for database selection (e.g., Scopus and/or Web of Science), search strings, time windows, fields searched (title/abstract/keywords), subject areas, document and source types, and language—correctly justified (Kraus et al. 2022, 2583). This is because researchers can develop search keywords step by step: first by searching key documents and refining the terms, and then by using automated or semi-automated tools (e.g., text mining) to uncover more relevant records and predict which influential works are likely to be cited, thereby improving coverage (2583).

Aligned with this, it will be adopted a “miner” orientation to extract insights from an established domain (the China-U.S. rivalry) and organize them within the Complex Hegemony

framework to seek a distinct contribution relative to adjacent reviews (Breslin and Gatrell 2020, 142). Metaphorically, it will be "mined" from an existing field to gather sufficient material for this research to move forward—that is, to craft a coherent analytical content (Gilles 2014, 34-35). As coherent as possible.

Qualitative content analysis, then, provides the analytic procedure to examine the curated corpus—policy documents, speeches, economic indicators, and scholarly texts—to identify patterns and shifts in the China-U.S. rivalry (Kleinheksel et al. 2020, 127). It is designed to isolate and interpret meaning in recorded communication by moving from raw text to coded categories and higher-order themes (127-28). To ensure rigor, this analysis will employ: (i) a clear coding scheme and codebook, specifying themes and their relations (Snodgrass et al. 2020, 403, 411; Kleinheksel et al. 2020, 131, 136); (ii) reflexibility, by acknowledging the researcher's assumptions and positionality throughout this research's entire process (Kleinheksel et al. 2020, 129; Graneheim, Lindgren, and Lundman 2017, 33); and (iii) an audit trail, documenting methodological decisions, code development, coder training, and repetitions (Kleinheksel et al. 2020, 131). For algorithmic text analysis (ATA), attention to data-quality issues and data-processing procedures will guide implementation (Lacy et al. 2015, 807). Methodological details are addressed in the research procedures subsection. To ensure methodological transparency and provide a clear audit trail, the qualitative codebook and the full matrix of sources are documented in Appendix A and B, respectively.

Case Study Approach

As stated, a single case study will guide the investigation of international systemic power transition, focusing on the China-U.S. rivalry. Through this design, the research examines the structures of the international system and the forces that influence hegemonic transitions. The focal forces (this research's variables), economic, political-ideological, technological, and military, are justified by their importance to hegemonic dynamics in classical (Gramsci 1971; Strange 1988) and contemporary frameworks (Williams 2019a). The selected interactions are detailed in the tables below.

Economic Interactions

These economic interactions shape their respective international influence and economic advantages. For instance, shifts in economic discourse will be considered by quantifying the frequency of economic terms in key documents related to economic growth and development (Kleinheksel et al. 2020).

Table 1.4. Economic interactions.

Interactions	Description
Trade Agreements	Analysis of trade deals between China and the U.S. and their strategic implications.
Tariff Impositions	Examination of tariff policies and their impact on economic competition.
Economic Policies	Study of policies adopted by both nations to exert influence and gain economic advantages.
Belt and Road Initiative (BRI)	Assessment of BRI's impact on trade routes, economic partnerships, and U.S. responses.

Source: Elaborated by the author.

Political-Ideological Interaction

Analyzing these interactions will allow a better understanding of their attempts to shape the international system and secure leadership positions within this dimension.

Table 1.5. Political Interactions

Interactions	Description
Diplomatic efforts and alliances	Evaluation of how China and the U.S. form alliances and engage within the international system.
Ideological competition	The contrast between China's "Harmonious World" and the U.S.'s "Liberal International Order".
Influence on International Organizations	An analysis of the competition for leadership in institutions like the WTO.

Source: Elaborated by the author.

Technological Interactions

Technology and infrastructure will be thoroughly analyzed as the battlegrounds for hegemony, particularly concerning Taiwan's strategic position and its technological resources, especially in semiconductor production.

Table 1.6. Technological interactions.

Interactions	Description
Semiconductor Industry	Analysis of the semiconductor sector impacts and is impacted by the China-U.S. rivalry.
Cybersecurity	Evaluation of cybersecurity competition in the digital era.
Artificial Intelligence (AI)	Study of AI advancements and their geopolitical implications.
5G Technology	Investigation into 5G competition and its role in world tech dominance.

Source: Elaborated by the author.

Military Interactions

These military activities will be analyzed considering how each state controls the legitimate use of force within its territory, linking it to the overall dynamics of power transition and hegemonic rivalry.

Table 1.7. Military interactions.

Interactions	Description
Naval Access and Expansion	Examination of China's maritime strategy and the U.S. response.
Defense and Cooperation Agreements	Investigation of the security alliances involving China and the U.S.
Taiwan	Assessment of Taiwan's importance in U.S. power projection in the Asia-Pacific region, and China's sovereignty claims.

Source: Elaborated by the author.

These dimensions will be analyzed as interdependent, consistent with a complex-systems view of hegemony.

Literature Review and Qualitative Content Analysis

Literature Review (data collection): The review presents the empirical and theoretical corpus for the case study, ensuring this length and transparency (Siddaway, Wood, and Hedges 2018, 751). As a first step in this research workflow, it offers a holistic overview, identifies gaps, and positions the inquiry (Kraus et al. 2022, 2579). Rigor is supported by predefined criteria for databases, time windows, fields searched, subject areas, publication stages, document/source types, and language (Kraus et al. 2022, 2583).

Qualitative Content Analysis (data analysis): Using the curated corpus, qualitative content analysis identifies patterns and themes across discourse, indicators, and policy artifacts relevant to China-U.S. rivalry (Kleinheksel et al. 2020, 127-128). The analysis proceeds with a transparent coding scheme and codebook, researcher reflexivity, and a document audit trail (Snodgrass et al. 2020, 403, 411; Kleinheksel et al. 2020, 129, 131, 136). A clear coding scheme provides a

structured approach to categorizing and interpreting data (Snodgrass et al 2020, 411; Kleinheksel et al. 2020, 136). It involves defining themes and their relationships in codebooks and applying those codes in a text format (Snodgrass et al 2020, 403). Reflexivity involves acknowledging and addressing the researcher's own biases, assumptions, and influences through the research process (Kleinheksel et al. 2020, 129; Graneheim, Lindgren, and Lundman 2017, 33). Documenting the research process involves keeping thorough records of all methodological decisions, code development, and coder training (Kleinheksel et al 2020, 131).

For ATA components, data quality issues and data processing procedures will be the criteria for this research (Lacy et al. 2015, 807). Together, literature review and qualitative content analysis provide a logically integrated pipeline that complements and strengthens the single case study (see Figure 4).

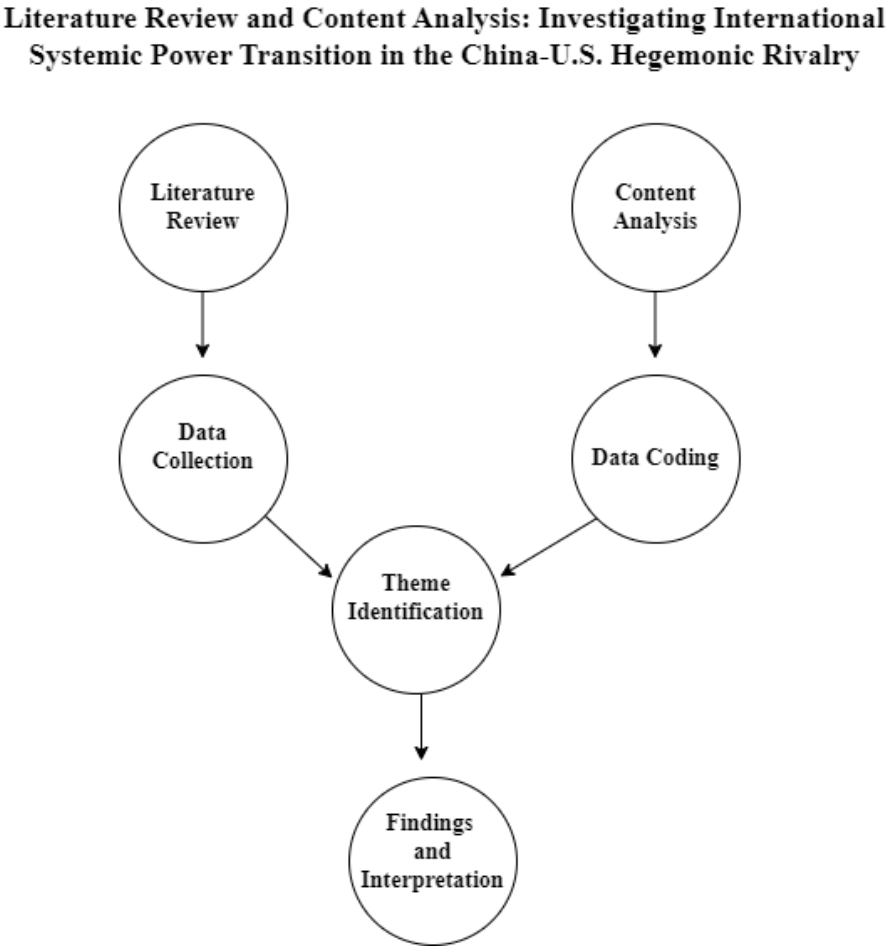

Figure 1.4 Applicability of Literature Review: (method of data collection) and Content Analysis (method of data analysis).

Source: Elaborated by the author based on the works of Siddaway, Wood, and Hedges (2018), Waddington et al. (2012), Kleinheksel et al. (2020), Siddaway (2018), and Lacy et al. (2015)

Research Limitations and Scope of Generalization

This research acknowledges its limitations, the potential impact they may have on its findings, and their generalizability. A key limitation concerns the sampling approach. The methods used may result in a sample that does not accurately reflect the broader populations of the nations under this study. It is imperative to note that this analysis focuses on foreign policy and government, rather than the diverse experiences of the people within these nations (Lacy et al. 2015, 793).

As a result, any conclusions drawn from the samples may not apply to understanding the more complex cultural and demographic factors at play (794). This research analyzes these aspects in a generalized way, focusing on cultural and demographic factors' influence on foreign politics and power dynamics, with an emphasis on hegemony at a larger scale.

Language bias is also a limitation due to most of the sources found and used in this research being in English; this may limit the diversity of perspectives considered and overlook valuable insights from non-English-speaking scholars (Siddaway, Wood, and Hedges 2018, 758). Additionally, practical limitations, such as limited time and resources, may also affect this analysis. Thus, it is why it is necessary to narrow the research and use a single case study.

Lastly, it is imperative to clarify that this research's intention is not to provide a definite, all-encompassing definition of the international system or the China-U.S. rivalry. Instead, it aims to offer another perspective and open the door for further discussions on these topics. Then, considering that this research's findings may not apply to other situations without considering the unique conditions of this case study.

U.S.–China Rivalry in Historical Context: Laying the Foundations of Transition (1949–2001)

The relationship between China and the U.S. has evolved significantly, especially when analyzed through the lens of the Cold War and post-Cold War periods (Yuan 2020, 16). Understanding the Cold War context allows for identifying parallels and differences between the Soviet-U.S. rivalry and the current China-U.S. relationship (Ross 2020, 70). This comparison is crucial in highlighting the risks and opportunities in the shifting dynamics between the two nations (Goldstein 2020, 50). As Ross (2020, 70) notes:

> China is not the Soviet Union. Rather than isolate itself from the global economy, since the end of the Maoist era, all Chinese leaders have believed that China benefits from participation in and support for the U.S.-led post-World War II economic order (Ross 2020, 70).

China's economic involvement in the international trade order has not only fueled its rise but has also contributed to China-U.S. competition while simultaneously creating opportunities for cooperation. By examining the Cold War context, the China-U.S. relationship becomes clearer, revealing its limitations and potential risks. While historical analogies offer valuable insights, they may also lead to misunderstandings due to biases, such as cognitive biases (systematic patterns deviating from rationality), which result in framing effects (Yin 2020, 259).

The Cold War period provides critical lessons on how great powers can compete without resorting to full-scale conflict (Ross 2020, 68). This understanding is essential in assessing each nation's strategic intentions (Xu and Lu 2021, 106). However, even though China and the U.S. may not be engaged in the same ideological conflict as the Soviet Union and the U.S. during the Cold War, ideology still plays a significant role in shaping bilateral relationships, influencing both cooperation and competition and altering the international system's structure (Jie 2020, 185-186).

In the 1970s, China and the U.S. formed a quasi-alliance driven by mutual concerns about the Soviet Union (Wei 2019, 23; Yao 2019, 87). This strategic partnership led to strengthened military relations (Yao 2019, 87) and culminated in the normalization of diplomatic ties between the two nations. China's restoration of its seat at the United Nations (UN) and the start of its reform and opening-up period marked a turning point for both countries.

On January 1, 1979, the U.S. prioritized supporting China's modernization in opposition to the Soviet Union, often overlooking demands for political reform (Fingar 2019, 13). However, this quasi-alliance ended with the dissolution of the Soviet Union, eliminating the shared geopolitical goals. Consequently, U.S. concerns regarding China's security posture grew (Yao 2019).

After the Cold War, a prevailing belief in the U.S. suggested that *globalization* would foster economic cooperation and integration among nations, including China (Leoni 2022, 324). In the 1990s, the U.S. did not perceive China as a threat, but rather a country that should be guided by them through 'American values' (Chengqiu 2019, 42). This "hyperglobalist consensus" posited that engaging China economically and politically would ultimately lead to its adoption of Western political and democratic values, bringing it closer to the U.S. and the broader

Western economic system (Chengqiu 2019, 42; Leoni 2022, 325). China's economic integration within the Liberal International Order (LIO) and its diplomatic and military isolation highlighted the complexities of the intersection between economic, political, and military structural forces (324).

Despite moments of heightened tension – notably the Third Taiwan Strait Crisis (1995), one of the most intense confrontations between China and Taiwan since the 1950s – China-U.S. relations evolved in a generally cooperative direction throughout the late 1990s. In spite of China's firm responses to recurring U.S. concerns over human rights issues, the two countries gradually moved toward closer engagement. This period saw the lifting of numerous economic sanctions and the strengthening of diplomatic ties, culminating in the negotiations for China's entry to the World Trade Organization (WTO) negotiated with the U.S. (Chengqiu 2019, 44).

As China integrated itself into the world economy, the U.S. became increasingly concerned about China's rise, realizing that China was not reshaping itself to its democratic ideals. As a result, the relationship shifted from cooperation to strategic competition (Yuan 2020, 16). Despite the ongoing competition, China and the U.S. are not inevitably headed toward violent conflict or a new Cold War (Ross 2020, 69). Unlike the Soviet-U.S. rivalry, their relationship is not defined by an ideological struggle, even though it exists. Both countries continue to share common interests in multiple areas that require cooperation and negotiation for mutual benefit (68). This competition may, in fact, be reshaping the international system, a topic that will be explored further in the following chapters.

Contemporary dynamics in China-U.S. relations are shaped by a complex mixture of competition, cooperation, and rising tensions across different power dimensions (Fingar 2019, 12; Ross 2020, 64-65; Yao 2019, 86; 91; 96). This marks a significant shift from the once cooperative partnership to a relationship defined by strategic competition (Jisi and Ran 2019, 8-9). The competition between both nations is driven by a shifting international power balance, ideological differences, and economic conflicts, with key areas of contestation, including trade, technology, military, and geopolitics (Jisi 2019, 197-199; Yang 2020, 294; Yong 2019, 121). These factors are reshaping their interactions, creating a dichotomy of common and divergent interests that are still intertwined.

Despite the growing tensions, the U.S. and China remain economically interdependent (Leoni 2022 323). This interdependence, however, is now increasingly complicated by a trend toward "selective decoupling" (reducing ties), especially in strategic sectors like

semiconductors, next-generation technology, and green economy. Both nations are trying to strike a balance between their economic needs and security matters, which frequently leads to shifting alliances and trade practices (Leoni 2022, 330). This dynamic also ties into the broader process of restructuring the international order, where the evolving China-U.S. relationship plays a pivotal role. As power dynamics between the dominant and the rising power shift, especially within multilateral frameworks, such as the UN, the way China and U.S. interact with each other directly influences the international systems and all entities within it (Wei 2019, 25; 28-30; Yang 2020, 291).

Even though there points of divergence, there are still areas where China and the U.S. share common interests, such as in international governance and regional stability. However, these cooperative spaces are often overshadowed by more divergencies, including trade practices, cybersecurity, and territorial claims (Fingar 2019, 12; Yao 2019, 86). Military competition further enhances this dynamic, as both nations at the same time try to prevent any military crisis escalation (Yao 2019, 89; Hu 2021, 262). The nature of their military competition is unique, marked by maritime-centered confrontations and technological advancements, which present new challenges for both sides (Hu 2021, 263).

The ideological contrast between China and the U.S. also plays a pivotal role in shaping their interactions, with the U.S. expressing concerns regarding Chinese domestic policies (Jisi 2019, 197-199). These ideological differences influence their foreign policy decisions and their approach to each other. At the same time, domestic dynamics in both countries significantly shape their foreign policy approaches, highlighting how internal factors can heavily influence how they perceive and act towards each other (Jisi and Ran 2019, 5). The asymmetrical relationship highlights complex matters, especially in areas like access to information, investment opportunities, and geopolitical influence (Fingar 2019, 12-13; Williams 2019, 55-58, 147). Therefore, due to the given theoretical concepts and practical context, it is possible to apply the concept of within China-U.S. relations from the Cold War to the present (see Figure 1.5).

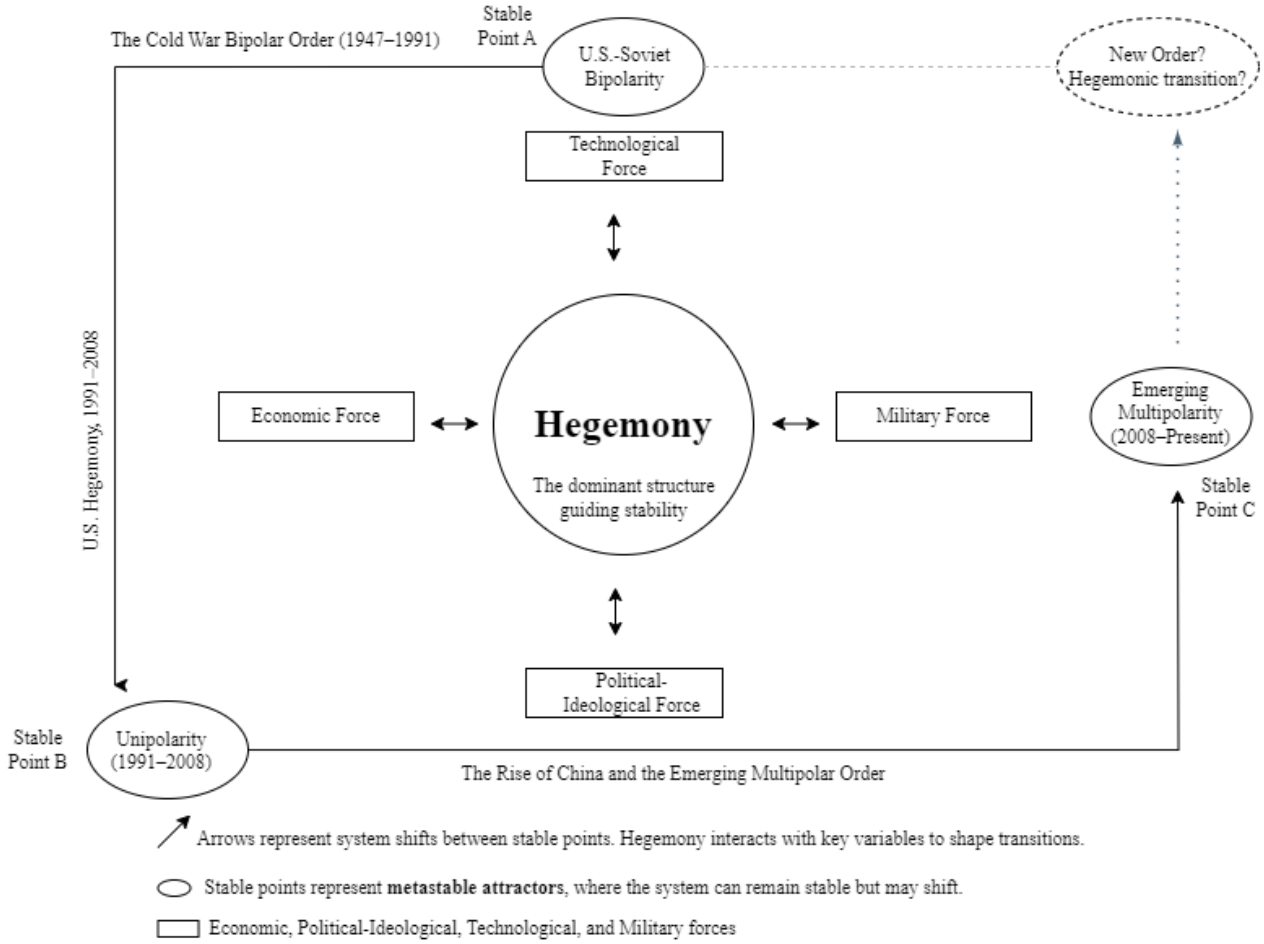

Figure 1.5 International Systemic Power Transition within Complex Hegemony.

Source: Elaborated by the author based on Williams' Complex Hegemony theory (2019a, 147-148).

Partial Conclusions

The China-U.S. rivalry, within the Complex Hegemony theory, shows how hegemony operates across multiple domains – economic, military, technological, and political-ideological (Williams 2019a, 138-139; Gramsci 1971, 12-55-58;175; 274; Strage 1988, 6; 17). Different from traditional IR theories, which focus mainly on direct confrontation (regardless of the area), Complex Hegemony takes into consideration the interdependence within structures. This premise allows an extension to an IR analysis over the international system's structure and power dynamics. The hegemonic rivalry between these two nations does not follow a linear path of hegemonic decline and rise but rather a progressing reconfiguration of influence within an interconnected system (Williams 2019a, 161-162; 170-171).

The evolving hegemonic rivalry between China and the U.S. reflects a shift from past cooperation to strategic competition. While economic interdependence remains, tensions have risen in areas such as economy, politics, technology, and military strategy (Fingar 2019, 12; Ross 2020, 64-65; Yao 2019, 86; 91; 96). Despite this, both nations continue to engage in limited cooperation on international issues, albeit these efforts are frequently overshadowed by ongoing disputes. China's rise and the U.S. reaction to it are also contributing to a probable restructuring of the international system, particularly within multilateral institutions (Leoni 2022, 323; 330).

Unlike the Cold War, where the U.S. and the Soviet Union were locked mainly in an ideological dispute, the China-U.S. is shaped by an intertwined competition within structural forces such as economic, technological, political-ideological, and military (Ross, 2020, 70; Williams 2019a, 181; Gramsci 1971, 175; 264). While competition defines much of the relationship, neither nation appears destined for outright conflict. How this rivalry continues to unfold will have profound implications for the future of the international system's structure, a topic explored in the next chapters.

Chapter 2: Emergent Tensions - The U.S.–China Rivalry Before the Metastable Shift (2001-2012)

The choice to begin this analysis with the 2001-2012 timeframe is based on the concept of metastability (see Figures 1.2 and 1.5 in Chapter 1), which describes a fragile equilibrium between stability and disorder, always with potential for sudden changes (Williams 2019, 54-55). Therefore, metastable systems are marked by punctuated leaps between points of relative stability, representing temporary equilibria that can shift with the slightest change in system parameters (55). In this sense, the decade under consideration can be understood as a metastable phase in China-U.S. relations — the 21st century started with the U.S. standing as the sole superpower, with an uncontested military, economic, technological, and political ideological dominance, coming from an "unipolar moment" (Krauthammer 1990, 24); and an openly competitive bipolarity has not yet solidified. This context led to the belief that an "unstable equilibrium" from 2001 onward created the conditions in which the seed of this rivalry was incubated (Williams 2019, 107).

The starting point of 2001 is particularly meaningful due to China's accession to the WTO on December 11, 2001, which marked the end of its "pragmatic engagement" phase (1971-2000) and the beginning of its "parallel institution-building" from that year on (Yuan 2025, 2, 6-7). [10] The WTO membership exposed Chinese State-Owned Enterprises (SOE) to international competition and prompted reforms aimed at corporatization and diversification (Liu and Woo 2001, 138). Rather than merely conforming to Western expectations, China used the WTO rules strategically to maintain state dominance while advancing industrial policy, showing the contradictions of metastability — an apparent stability coexisting with latent incompatibilities (Williams 2019, 54-55; Yuan 2025, 7-8). This transition initiated China's "dual-track strategy", which means that they were selectively engaging with U.S.-led institutions and at the same time constructing alternatives (delve into Chapters 3 and 4) (Yuan 2025, 2-8; Zhao 2019, 10-11).

[10] China's "Pragmatic Engagement" (1971-2000) involved gradual integration as a rule-taker within the U.S.-led order, while "Parallel Institution-Building" reflects its dual-track strategy of engaging existing institutions while creating alternatives such as the SCO, AIIB, and BRI, which will be discussed further in this chapter and the following ones (Yuan 2025, 2-8).

Another key moment within this metastable decade was the 2008 world financial crisis, which exposed the vulnerabilities of the U.S.-led order and acted as a "bifurcation" point, tipping the system closer to open rivalry (Williams 2019, 56). The crisis accelerated China's ambitions to push for reforms in international governance and to promote its own state-led development model as a credible alternative (Yuan 2025 7-8).

From the Complex Hegemony perspective, the crisis can be seen as representing a modification of system parameters that deepened the instability of the equilibrium, intensifying the assertiveness in seeking greater influence in international institutions and in shaping parallel mechanisms to balance U.S. dominance. The 2001—2012 timeframe not only witnessed the solidification of strategic competition but the emergence of a clear divergence on perceptions between China and the U.S. where both sides claimed to uphold the "international order" yet defined it in fundamentally different ways (Liu and Yang 2023, 1384-91).

Not only the U.S but the Western policymakers, influenced by the U.S.-led order, increasingly framed China as a revisionist threat to the LIO, and they understood the international order as something rooted in liberal-democratic norms and open markets (Liu and Yang 2023, 1389). Chinese leaders, by contrast, defined the "international order" in primarily UN-centered and functional terms, rejecting the notion that liberal values were intrinsic to it (1890-91). This divergence created mutual suspicion. On the U.S. side, a fear that China sought to build an "authoritarian-capitalist" alternative order; on the Chinese side, there is a critique of the LIO as something that excludes countries that do not align with the U.S., then preserving its hegemony (1391).

The assumption of the 2001-2012 decade representing the starting point where a metastable phase in which systemic contradictions were incubated — paving the way for the intensified rivalry that followed — lies on these structural changes and divergences regarding international order, and how the space where influence was exercised grew significantly. Economic integration, political-ideological influence, technology, and military development became overlapping domains that reinforced one another, embedding rivalry into the fabric of the international system. The following sections trace how trade, finance, and soft power acted as seeds of change, how narratives shaped ideological contestation, how technology emerged as a new frontier, and how U.S. military hegemony came under pressure during this decade.

International Trade, Financial Systems, and Soft Power as Seeds of Change: China's Integration and the Challenge to Systemic Stability

International trade, financial systems, and soft power forged the foundational economic arenas in which China's rise (between 2001 and 2012) gained systemic relevance. Through the lens of Complex Hegemony, these domains should not be seen as simply tools of state influence but rather forces that shape the conditions of international order itself (Williams 2019a, 5-7, 87, 138). Trade expansion and financial consolidation embedded China more deeply into international circuits, while soft power initiatives worked to normalize its growing presence. Together, these processes can be seen as "seeds" of structural transformation, gradually altering the balance of influence within the U.S.-led order and highlighting the metastable character of this formative decade.

Soft Power is famously known as the ability to use attraction as a power tool to achieve desired outcomes instead of pure coercion or payment (Nye 2005, 5). This kind of power works by influencing others through the appeal that culture, values, and policies have and how they can shape the agenda and set preferences (30). By applying Complex Hegemony, soft power can be seen as something that operates through mechanisms such as affect, culture, ideology, and public diplomacy, subtly shaping the "structure of feeling" and "common sense" that provides a basis for political action (Williams 2019a, 146-47, 162). Therefore, soft power aligns with the mechanism of guided self-organization, whereby hegemonic entities influence latent self-organizing dynamics within social systems (Williams 2019a, 9, 69, 138, 143-44, 234). It also functions through the navigation of possibility spaces, shaping bounded rationality – in other words, the cognitive limits of decision makers – by mobilizing specific affective structures and restricting others (154-65). By that logic, soft power engineers the parameters within which entities make choices, reinforcing dominant preferences and systemic settings. In the end, soft power is used to get one to do what the dominant wants through attraction (Nye 2005, 5).

As context, before soft power became something strongly present in China's international agenda, the country was already navigating a significant economic transformation. Despite the Asian crisis in 1997, China's economic performance made the world look at it positively. In the year 2000 alone, it registered 8.2% GDP growth driven by internal consumption and saw a 38% increase in exports in the first half of that year (Sharma 2002, 246-47). At the same time,

liberalization measures in the financial sector began to take shape, such as the removal of regional restrictions on foreign banks (249).[11]

Between 2001 and 2012, China underwent a period of intense and rapid economic transformation rooted in the market-oriented reforms initiated in the late 1970s. This phase of accelerated growth was impressive in both scale and impact, marking a significant shift in the international economic landscape (Turner and Nymalm 2019, 111). This growth was closely linked to deeper integration into the international economy, marked by milestones such as the return of Hong Kong and Macao and the WTO accession of both China and Taiwan. These steps reinforced China's economic position and stimulated East Asian regional integration through increasingly complex supply chains (Tan and Khor 2006, 2). China also laid the groundwork from the mid-2000s onward as it sought to enhance its image internationally and to achieve normative influence (Sharma 2002, 250-52). In other words, it used economic growth and soft power policies to strengthen its presence internationally.

China's rise was later tested through the 2008 international financial crisis, which originated in the U.S. and exposed vulnerabilities in the Western-led financial model (Womack 2017, 382-85, 389; Kapur 2017, 246). While the U.S. economy suffered a severe recession and the slowest recovery of its post-war history – with GDP shrinking 3% in 2009 (Salvatore 2020, 753-54) – China emerged as comparatively resilient. The previous statement doesn't mean that the 2008 crisis did not affect China. It means that although China's growth rate declined from 14.2% in 2007 to 9.2% in 2009, it maintained remarkable stability (Athreye, Saeed, and Baloch 2021, 5; Womack 2017, 392). This economic strength enhanced China's credibility, as it surpassed Japan to become the world's second-largest economy in 2010, and was seen, along with other emerging economies, as key in preventing a worldwide depression (Womack 2017, 392-93; Nye 2023, 145; Steinbock 2018, 520).

Meanwhile, the U.S. had to face a banking and financial crisis that required significant deleveraging, [12] although it was able to finance deficits at extremely low interest rates due to sustained demand for U.S. Treasury (Salvatore 2020, 754; Lim 2023, 394, 398). In contrast, China's state-controlled financial system enabled a rapid and effective stimulus response, with central government reserves and continued bank lending driving domestic recovery and

[11] Unresolved structural issues in banking and state-owned enterprises persisted at the same time (Sharma 2002, 249).
[12] Deleveraging means to reduce a company's borrowing to its share capital, meaning the level of one's debt by rapidly selling one's assets (Cambridge Dictionary n.d.).

stabilizing trade partners (Womack 2017, 392; Kapur 2017, 246). The structural features of China's banking sector enabled it to gain trust from firms to rely more on debt finance to acquire foreign assets at reduced prices, further insulating them from international market volatility (Althreye, Saeed, and Baloch 2021, 6, 11-12).

The crisis also revealed the fragilities of the U.S. model of capitalism, already strained by increasing inequality, and made the world question if this crisis was a sign of a relative U.S decline (Kapur 2017, 246; Nye 2023, 22). In contrast, China's crisis management was widely regarded as competent and symbolically potent, leading many observers – and Chinese citizens – to conclude that the international balance of power was shifting (Womack 2017, 389; Nye 2023, 22).

In that context, China began to invest in cultural diplomacy, emphasizing elements of traditional culture and economic success to enhance its international image (Nye 2023, 31, 38, 101, 149). This was not something merely reputational but strategic – aimed at reducing incentives for balancing coalitions and easing Chinese integration into the international system. Understanding soft power as a mechanism of structural influence reveals how China attempted to shape the normative environment around its rise (97, 125).

On the matter of international trade and finance, commonly seen as more neutral domains of economic exchange, they are also spaces of deep structural power. They are emblematic, highly complex, and interdependent systems within the international system, made of intricate supply chains, capital flows, and institutional infrastructures. The growing influence of financial institutions, as well as the financialization of modern economies, has transformed finance into a disciplinary system of its own (Williams 2019a, 171).

The statement above means that through the mechanisms of guided self-organization, the reconfigurations in international trade and finance – such as regulatory changes, technological innovations, or supply chain reorganization – can rewire basic social and economic relations (Williams 2019a, 211). Thus, these domains define possibility spaces, shaping which economic strategies are viable and which entities gain or lose leverage (Williams 2019a, 58; Gorian Dadhich 2024, 29). For instance, control over international financial infrastructures – such as the U.S. dollar clearing systems — Clearing House Interbank Payments System (CHIPS)[13] —

[13] The largest private-sector USD clearing and settlement system in the world, processes $1.8 trillion in payments daily. Uses a patent algorithm that enables a 25:1 liquidity efficiency ratio. I.e., every $1 of actual funds that participants contribute to the system, the CHIPS can settle $25 in payments. (The Clearing House 2025).

enables a form of "weaponized interdependence", in which asymmetric connectivity is strategically used to exert coercive power (Farrel and Newman 2019, 45).

The impact trade and finance have is reinforced by the concept of generative entrenchment, whereby dominant structures like dollar-based financial systems or Information Communication Technology (ICT) infrastructures create deep dependencies and become difficult to replace (Williams 2019a, 153-54, 176, 183, 234). These entrenched systems lock other entities into roles and behaviors that favor the dominant ones, embedding power within technical and institutional architectures.

China's international economic integration between 2001 and 2012 illustrates the dynamic previously described. Averaging nearly 10% annual economic growth, China became the second-largest economy by 2010 and a key player in international trade (Hlovor and Mawuko-Yevugah 2024, 584; Park 2020, 154–55). Its integration was not a superficial one but structural, impacting the worldwide supply chains, trade balances, and production networks (Wenzhao 2018, 492; Nye 2023, 193; Xing 2012, 540–41; Zahedi, Shahmoradi, and Taiebnia 2022, 1195–96). By 2012, China's trade with the world reached approximately 1.82 trillion USD – approaching U.S. levels of 2.33 trillion USD (World Bank 2025a). This trade expansion can be considered a turning point for a transformation in the international trade structure, where China became a key player in the world economy.

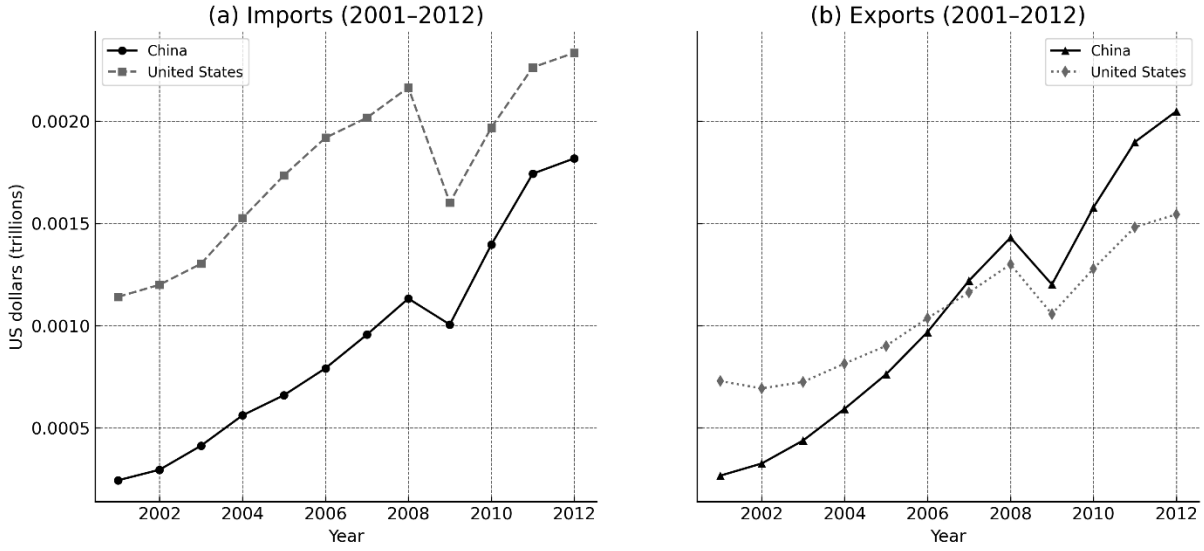

Figure 2.1 Imports and exports—China and the United States (2001–2012), in US dollars (trillions). (a) Imports. (b) Exports

Source: Elaborated by the author using data retrieved from the World Integrated Trade Solution (WITS) – World Bank (2025a). Full data available at sources cited in the references.

China's rise within the dollar-centric system shook the international financial dynamics. Another notable marker of this transformation is the concentration of financial assets. In 2001, China's five largest banks held 65.3% of all bank assets – a number that increased to nearly 100% by 2012 (World Bank 2025b). This consolidation illustrates China's strategic capacity-building within its domestic financial sector. In contrast, the U.S. saw its concentration rise from 29.4% to 47.2% over the same period (World Bank 2025b). [14]Analyzing these numbers allows a perception of these countries' power market and how they have changed throughout this decade. These shifts are seen as early signs of the intensification of an emerging rivalry rooted in structural financial development.

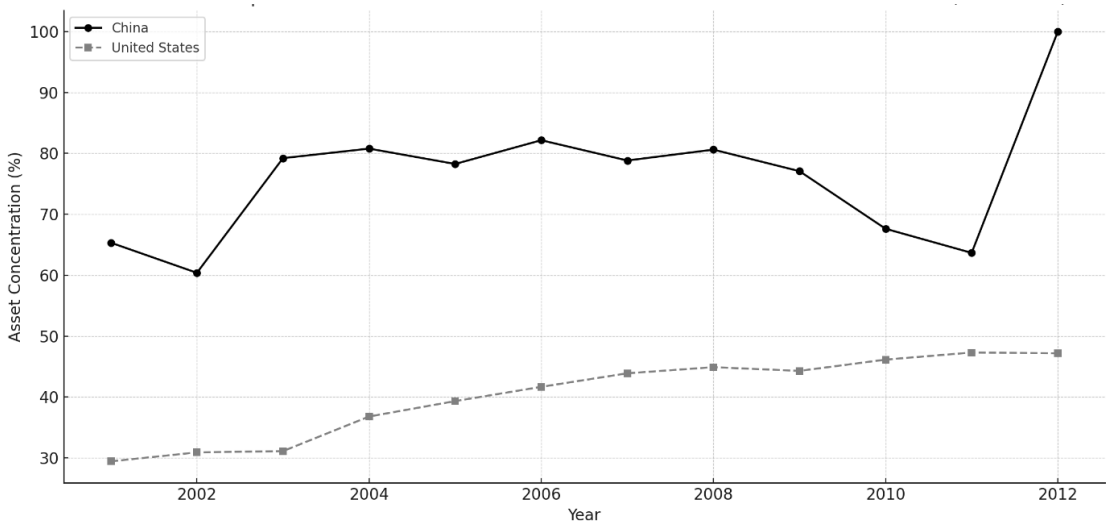

Figure 2.2. Financial development indicator comparing the 5-bank asset concentration in China and the United States between 2001 and 2012. [15]

Source: Elaborated by the author using data retrieved from the Data Bank – World Bank (2025b). Full data available at sources cited in the references.

Notably, the U.S. dollar's status as the dominant international reserve currency and unit of account exemplifies structural power – that is, the ability to shape rules and norms not through direct coercion, but by defining the conditions of participation in a complex and hegemonic international system. Although China's active engagement in international institutions early in

[14] Using a percentage measurement allows for a direct comparison across different banking sectors and time periods for this 5-Bank asset analysis. The goal is to provide a clear and standardized measure of relative market share instead of an absolute one, which has fewer comparable numbers.

[15] 5-Bank Asset concentration is an indicator that measures the combined assets of the five largest banks as a percentage of total commercial banking assets. Moreover, these assets include everything from loans and cash to real estate, fixed assets, and intangible items such as goodwill and tax-related assets (World Bank 2025c).

the decade granted it leverage, it remained constrained by the very structure that reinforced U.S dominance (Farrel and Newman 2019, 47-48). Thus, it is not recommended that the China-U.S. relationship be reduced to a traditional great power rivalry; rather, it represents a deeply entangled configuration of numerous interests, asymmetries, and vulnerabilities structured by international trade and finance.

As the dominant power, the U.S. can be seen as the main "designer" of the post-World War II international system, establishing institutions such as the International Monetary Fund (IMF) and World Bank to stabilize and lead the international economy in alignment with its interests (Kapur 2017, 264; Wenzhao 2018, 483). Additionally, China's accelerated growth, facilitated by its strategic engagement in trade, finance, and soft power, became not just a challenge to U.S. leadership but was able to impact this very system itself (Nye 2023, 125; Gorian and Dadhich 2024, 29).

The tensions between China and the U.S. were not merely bilateral – they can represent a systemic shift in international order (Womack 2017, 389). The years from 2001 to 2012, its trade rules, currency valuation, and international narrative were not just about isolated policies – it represented a time when two powerful entities started to compete about who gets to shape the future rules and norms of international governance.

Based on the arguments previously presented in this section, international trade, finance, and soft power can indeed be seen as "seeds" of structural transformation, explaining how they carry implications for the intensification of an emerging rivalry between China and the U.S. at the time. The following section will explore how competing narratives of power shaped early tensions in China-U.S. dynamics, especially in areas such as technology, trade, and ideological contestation.

Narratives of Power in China–U.S. Dynamics: Early Tensions in Trade and Ideological Contestation

From 2001 to 2012, the bilateral relations between China and the US. evolved within a world system marked by growing interdependence and simultaneous diffusion and consolidation of power. This period began with China's accession to the WTO in 2001 and unfolded in the context of the U.S. post-9/11 international strategy, which prioritized resisting transnational terrorism, especially in the Middle East (Nye 2023, 61).

The friction that later developed — in trade, technology, and ideology — emerged from a complex web of interactions among multinational corporations, financial networks and technological standards, public discourses, and shifting international expectations. These tensions were as much the result of structural entanglements and feedback as they were of formal policymaking (Williams 2019, 140; Yuan 2019, 156; Nye 2023, 106, 195).

In this context, the U.S. sought to maintain its leadership by linking soft power to liberal democracy and human rights, portraying these values as universal and attractive sources of legitimacy (Nye 2004, 9-11; 2023, 102, 165). This mix of persuasion and coercion was later described as a "smart power strategy", echoing Gramsci's view that hegemony rests on both consent and coercion (Nye 2008; Gramsci 1971, 139-40).

Taiwan was one of the clearest stages where this discourse was enacted. The Taiwan Relations Act (TRA) of 1979 reaffirmed Washington's commitments to Taiwan's self-defense while explicitly highlighting the preservation of human rights as a guiding principle (Lin and Roy 2011, 30, 48-65). By framing Taiwan as a democracy under threat, the U.S. presented its support as more than strategic competition — it was a defense of political ideals against authoritarianism.

The Bush administration's post-9/11 "freedom agenda" reinforced this narrative with the 2002 National Security Strategy (NSS) declaring that the U.S. would eliminate terrorists and hostile regimes in the name of freedom (The White House 2002, 15; Nye 2023, 42, 83). Yet, controversies such as the treatment of detainees in Guantanamo Bay exposed contradictions in the U.S. policy, undermining the credibility of its human rights discourse (Nye 2005, 11, 20, 58-60).

Trade disputes also carried this normative tone. In 2007, the U.S. brought a complaint against China at the WTO over intellectual property rights, accusing the Chinese of failing to meet the agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) obligations. This was framed not only as a matter of economic fairness but as a test of China's commitment to the norms of the LIO (Roy 2007, 476-78; Smith 2019, 24).

China countered these claims with a discourse on peaceful development, non-interference, and multipolarity (Dorraj and English 2012, 176-87). In the Middle East, China contrasted its "offend no one" diplomacy with the U.S.'s interventionist approach, relying on commercial partnerships through national oil companies, energy-backed loans, and joint ventures that avoided political conditionality (Dorraj and English 2012, 176-78, 183).

From the mid-200s onward, Chinese leaders also expanded soft power initiatives by establishing Confucius Institutes, expanding state media, and using symbolic events such as the 2008 Beijing Olympics to showcase a modern and attractive image of China (Nye 2023, 31, 97-98, 189). Sovereignty, however, remained a non-negotiable principle strongly held by China. The Anti-Secession Law (ASL) of 2005 codified the right to use "non-peaceful means" against Taiwan's independence, directly opposing the U.S. TRA and affirming that Taiwan was a domestic matter not open to external interference (Lin and Roy 2011, 56-63). Moreover, China promoted the idea of a "new type of great power relations", framing multipolarity as a natural balancing of U.S. dominance rather than a revolutionary break with the system, (Florini 2011, 29; Yuan 2025, 6; Dorraj and English 2012, 176, 187).

In 2004, the U.S. celebrated the 25th anniversary of the TRA. In response, China's Foreign Ministry Spokesman Kong Quan emphasized:

> The so-called Taiwan Relations Act, enacted unilaterally by the United States in 1979, has infringed on China's sovereignty, intervened in China's internal affairs, and run counter to the principles of the three joint communiques between China and the United States. The Chinese Government has been resolutely opposed to the act from the very start (Ministry of Foreign Affairs of the PRC 2004).

This clash of discourses showcases how both countries claimed to defend the "international order" but attached different meanings to the term. For the U.S., order meant the LIO, anchored in liberal-democratic norms and open markets. For China, order referred to a UN-centered multilateral system, without the ideological layer attached by the U.S. (Liu and Yang 2023, 1389-91). This divergence deepened mistrust: U.S. officials feared China was pursuing an "authoritarian-capitalist alternative", while Chinese leaders criticized the LIO as an exclusive "club" preserving U.S. hegemony (1391). At the same time, Chinese scholars debated whether China should behave as a status quo or revisionist power, highlighting the uncertainty and adaptation that marked this metastable phase (1386-87).

With contrasting views of the international order and how it should be navigated, both powers relied on narratives not only to defend their positions but also to shape how the international community perceived legitimacy, threats, and opportunities. This discursive struggle fed directly into the broader dynamics where developments in one domain often reverberated across others. These competing narratives also extended into the technological

domain, where control over standards, infrastructures, and innovation became a new structural frontier in the China-U.S. rivalry.

Technological Power as a New Structural Frontier

Within Complex Hegemony theory, technology is progressively understood as a structural frontier for power. This frontier exists because social structures — such as communication systems, roads, or supply chains — help shape the very environment where power is exercised and contested in today's complex world (Williams, 2019a). Technology has become a fundamental force through many interconnected mechanisms. Societal infrastructures, in this analysis, are not seen as just neutral backgrounds but active spaces where politics unfold. These infrastructures — from urban layouts to ICT networks and food systems — form the "game space" of politics, shaping what is possible and what is not (176). Much like an operating system, they enable certain actions while restricting others (177).

Moreover, power also depends on controlling key nodes and flows within networks. In this analysis, nodes can be institutions, individuals, or devices, and flows are the connections between them, such as money, energy, culture, or data (Williams 2019, 177; Farrell and Newman 2019, 50). These flows now move rapidly through digital technologies, carrying sound, images, or capital (Hope 2006, 276-78). Whoever controls central nodes in these systems often gains influence over essential resources. Small changes in these systems — like faster information speeds — can create major effects, benefiting some and disadvantaging others (Williams 2019, 152-53).

Some technologies have disruptive potential. For example, the printing press once challenged dominant powers by changing how fast and widely ideas could spread. Similar disruptions continue today, with certain innovations having the power to reshape political and social orders (Williams 2019a, 151). Additionally, the spatial layout of infrastructure also matters. How roads, pipelines, or cables are placed can shape world politics. Once built, these systems often lock in patterns of power that last for generations (151-52). These technological layers lead to a "generative entrenchment", where basic technologies become platforms on which other systems depend (138, 153-57). As these platforms grow more central, they become harder to change and help reproduce existing power structures (176, 196-97, 211).

Hegemony in technology systems often works not through direct control but by guiding how things self-organize (Williams 2019a, 69). Instead of top-down commands, this process involves steering natural tendencies in systems to produce political outcomes. It's about reconfiguring relationships so new forms of influence can emerge over time (143-44). Nevertheless, states play a major role in shaping technological development. Governments can fund risky innovation, provide legal support, and shape markets to make space for new infrastructure (179).

From 2001 to 2012, it is possible to see how government investment patterns further illustrate how states shape technological capacity. While U.S. spending on R&D remained relatively stable — ranging between 2.5% and 2.79% of GDP — China more than doubled its investment, increasing from under 1% to approximately 1.9% of its GDP (OECD Data Explorer 2025a) (see Figure 8). This upward trend reflects a deliberate effort to close the technological gap and restructure its innovation system to become more competitive in the international system.

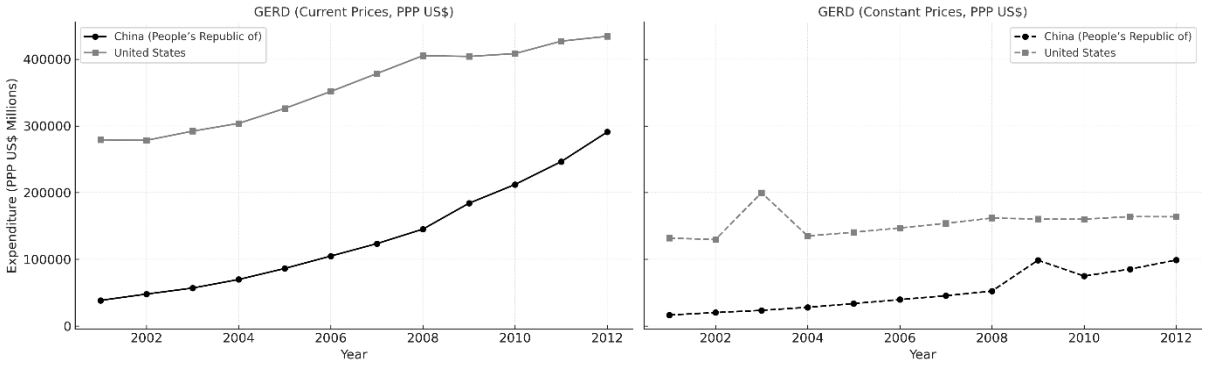

Figure 2.3. Gross Domestic Expenditure on R&D (GERD) – China vs United States (2001-2012).[16] Current and Constant Prices.[17]

Source: Elaborated by the author using data retrieved from the Organization for Economic Co-operation and Development (OECD 2025a). Full data available at sources cited in the references.

[16] The values in the graphic are expressed in PPP-converted U.S. dollars. "PPP-converted" means that purchasing power parity factors are applied to adjust for differences in price levels across countries, ensuring that one unit of currency has the same purchasing power in each economy. This measure was chosen to enable more meaningful cross-country comparisons than those based solely on nominal exchange rates.

[17] Current prices show the money spent at the time, while constant prices take out inflation so it is possible to see the real growth —that is why both are needed to understand the changes in R&D spending over time.

The Aerospace Industry Field

The aerospace industry offers a clear example of how technology manifests as a form of power. Investments by both China and the U.S. in this industry reflect broader state efforts to assert influence through technological development. Between 2001 and 2012, the U.S. kept its dominance in both aerospace exports and imports, while China, though still far behind in absolute terms, significantly expanded its presence in the international aerospace trade.

Studying the aerospace industry as a technological field is important for reasons analogous to why Gramsci (1971) analyzed "Americanism and Fordism" — it is just another industry but rather a vanguard force that demands a deep "rationalization of production and work" and seeks to create a "new type of man" adapted to modern industrial life (1971, 61-62, 65, 277). In the aerospace field, technological progress organically generated strata[18] of "intellectuals" — engineers. Technicians and organizers of production — who give coherence and self-awareness to broader social and industrial groups (5).

By applying Complex Hegemony in the way the aerospace field is perceived in this hegemonic rivalry, it is possible to see how influence is constructed not simply through state action but through the interplay of "political society" (states and their regulatory and coercive institutions) and the "civil society" (corporations, industrial networks, and knowledge-producing entities).

Moreover, the aerospace industry becomes a privileged arena where guided self-organization and emergent dynamics intersect — states invest strategically, industries innovate, and intellectual strata diffuse technical norms and cultural imaginaries across borders (Gramsci 1971, 12). Therefore, considering the field in this analysis offers a concrete way to see how economic-corporate competition can evolve into broader forms of leadership or hegemony, making aerospace a key case for understanding how national strategies converge with international systemic transitions (Williams 2019a, 138, 176).

Chinese aerospace exports rose steadily, and imports surged — indicating a strong emphasis on absorbing foreign technology and integrating into high-tech value chains (OECD Data Explorer 2025b) (see Figure 9). Yet, when examining trade balances, there is another layer

[18] According to Gramsci (1971, 5), "strata" literally refers to layers, as in geology, but also applies the concept to social groups by their roles in society, often linked to economic functions or educational levels, which define the types of intellectuals they produce. Gramsci also uses "strata" to describe marginal groups such as the "morti di fame" (the starving), which include diverse strata ranging from day-laborers to petty intellectuals (203, 273-74).

of structural asymmetry that surfaces. Despite growing exports, China consistently registered a negative aerospace trade balance, with imports far outpacing exports through the period. This gap highlights the enduring dependence on foreign suppliers. In contrast, the U.S. kept a large and growing trade surplus[19] in the sector, underscoring its continued technological leadership and means to project power through worldwide supply chains. Thus, technological power is not only about scale or investment, but rather about control over the strategic nodes of flows that draw the international system dynamics (Williams 2019a, 177; Farrell and Newman 2019, 50) (see Figure 10).

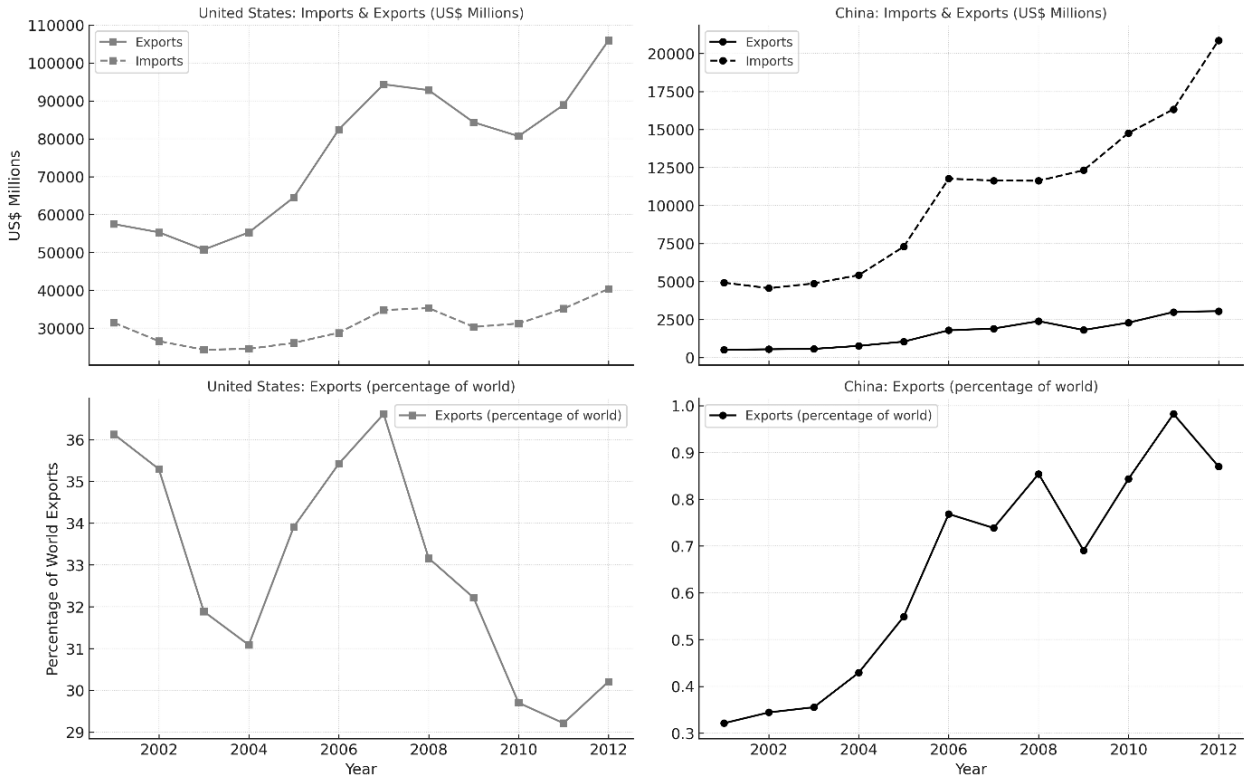

Figure 2.4 Aerospace Industry Imports and Exports - China and United States (2001-2012) in US Dollars (Millions) and Percentage of World Exports.

Source: Elaborated by the author using data retrieved from the Organization for Economic Co-operation and Development (OECD 2025b). Full data available at sources cited in the references.

[19] Trade surplus happens when a country exports more than it imports.

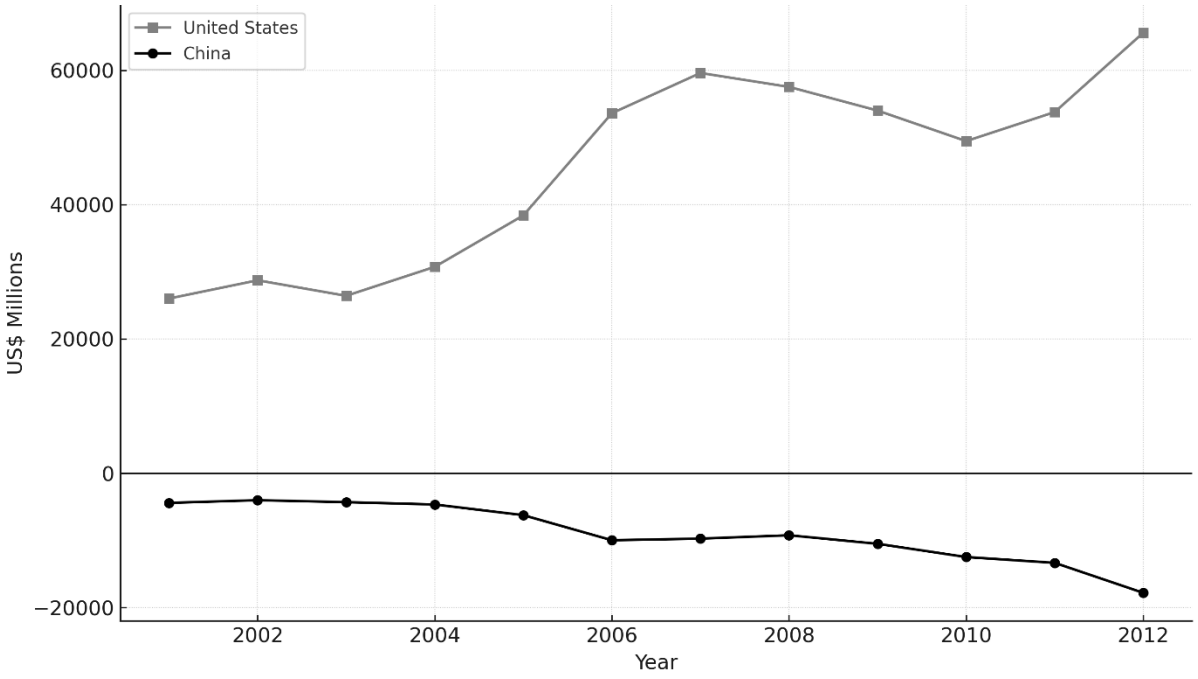

Figure 2.5. Trade Balance of Aerospace Industry - China and United States (2001-2012).[20]

Source: Elaborated by the author using data retrieved from the Organization for Economic Co-operation and Development (OECD 2025c). Full data available at sources cited in the references.

During this period, the relationship between China and the U.S. demonstrates how technology serves as a key element of power. In the area of space exploration, China's 2008 manned mission[21] placed it alongside the U.S. and Russia at the top of the international space hierarchy (Seedhouse 2010, 3). For Beijing, space achievements were not just scientific symbols but also served as national symbols, often compared to building the Great Wall to boost international reputation and domestic pride (7-8, 43) — domestic soft power. Space was also connected to military advantage — gaining control of orbits could influence future conflict outcomes (11). China's space program was built on earlier advances by the U.S. and the former Soviet Union and depended on foreign expertise, including Russian support (13, 45). Similar

[20] The trade balance is calculated as exports minus imports. A positive balance indicates that exports exceed imports, while a negative balance shows the opposite. Importantly, a negative trade balance does not necessarily reflect reduced investment or industrial decline; it may instead signal rising imports, often linked to technological acquisition, or a slower export growth relative to imports.

[21] Manned mission refers to a human crew in a spacecraft.

strategies appeared in its Foreign Direct Investment (FDI) policies, where joint ventures helped it acquire new technologies.

The advancements during that period led to a space race with the U.S., which viewed space as vital for its military edge. China's growing presence sparked U.S. concern, especially after China's anti-satellite (ASAT)[22] weapon test in 2007. In response, the U.S. destroyed one of its satellites to demonstrate military power in space (Seedhouse 2010, 45 and Lin and Roy 2011, 205).

Technology as Leverage

Meanwhile, the year 2007 also revealed how technological factors increasingly shaped the economic and political domains. That year, the U.S. filed a WTO complaint against China over intellectual property rights, criticizing Chinese legislation for failing to align with Western standards (Roy 2007, 476-78). Simultaneously, China sought to ascend the world value chain (GVC) by importing advanced equipment, recruiting foreign specialists, and restructuring its production system to prioritize technology transfer (Rihua and Yuanyuan 2011, 752).

Control over networks and digital information flows also constitutes a key facet of technological power. The ability to control the systems through which people communicate enables entities to shape perceptions, influence behavior, and define the parameters of social and political engagement. In this sense, control becomes a form of terrain-making — structuring the very space in which action unfolds (Williams 2019a, 73, 96, 164). While the U.S. has historically promoted principles of openness and free content exchange, these same ideals have often facilitated the concentration of power within worldwide digital infrastructures under its influence (Nye 2023, 92; Farrell and Newman 2019, 62-63, 70).

This interplay between technological, economic, and political power is mirrored in China's energy strategy, which also reveals the structural logic of influence contestation within a U.S.-led international order. For instance, as China became increasingly dependent on oil imports from the Middle East, it was compelled to operate within maritime routes safeguarded by U.S. military dominance. To increase its autonomy, China sought to reduce its strategic vulnerability

[22] ASAT refers to an event that happened on January 11, 2007, in which China used a land-based missile to destroy one of its old weather satellites, demonstrating its ability to target space assets and signaling the militarization of space as a new domain. The test also raised international concerns over the dangerous resulting orbital debris (fragments) left (Lin and Roy 2011, 205).

by forging energy partnerships and investing in technology-driven infrastructure. These moves were not only aimed at securing resource flows but also at counterbalancing U.S. influence and advancing to a more multipolar international system (Dorraj and English 2012, 174-76, 182, 187).

Although military power and its facets are explored further in the next section, it is important to highlight how technology shaped China's military modernization. Building on a steady increase in defense spending that began in the late 1980s, China entered the 2001-2012 period with a clear focus on developing capabilities tailored to a potential conflict over Taiwan. This strategic path has influenced the military balance in the Taiwan Strait, leading to the U.S. support of Taiwan's military upgrades in response. In April 2001, the U.S. shifted to a rolling review of arms sales rather than limiting them to annual discussions, approving one batch many of Taiwan's long-requested systems. By 2003, the U.S. officials were publicly urging Taipei to prioritize specific defense capabilities, including improvements in joint command and control (Lin and Roy 2011, 220-21)

Later in the decade, debates also extended to advanced systems such as the F-22[23], with analysts arguing that its deployment to Japan could be decisive in suppressing Chinese air defenses and countering the PLA missile[24] threats in the event of a cross-Strait conflict (Lin and Roy 2011, 92-94, 139, 210; Seedhouse 2010, 49).

These developments underscore a broader pattern: during the 2001-2012 period, technology was not merely a tool of statecraft, but rather a constitutive element of power itself. Control over infrastructure, information, intellectual property, and military systems emerged as key levers in shaping international dynamics. Technological power then converged with political and economic strategies to produce a complex and often asymmetrical international order — one in which hegemony is exercised through layered and interdependent systems of influence (Williams 2029a, 146-47, 220).

[23] The F-22 is a U.S. fighter jet that can fly fast, hide from radar, and turn quickly in the air (literally has supersonic flight). It was built mainly to win battles against other aircraft but can also attack targets on the ground.

[24] People's Liberation Army (PLA) has grown from an old regional force into one of the world's most advanced militaries. A big part of its power comes from missiles. China, currently, has the largest collection of land-based missiles in the world, some carrying nuclear warheads and others designed for precision strikes. One example is the DF-26, a missile that can reach U.S. military bases far away. These weapons are developed and controlled by the PLA Rocket Force (PLARF), the branch in charge of both nuclear and conventional missiles (Funaiole and Hart 2025).

Dynamics and Developments in the Military Field: The U.S. Military Hegemony Under Pressure

From 2001 to 2012, the U.S. military hegemony went through significant transformations. This period was highlighted by shifts in how the distribution of power happened worldwide as well as the increasing limitations on the traditional dominance of hard power.[25] Again, reflecting that power has more nuances than pure and mere control (by force) and the interaction between forces such as economic, political, and social (Williams 2019a, 138-9). It doesn't mean that military force should be ignored, but rather seeing something that influences and is influenced by the other forces. Military, economic, and technological forces reflect characteristics of political and social structures.

Although the 21st century started with the U.S. being the state with unmatched military power — accounting for nearly 48% of world's defense spending (Dunlap 2011, 136; Seedhouse 2010, 49) — its interventions in Afghanistan (2001) and Iraq (2003) launched in the wake of the 9/11 attacks showcased the mounting costs of sustained military supremacy (Nye 2005, 131; Nye 2023, 51; Lin and Roy 2011, 122, 143). These campaigns extended over a decade by then, draining economic resources, eroding diplomatic capital, and exposing limits in the U.S.'s capacity to rebuild and govern post-conflict societies (Nye 2005, 137; Nye 2023, 56).

This imbalance was not just operational, rather structural. The U.S. military was designed for rapid combat, not the long-term governance or nation-building kind. Despite consistently high defense spending — ranging from $345 billion to nearly $680 billion — its share of GDP declined from 9.4% in 1961 to 4.7% by 2010 (Dunlap 2011, 137). Bureaucratic complexity and acquisition laws discouraged[26] collaboration with high-tech industries, undermining innovation within the military-industry complex at the time (140).

Additionally, the Bush administration's unilateralism and doctrine of preventive war harmed the U.S. soft power, but not enough to make critical damages (Nye 2005, 66; Nye 2023, 24, 47, 69); even when the Iraq War lacked UN authorization and provoked international criticism, increasing an anti-U.S sentiment, making it difficult soft power wise (Nye 2005, 132; Nye 2023, 52). Thus, resulting in a perception of a sort of U.S. "self-importance", harming its

[25] Nye (2004) defines *hard power* as the ability to coerce through economic and military means.
[26] Even though the U.S. citizens supported the middle east military campaigns at the time, they started to ask for domestic investments to be a priority (Dunlap 2011, 140).

diplomatic appeal, showing the importance of working in every sphere, not only military (Smith 2012, 4).

Meanwhile, China emerged as a significant challenger. Between 2004 and 2009, China doubled its military spending from $55.2 billion to $110.1 billion — reaching one-sixth of the U.S. level — and surpassing $145 billion by 2012 (see Figure 2.6 and Table 2.1). Over the same period, U.S. defense expenditures remained far higher, rising from $492.9 billion in 2004 to $725.2 billion in 2012 (Dorraj and English 2012, 182; World Bank and SIPRI 2025). China's military transformation was broad, including advanced missile systems, air defenses, naval power, and space capabilities. The U.S. Department of Defense (DoD) began noticing by the mid-2000s that the military balance in the Taiwan Strait was shifting towards China's favor (U.S Department of Defense 2006, 29; Lin and Roy 2011, 202-03).

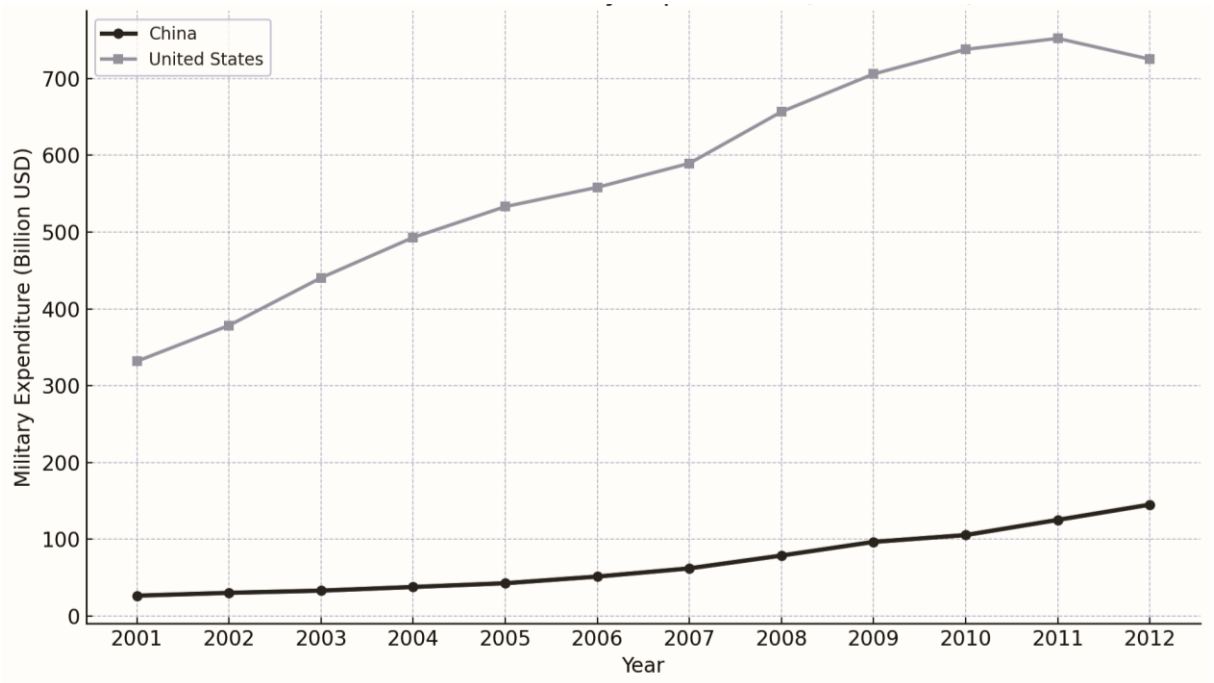

Figure 2.6 China and U.S. Military Expenditure (2001-2012).

Source: Elaborated by the author using data retrieved from the World Bank and Stockholm International Peace Research Institute (World Bank and SIPRI 2025). [27] Full data available at sources cited in the references.

[27] SIPRI defines military spending based on the former NATO standard. They include all expenses related to the armed forces — such as salaries, pensions, equipment, operations, R&D, and military aid — but exclude costs such as veterans' benefits or civil defense. That is because countries report military budgets differently, and the data may not be fully comparable. SIPRI uses official national documents and international sources like the IMF and NATO (World Bank and SIPRI 2025).

Table 2.1. Military Expenditure of China and the United States, 2001-2012 (billion USD, current prices)

Year	China	United States
2001	27.8	333.1
2002	30.2	373.0
2003	32.8	437.4
2004	37.9	492.9
2005	42.8	533.2
2006	51.5	55.3
2007	62.1	589.6
2008	78.8	656.8
2009	98.8	706.0
2010	107.6	741.2
2011	123.1	754.9
2012	145.1	725.2

Source: Elaborated by the author based on the data provided by SIPRI Military Expenditure Database; World Bank (2025). Full data available at sources cited in the references.

Taiwan was an area of particular tension. From 2001 to 2009, China expanded its arsenal of short-range ballistic missiles aimed at the island from 300 to approximately 1.500 (Lin and Roy 2011, 133). At the same time, it deployed cruise missiles and improved satellite systems to enhance targeting accuracy (Seedhouse 2010, 11). In 2007, China's anti-satellite (ASAT) test sent shockwaves through the strategic community, highlighting Beijing's capacity to disrupt the U.S. space-based military assets (49).[28]

Despite these developments, Taiwan's defense posture weakened. Between 1999 and 2008, under the Democratic Progressive Party (DPP), defense spending declined by about 40% as the government prioritized social programs (Lin and Roy 2011, 22). Public concern about China's threat also faded at the time, especially among younger generations, reducing Taiwan's internal resolve to resist a potential attack (21). This softening was particularly due to growing economic interdependence with the mainland — including millions of cross-trait visits and massive trade and investment — which blurred the political stakes of military confrontation (2, 90-91).

[28] In this context, experts and decision-makers were alarmed by China's ASAT test. This test showcased China's ability to disable or destroy satellites.

The U.S., bound by the Taiwan Relations Act (TRA)[29], continued to support Taiwan militarily. In 2001, the Bush administration approved an $11 billion arms deal and encouraged Taiwan to focus on priorities such as missile defense and C4ISR systems[30] (Lin and Roy 2011, 150, 220-21). However, U.S. officials became more cautious. By 2008, arms sales were scaled down, and Taiwan's long-standing request for F-16 C/D [31] fighters remained unfulfilled (143).

Washington also sought to restrain Taiwan from escalating tensions. In 2003, Bush criticized Taiwan's president Chen Shui-bian's plan for a referendum, framing it as a unilateral move that would be threatening the status quo (Lin and Roy 2011, 85-88). Two years later, China passed the Anti-Secession Law (ASL) in 2005, explicitly threatening the use of force if Taiwan declared independence. Washington's labeled the law as "not helpful" and signaled the desire to avoid confrontation with Beijing (95, 145). Fast forward to 2008, in Obama's administration, there was a desire to pursue cooperation with China on international matters and work to prevent the Taiwan issue from disrupting broader China-U.S. relations (145).

The first decade of the 21st century, then, illustrates how U.S. military hegemony operated in a dynamic international phase space — where power could no longer be secured through force alone. Military superiority had to contend with a changing distribution of resources, emergent rivals, and institutional inertia. During that time, U.S. policy frequently disrupted the metastable equilibrium, it sought to keep, favoring military over multilateral solutions (Williams 2019a, 147-48, 150, 174-75). The years from 2001 to 2012 marked a turning point in military hegemony. Despite continued military preeminence, the U.S. faced growing systemic constraints, while China advanced both materially and strategically. The balance of power began to reconfigure, signaling the end of a unipolar military order and setting the stage for new mechanisms of international influence.

China's steady rise in defense spending and modernization contrasted with the U.S.'s mounting costs and diminishing returns from prolonged interventions. While U.S. expenditures remained much higher, China's rapid growth signaled a relative shift in capabilities. Therefore, the power balance began to narrow, with China advancing and the U.S. constrained, reinforcing

[29] The U.S. committed to keep diplomatic, commercial, and cultural ties with Taiwan.
[30] Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance. It refers to a set of technologies and services — used by the U.S. military and allies — that enhance situational and intelligence to support command and control decisions in defense operations (BAE Systems 2025).
[31] One of the most sophisticated aircraft in the world.

the sense that unipolar military dominance was opening a new path to a more complex and contested configuration.

Partial Conclusions

The years from 2001 to 2012 showed how the relationship between China and the U.S. marked the start of a shift in the international system. Throughout this period, the U.S. remained the predominant military power, yet its hegemonic position faced growing limitations — from economic crisis and military overstretch to a declining capacity to sustain consent abroad. At the same time, China emerged not only as an economic force but as a strategic entity capable of navigating and reshaping international trade, finance, and technological infrastructures.

What these developments reveal is that hegemony in the 21st century is no longer solely a matter of military supremacy or formal leadership. Instead, it is embedded in complex, networked, and often metastable configurations of power, where influence is exercised through infrastructure, norms, and systemic interdependence. As China's capacity grew across multiple domains, so did its ability to shape the phase space of international order — especially by reconfiguring its underlying mechanisms.

This reconfiguration started to accelerate after 2013 with the official launch of the Belt and Road Initiative (BRI). Far from being just a simple infrastructure project, the BRI aims to institutionalize China's growing influence by creating new networks of trade, finance, and connectivity that reinforce its central role internationally. It demonstrates both hard power (economically) and soft power by linking culture, political alliances, and working to craft new narratives. The next chapter analyzes how BRI functions as a metastable hegemonic mechanism — aiming not only for material outcomes but also for normative and structural influence within an increasingly dynamic international system.

Chapter 3: Metastable Reconfiguration – The Belt and Road Initiative as a Hegemonic Mechanism (2013–2024)

The Belt and Road Initiative (BRI) is one of the defining features of China's contemporary foreign policy strategy. It can be interpreted as both a pivotal infrastructure project and a systemic mechanism for international reorganization when analyzed through the lens of Complex Hegemony. Examining the BRI is therefore key to understanding the potential systemic power transition happening between China and the U.S.

In 2013, the Chinese President Xi Jinping launched the BRI, which functions explicitly as a multifaceted expansion strategy spanning economic, technological, and political domains. It can be regarded as far more than a simple infrastructure investment program; rather, it operates as a systemic mechanism designed to project China's power, resolve domestic contradictions (explained further), and refine world governance (He 2020, 140; Galán and Leandro 2019, 154; Lenov and Zaostrovskikh 2025, 86).

Therefore, BRI can be perceived as China's top-level national cooperation framework, designed to build an extensive network of economic and infrastructural connections across Asia, Europe, and Africa (An and Wang 2023, 259-260, 262; Fu et al. 2024, 2). Formally, it consists of two main components: the Silk Road Economic Belt, which connects Eurasia through overland routes, and the 21st Century Maritime Silk Road, which links ports and sea lanes across the Indo-Pacific (Coenen et al. 2020, 3; Lenov and Zaostrovskikh 2025, 87).

At the beginning, the BRI served dual purposes: it was an international development strategy and a domestic stabilization tool. Following the 2008 financial crisis and China's massive stimulus package, the country faced industrial overcapacity and limited domestic investment returns. Then, the BRI provided a way to channel surplus capital abroad, sustain economic growth, and export China's industrial capacity to partner countries (An and Wang 2023, 259; He 2020, 141-142).

The initiative has 5 official priorities: policy coordination, infrastructure connectivity, unrestricted trade, financial integration, and people-to-people exchanges. Together, these priorities form BRI's core operational logic (Coenen et al 2020, 3; He 2020, 145). Over time, however, BRI has evolved into what scholars call an "ever-expanding package of strategies" that extends far beyond its original infrastructure focus (Coenen et al. 2020, 5, 13). It now includes specialized branches such as the Digital Silk Road (DSR) — focused on

telecommunications, data governance [32], and 5G —, the Green Silk Road (GSR) — sustainability and climate cooperation —, and the Health Silk Road (HSR) — public Health partnerships (He 2020, 141, 161). By the end of 2024, BRI covered over 70% of the world's countries, with 147 countries and 32 international organizations having signed cooperation agreements (Lenov and Zaostrovskikh 2025, 92, 96)

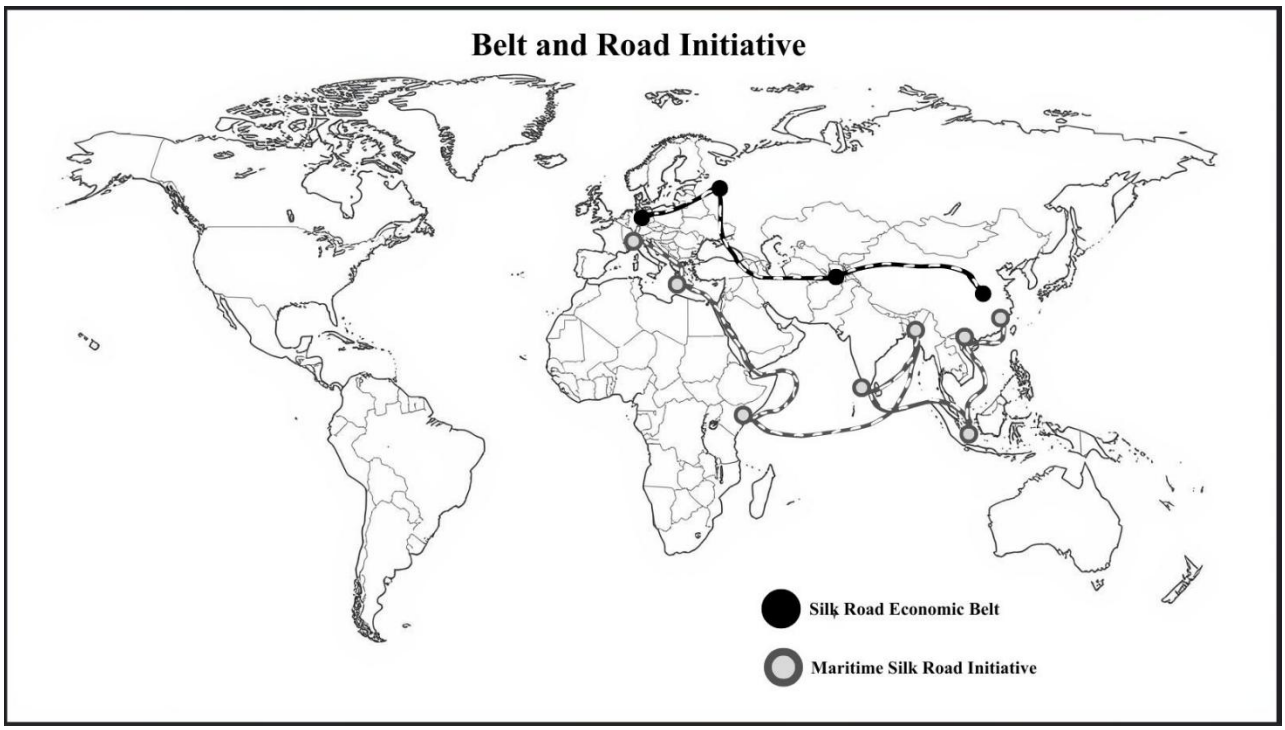

Figure 3.1. Belt and Road Initiative: Silk Road Economic Belt and Maritime Silk Road Initiative.
Source: Elaborated by the author using information retrieved from the TRENDS Research & Advisory (TRENDS Research & Advisory 2018).

BRI as an Infrastructure and Systemic Mechanism

As mentioned throughout the previous chapters, within Complex Hegemony, power operates through interconnected systems and dynamic processes, rather than through single-state domination (Williams 2019a, 2, 131). Considering this perspective, BRI can be analyzed as both an infrastructural mechanism — a network that embeds Chinese influence materially — and a systemic mechanism — a strategic process that reshapes international relations through economic, political, and technological interdependence.

[32] Data governance refers to the set of policies, processes, and institutional arrangements that manage data availability, integrity, security, and use across its lifecycle, treating data as a strategic asset while ensuring accuracy, accessibility, and regulatory compliance (University of Oxford 2025).

It is possible to understand BRI as a representation of an "infrastructural turn" in international power (Williams 2019, 176). Infrastructure, both physical and digital, functions like an operating system that enables certain forms of interaction while constraining others. Through big investments in transportation, energy, and communication networks, as well as in digital infrastructures such as 5G and the BeiDou satellite system, China has built platforms that sustain long-term systemic influence (Coenen et al. 2020, 2; He 2020, 145, 160-161; Lenov and Zaostrovskikh 2025, 92; Williams 2019a, 234-235).

> One recent approach to such issues is the infrastructural (or infrapolitical) turn in geography and political theory, which analyses the hidden power dynamics exerted by built infrastructures on global politics (Bratton 2014, 2015; Easterling 2014). Keller Easterling (2014) argues that infrastructures have formed a new topology of power that does not line up in a linear fashion with the boundaries of the post-Westphalian nation state (Williams 2019a, 176).

This process can be seen as an example of the mechanism of generative entrenchment — one of four key mechanisms of complex hegemony introduced in chapter 1 (Williams 2019, 155-156, 234-23). By constructing enduring infrastructure in partner countries, BRI embeds Chinese standards, technologies, and financial systems into the everyday functioning of world economies. These dependencies make it increasingly difficult for participating states to operate outside China's framework (He 2020, 160; Carmody and Wainwright 2022, 2831). In doing so, the BRI automates influence, shaping a sort of "economic game space" of the international order.

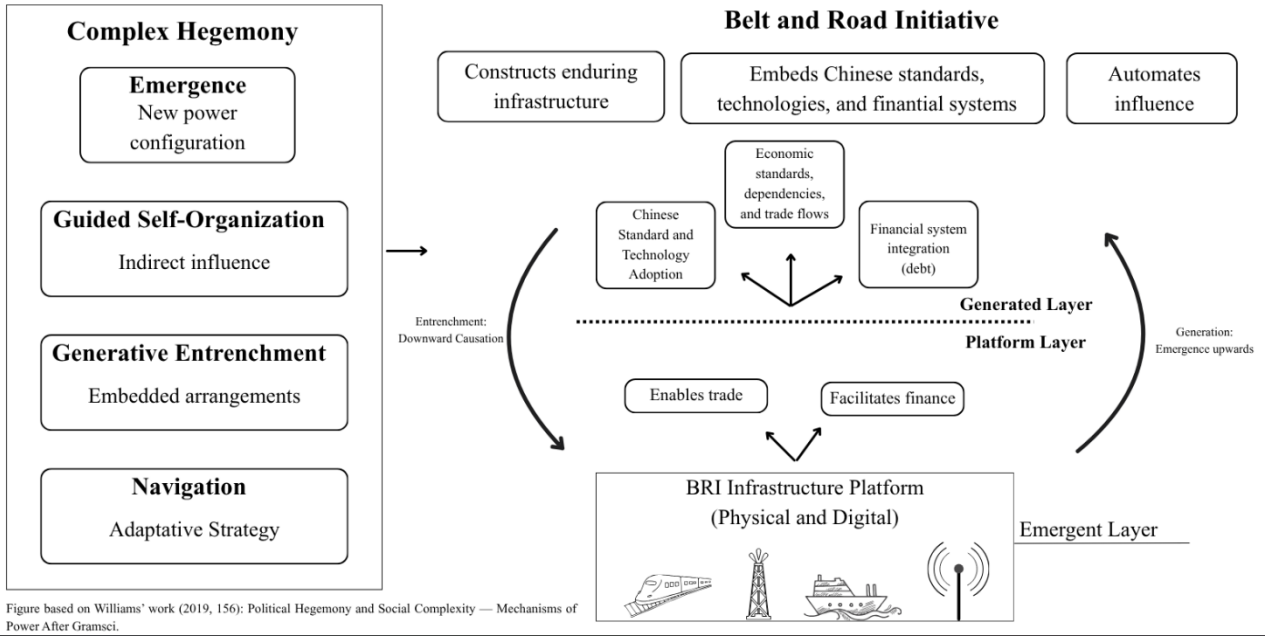

Figure 3.2. The Belt and Road as Generative Entrenchment: dependencies stabilize existing configurations
Source: Elaborated by the author based on Williams' Complex Hegemony theory (2019a, 156).

Beyond its material dimension, BRI functions as a systemic project of guided self-organization, aiming to orchestrate complex networks of interaction across economic, institutional, and political domains. Through this process, it fosters emergent configurations that consolidate and reproduce Chinese strategic interests (Williams 2019a, 156, 234). Through cumulative projects and partnerships, the initiative produces emergent systemic effects, effectively re-routing trade and production networks through China's markets (Carmody and Wainwright 2022, 2831-2832; Galán and Leandro 2019, 162).

BRI is also a state-capitalist spatial fix[33], which means it is a strategic way to relocate China's domestic economic contradictions to external territories (contradictions explained further in this chapter). Implemented primarily through State-Owned Enterprises (SOEs) and policy banks, it channels surplus capital abroad, exporting overcapacity while strengthening economic and political ties with recipient states (Carmordy and Wainwright 2022, 2831-2832; Gonzalez-Vicent 2019, 491). In this way, the initiative transforms domestic pressures into

[33] David Harvey (1981) first introduced the term "spatial fix" in this 1975 essay "*The Spatial Fix: Hegel, von Thünen and Marx*", published in *Antipode*, and later developed it in *The Limits to Capital* (1982), where he explained how capitalism temporarily resolve crisis of overaccumulation though geographical expansion and the investment of surplus capital in new spaces.

international opportunities, aligning China's national goals with those of its partners (Gilbert and Williams 2022).

Furthermore, BRI can be seen as part of a "new financial institutionalism" — a network of financial institutions such as the Asian Infrastructure Investment Bank (AIIB), the New Development Bank (NDB), and domestic development banks that operate parallel to the Western-dominated Bretton Woods system. This alternative financial architecture reinforces China's position as a rule-making stakeholder in governance, expanding its economic influence and creating new chains of financial interdependence (Galán and Leandro 2019, 156, 162, 164, 170).

BRI and the China-U.S. Power Transition

Understanding BRI is key for analyzing the evolving power transition between the U.S. and China, since it embodies China's most ambitious effort to promote its international influence and challenge U.S. hegemony (An and Wang 2023, 258-260). From an economic perspective — more specifically, a geoeconomic one —, BRI represents China's attempt to transform economic power into long-term political leverage (Beeson and Crawford 2022, 46). It seeks to replicate (not imitate) the hegemonic role the U.S. once played, using economic integration rather than military alliances as the basis of influence (Beeson and Crawford 2022, 57). This trend appears particularly strong among coastal developing states that are non-landlocked[34] and geographically non-adjacent to China, whose participation in the initiative is primarily motivated by access to trade routes, infrastructure investment, and diversified markets (An and Wang 2023, 275, 278-279).

At the same time, BRI has intensified strategic competition between China and the U.S. As the U.S.-China relations deteriorate, Beijing increases outward foreign direct investment (OFDI in BRI countries to expand its influence and counter the U.S. containment (Shi and Qi 2024, 93-93, 101, 113). This competition has also prompted third-party responses, with Western initiatives such as the Blue Dot Network, BUILD Act, and B3W emerging as counterproposals to China's model (Shi and Qi 2024, 113; Todo, Nishitateno, and Brown 2025, 4, 8, 11-12).[35]

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[34] Non-landlocked countries are those with direct access to the sea, meaning they have coastlines and maritime ports. Such access makes them better positioned to participate in the Maritime Silk Road, one of the corridors of the BRI.

[35] *Blue Dot Network* (BDN) is a policy measure implemented by the U.S. to promote infrastructure development in developing countries (Todo, Nishitateno, and Brown 2025, 4). Better Utilization of Investment Leading to Development (*BUILD) Act/Initiative* is a policy measure implemented by the U.S., aiming to promote infrastructure development in developing countries, especially those participating in the BRI (Todo, Nishitateno,

It is possible to compare BRI with the Marshall Plan of the post-World War II era. While both serve as large-scale economic mechanisms to consolidate influence, the BRI differs in that it operates without the clear geopolitical imperatives or cohesive institutional framework that underpinned the U.S.-led order (Beeson and Crawford 2022, 46; Galán and Leandro 2019, 172). However, by fostering infrastructure connectivity and financial interdependence across developing countries, the BRI represents China's most sophisticated attempt to transform the international system in ways that reflect its own developmental model and strategic vision.

In this sense, BRI operates not merely as an instrument of Chinese foreign policy but as a metastable hegemonic mechanism: one that continuously adapts to systemic tensions while sustaining coherence across multiple domains of power. By combining infrastructural depth with institutional flexibility, BRI illustrates how hegemony in a complex system emerges through guided self-organization, balancing persistence and transformation. The following section explores this dynamic in detail, examining how BRI's evolving structure reflects the metastable reconfiguration of the international order.

The BRI as a Multidimensional Expansion Strategy

This section examines how BRI operationalizes multidimensional expansion across economic, technological, political, and ideological domains. In complexity terms, the BRI advances hegemony as an emergent system-shaping strategy that coordinates interactions across heterogeneous arenas rather than relying on simple domination or ideological conformity (Galán and Leandro 2019, 166; Carmody and Wainwright 2022, 2832; Williams 2019a, 26; Gilbert and Williams 2022).

The BRI's outward push functions as a state-led spatial fix, relocating the contradictions of capital overaccumulation — especially severe industrial overcapacity — into external markets via infrastructure exports and project finance (He 2020, 140-141; Carmody and Wainwright 2022, 2832; Gonzalez-Vicent 2019, 491). In practice, it operates as an external outlet for China's internal tensions by absorbing surplus capital, sustaining employment in overbuilt sectors (such as steel, cement), and creating demand for SOEs whose domestic profitability is constrained. This mitigates diminishing returns within China's fixed-capital-intensive growth model — anchored in large investments in infrastructure, construction, and heavy industry —

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and Brown 2025, 8). The *Build Back Better World (B3W) initiative was launched by the U.S. in 2021 in partnership with other G7 countries (including Canada, France, Germany, Italy, Japan, and the UK)* (Todo, Nishitateno, and Brown 2025, 4).

that historically delivered high growth but produced chronic overinvestment, falling returns, and regional imbalances (He 2020, 142-144; Galán and Leandro 2019, 162).

There is a significant scale: 2014-2018 saw $573.31 billion in investment and construction contracts in BRI countries, with funding heavily concentrated in policy and large state banks; by the end of 2018, 87% of BRI finance derived from these institutions (He 2020, 144-148, 154; Galán and Leandro 2019, 161). A key pillar of BRI's economic dimension is industrial-capacity cooperation, concentrated in overbuilt sectors such as steel, non-ferrous metals, and construction materials (He 2020, 151-153).

Beyond project pipelines, from a financial and institutional perspective, BRI advocates a "new financial institutionalism" that both complements and, at times, counterbalances Bretton Woods structures. Through multilateral financial statecraft—the deliberate use of domestic and international financial tools for foreign policy objectives—China has promoted new and parallel institutions (such as AIIB and NDB) and mobilized development-bank networks, signaling a shift from demanding shareholder to a rule-making leader in select areas (Galán and Leandro 2019, 154-156, 161-164, 170-170).

When it comes to technological and sociotechnical domains, BRI's scope extends into digital infrastructures and standards, consolidating China's position world's sociotechnical power. The DSR integrates ICT, data governance, and frontier technologies (such as AI, quantum computing, and smart-city systems), leveraging China's comparative advantages in internet, telecommunications. And 5G to provide critical infrastructures and diffuse Chinese technical norms (He 2020, 159-161; Nurgozhayeva 2020, 257). The integration of assets such as BeiDou and International "teleports" further embeds technological dependencies within partner states (Leonov and Zaostrovskikh 2025, 92).

Within Complex Hegemony, these infrastructures work like an "operating system" that structures the conditions of international interaction — making certain connections, exchanges, and standards easier to adopt than others. Over time, this process generates entrenchment effects, as positive *feedback loops*[36] reinforce the embeddedness of Chinese technological systems and protocols across multiple layers of world connectivity (Williams 2019a, 44-45, 176-177, 234). This dynamic illustrates how generative entrenchment maintains systemic stability and adaptation, transforming infrastructural power into a self-sustaining mechanism of influence. It also provides the basis for platform power, in which influence operates not through coercion

[36] Feedback loops are cyclical processes in which a system's output becomes a new input, shaping a subsequent behavior.

but through the everyday mediation of technologies: defaults, algorithms, and protocols that subtly shape user behavior and governance practices (Gilbert and Williams 2022).

Politically, BRI can be interpreted as a grand strategy to expand influence and contest U.S. hegemony, with a renewed emphasis on China's near-abroad as part of a wider international posture (He 2020, 143; An and Wang 2023, 258-260). Moreover, a deeper BRI integration — tracked through contractual projects, trade, and outward FDI — is linked with a greater diplomatic alignment with Beijing in multilateral venues, indicating a linkage between economic participation and policy convergence. The pattern is most evident among developing states that are non-landlocked and non-neighboring, whose engagement hinges on maritime connectivity, access to infrastructure, and diversified trade (An and Wang 2023, 264, 275-279).

Delving from a political perspective into the ideological one, the initiative projects a state- and elite-centered development paradigm, privileging large-scale infrastructure, connectivity, and rapid growth over participatory/labor-oriented approaches — often insulating firms from sustained civil-society scrutiny (Gonzalez-Vicent 029, 488, 505). Over time, the narrative has broadened to include Green and Health Silk and Road themes, signaling ambitions to transform environment and health governance norms alongside material linkages (He 2020, 159-160; Leonov and Zaostrovskikh 2025, 92).

Taken together, these registers showcase how BRI coordinates heterogeneous mechanisms — spatial fixes, financial architectures, digital platforms, geopolitical alignment, and ideological framing — to steer system-level interactions. Within Complex Hegemony, it exemplifies emergent, guided self-organization whose durability depends on generative entrenchment across infrastructure, finance, technology, and norms (Williams 2019a, 87-88, 156, 234; Gilbert and Williams 2022; Galán and Leandro 2019, 175). Nevertheless, the expansion that anchors BRI's hegemonic reach also contains the seeds of potential instability, raising the question of whether its growing complexity strengthens or strains China's systemic position.

Is the BRI an Expansion of Influence or an Overreach? Systemic Risk and Opportunity?

BRI remains one of the most debated features of China's contemporary strategy. It is widely regarded as both China's most ambitious effort to expand its international influence and a venture that exposes Beijing (and its partners) to significant financial and political risks (An and Wang 2023, 264-266; Galán and Leandro 2019, 165). The debate centers on the tension between the vast opportunities created by China-led development and the systemic

vulnerabilities embedded in its implementation model (He 2020, 139-140; Carmody and Wainwright 2022, 2831).

From an economic and political perspective, BRI has undeniably strengthened China's international presence. Its primary motivations and measurable outcomes point toward a steady consolidation of China's economic, diplomatic, and strategic influence (An and Wang 2023, 259, 264-266).

Moreover, the initiative is frequently interpreted as China's grand strategy to reinforce its status as a major power and assert a greater role in international affairs (An Wang 2023, 259). Since its inception, it has evolved into a comprehensive policy package addressing both foreign and domestic goals (He 2020, 159).

Existing analysis such as made by An and Wang (2023, 259-268) indicate that countries engaged in BRI tend to show increasing political alignment with China in multidirectional settings, including a closer correspondence in UN General Assembly voting pattern (An and Wang 2023, 278).

Strategically, BRI serves to mitigate regional anxieties regarding China's rise while promoting economic interdependence among neighboring and partner states. It plays a central role in Beijing's peripheral diplomacy (a diplomacy of engagement with neighboring countries), particularly across Central, South, and Southeast Asia, and aims to reshape Eurasian connectivity in ways that strengthen China's preeminent regional position (He 2020, 142; An and Wang 20206, 260).

Beyond material expansion, BRI articulates a vision of international development distinct from the Western liberal paradigm. It promotes state-driven investment and economic planning as alternatives to market-centered approaches, aligning with President Xi Jinping's call to build a "community of shared future for mankind" (He 2020, 139-140, 159, 166). This model emphasizes infrastructure and connectivity as primary vehicles for growth and reflects China's growing aspiration to participate actively in international law and governance (Nurgozhayeva 2020, 251).

China's political influence under BRI is mediated through economic interdependence. Increased trade flows, contractual projects, and outward OFDI serve as channels through which participating states become more economically tied to China (An and Wang 2023, 259-263, 274). This economic engagement often translates into foreign policy convergence, especially among developing, non-landlocked, and geographically distant countries that seek investment and access to infrastructure (An and Wang 2023, 264-266, 278-279). Moreover, it is possible to assume that BRI sets a sort of foundation for a "new financial institutionalism" through which

China seeks to transform international finance while partially complementing and partially challenging the U.S.-led Bretton Woods order (Galán and Leandro 2019, 156, 165, 172).

To help address the enormous shortage of infrastructure investments worldwide — estimated at $26 trillion in Asia alone by 2030, BRI channels a large amount of capital through China's main policy banks, especially the China Development Bank (CDB) and the Export-Import Bank of China. Together, these institutions provided around 97% of total BRI financing by the end of 2016 (An and Wang 2023, 252; He 2020, 139-140, 154; Galán and Leandro 2019, 162).

The initiative was initially conceived to absorb China's domestic industrial overcapacity, particularly in sectors such as steel and construction, while simultaneously stimulating growth abroad. In this way, the BRI serves a dual purpose: promoting development in partner countries while sustaining China's own economic momentum (He 2020, 140). Between 2006 and 2017, about 89% of Chinese-funded transportation projects were awarded to Chinese firms, showing how the initiative facilitates the internationalization of China's industrial capacity (Galán and Leandro 2019, 161, 172-172; Leonov and Zaostrovskikh 2025, 93).

After 2024, BRI is expected to encompass over 70% of the world's countries, with 147 countries and 32 international organizations having already signed cooperation agreements. Between 2014 and 2018, Chinese investments and construction contracts in BRI partner countries totaled — as previously mentioned — $573.31 billion (He 2020, 148; Leonov and Zaostrovskikh 2025, 85, 96). Additionally, despite the accomplishments, BRI exposes China and its partners to a significant financial, political, and environmental risks, prompting debates regarding potential overreach and sustainability (Carmody and Wainwright 2022, 2831; Gonzalez-Vicent 2019, 509).

On the matter of environmental risks, o of the main concerns surrounding BRI is the risks of unsustainable debt (He 2020, 140). The accelerated inflow of Chinese capital can overwhelm smaller economies, making it difficult for them to manage loans or ensure profitability (He 2020, 164-165). Countries such as Sri Lanka, Malaysia, Pakistan, and Ethiopia have experienced rising financial stress due to large BRI-related debts. The exposure is particularly high in Kyrgyzstan and Tajikistan, where approximately 40% and 50% of public debt, respectively, is owed to Chinese lenders (Leonov and Zaostrovskikh 2025, 97-98).

The initiative has been accused of promoting "debt-trap diplomacy", where recipient countries become overly indebted and potentially subject to Chinese influence (He 2020, 161; Nurgozhayeva 2020, 254; Carmody and Wainwright 2022, 2832). Although there is no solid evidence that China intentionally sets these "traps", the lending structure can create economic

vulnerabilities. Projects that fail to generate returns may lead to debt renegotiations or debt-for-equity swaps[37], through which China gains control of strategic assets (Carmody and Wainwright 2022, 2833-2836).

Financial risk also extends to China itself. BRI's state-driven investment model, reliant on policy banks and state-owned enterprises, faces soft budget constraints — the expectation of government bailouts for unprofitable ventures (He 2020, 163, 165-166). This weakens financial discipline and raises questions about long-term sustainability. Indeed, BRI lending peaked in 2016 and then sharply declined as many projects failed to deliver expected profits, with some labeled "white elephants" — costly ventures offering little return (Carmody and Wainwright 2022, 2834-2841).

Issues of governance and transparency could further complicate BRI's implementation. The state-dominated and opaque nature of its financial and decision-making structures can often create space for corruption, inefficiency, and local opposition (Nurgozhayeva 2020, 254-255). Then, due to most BRI projects being financed through Chinese policy banks and negotiated at the government level, public scrutiny is minimal. Many loan contracts include strict confidentiality clauses, which civil society and independent monitoring (Carmody and Wainwright 2022, 2839). This opacity feeds suspicion about China's intentions and weakens public trust in participating countries (Nurgozhayeva 2020, 254, 261).

China's preference for closed-door negotiations with ruling elites reinforces existing power structures but sidelines local communities and institutions (He 2020, 163; Nurgozhayeva 2020, 262). This elite-centered approach may expedite decision-making but often undermines transparency and inclusiveness, exposing the initiative to political backlash (Nurgozhayeva 2020, 259-261; Gonzalez-Vicent 2019, 502).

Institutionally, BRI may still lack the comprehensive architecture that sustained U.S. influence after World War II. China's "fast and flexible" model enables fast implementation but often bypasses standardized procedures such as project appraisal, procurement guidelines, and social or environmental safeguards (Beeson and Crawford 2023, 46-47, 56). While this adaptability supports expansion, it also increases institutional fragility by reducing oversight and accountability.

Another concern regarding BRI is its environmental footprint and social consequences. Analysts warn of a potential "pollution haven effect", where environmentally harmful or

[37] A debt-for-equity swap happens when someone who owed money (a lender) agrees to take a share of ownership instead of being repaid in cash. Meaning the debt turns into part of the company or project itself (Wallenstein 1994).

resource-intensive industries relocate from China — where regulations are stricter — to countries with weaker environmental standards (He 2020, 163; Coenen et. Al 2020, 11; Nurgozhayeva 2020, 254).

Infrastructure development can contribute to habitat fragmentation, biodiversity loss, and rising greenhouse gas emissions, particularly when linked to coal-fired power projects financed by Chinese firms (Coenen et al. 2020, 5). Socially, some BRI investments have provoked public protests due to the influx of Chinese labor and limited local employment (Nurgozhayeva 2020, 259-260). These tensions have led some observers to describe the initiative as a form of "new colonialism," particularly in the context where debt accumulation and extractive trade patterns evoke memories of historical dependency (He 2020, 140; Carmody and Wainwright 2022, 2842).

In essence, BRI can be seen as an initiative that function as a geo-economic and geopolitical mechanism that uses large-scale infrastructure financing to expand China's international influence and assert its strategic role in the international order (Carmody and Wainwright 2022, 2832; Leonov and Zaostrovskikh 2025, 98). Yet, the same model that enables this expansion — marked by state-led financing, limited transparency, and soft budget constraints — also exposes systemic risk.

BRI is the perfect example of how the very mechanism that China employs to keep systemic coherence — State-driven infrastructure financing designed to expand its international influence, or hegemony as an emergent systemic property — at the same time that produces vulnerabilities rooted in structural contradictions such as low economic efficiency, soft budget constraints, and institutional opacity (Williams 2019a, 9, 138; Carmody and Wainwright 2022, 2832). These internal fragilities, intensified by external shocks such as the Covid-19 pandemic (topic further explored in the following topics) and escalating hegemonic rivalry, reveal the limits of expansion when it surpasses the system's adaptive governance (Gramsci 1971, xii; Carmody and Wainwright 2022, 2836). As a result, BRI has entered a metastable phase, meaning a fragile equilibrium that compels China to recalibrate its lending strategies and rebrand BRI through renewed emphasis on the DSR and GSR, aiming to maintain the project's coherence and legitimacy (Williams 2019a, 84, 138; Leonov and Zaostrovskikh 2025, 92).

The BRI and Its Financing and Economic Implications

The financing architecture of BRI reflects the logic of China's state-capitalist development model, where state-owned institutions dominate funding and strategic coordination (He 2020,

153). The initiative is mainly supported by China's policy banks — as previously mentioned, the CDB and the Export-Import Bank of China — as well as by four major state-owned commercial banks, which together account for roughly 87% of total BRI financing (He 2020, 143). To complement these institutions, China created the AIIB and the Silk Road Fund, designed to provide multilateral and equity-based financing. However, these bodies played a comparatively modest role in the early years, contributing only a small share of the total funds (He 2020, 150).

While these financial mechanisms have enabled the expansion of infrastructure connectivity across transport and energy sectors, they have also generated debate regarding debt sustainability and economic efficiency. Critics often portray BRI as a tool for "debt-trap diplomacy", suggesting that China deliberately extends loans to increase its strategic leverage (He 2002, 140, 160-161; Nurgozhayeva 2020, 255). However, this interpretation can be contested. It would be more accurate to state that the debt risks arise from structural features of BRI's financial model — especially its not-so-transparent practices, rapid lending, and uneven project performance (He 2020, 163-163; Nurgozhayeva 2020, 255). The swift rise of large-scale loans pushed several participating economies toward debt distress, while also burdening Chinese SOEs and banks with low-return investments (He 2020, 165-166). Therefore, it is more coherent to consider BRI's financial model's structure rather than deliberate malicious intent. Thus, in response to these structural problems, Beijing introduced a Debt Sustainability Framework for BRI Countries, seeking to improve fiscal discipline and risk assessment (He 2020, 165).

Even before the Covid-19 pandemic, China's overseas lending had begun to contract, with loans from CDB and Export-Import Bank declining sharply after peaking 2016 due to project underperformance and geopolitical frictions (Carmody and Wainwright 2020, 2831-2832, 2839). The pandemic then intensified these financial pressures, disrupting supply chains, halting construction, and exposing the economic fragility of many BRI partners (Leonov and Zaostrovskikh 2025, 92, 97). Facing these challenges, China renegotiated loan terms and adopted more flexible financing practices; for example, Angola received three years of debt-repayment relief from Chinese creditors (Carmody and Wainwright 2020, 2838).

This crisis also accelerated the strategic rebranding of BRI. Beijing redirected its focus toward the DSR, GSR, and HSR, highlighting technology, sustainability, and health cooperation as new pillars of the initiative (Leonov and Zaostrovskikh 2025, 92). At the same time, the U.S. and its allies criticized China's pandemic response and leveraged the crisis to challenge the legitimacy of both BRI and China's role in international governance (Beeson and Crawford

2023, 57). These dynamics deepened the ideological dimension of China-U.S. rivalry, with BRI increasingly framed as a state-driven alternative to liberal economic governance (He 2020, 166; Beeson and Crawford 2023, 46, 57).

Despite the downturn in traditional lending, BRI has demonstrated a degree of metastability: adapting without collapsing. BRI has transitioned toward smaller, more commercially viable projects, public-private partnerships, and expanded soft-power instruments such as scholarships, cultural exchanges, and humanitarian aid, including "mask diplomacy" during the pandemic (Carmody and Wainwright 2022, 2841-2842). This adaptive adjustment reflects BRI's ability for systemic reconfiguration, sustaining its relevance through flexibility and selective reform rather than large-scale retreat.

Finally, this adaptive reconfiguration has paved the way for a new phase of expansion centered on digital infrastructure, where fiber optics, 5G networks, satellites, and data governance now form the strategic backbone of China's international engagement. The following section explores this transformation by delving into the DSR, examining how technology has become the main vehicle for sustaining and extending China's hegemonic reach.

The Digital Silk Road: Building an International Network of Infrastructure

This study aligns with the premise that the DSR represents the technological backbone of BRI, expanding China's infrastructural reach into the digital domains and consolidating its influence over the architecture of international connectivity (Coenen et al. 2020, 14). Formally proposed by President Xi Jinping in 2017, the DSR was conceived as a "road to innovation", aiming to enhance technological cooperation and strengthen digital interdependence among participating countries (Xi 2017; He 2020, 159-160). DSR focus lies in developing and integrating bilateral fiber-optic networks, transcontinental submarine cables, and satellite passageways that connect Asia, Africa, Europe, and the Americas (Coenen et al. 2020, 14; Leonov and Zaostrovskikh 2025, 92).

The DSR encompasses a broad set of initiatives, ranging from big data and cloud computing to AI and smart-city development (He 2020, 160). China leverages its comparative advantages in wireless internet and 5G telecommunications to supply these infrastructures, constructing teleports and digital corridors that facilitate high-speed communication and data exchange across continents (Leonov and Zaostrovskikh 2025, 92). A key component of this system is the BeiDou satellite navigation network, such as the China-Europe high-speed railway (Leonov and Zaostrovskikh 2025, 92).

Within Complex Hegemony, the DSR functions as a new field of power where digital infrastructures materialize long-term political influence (Williams 2019a, 176). Hegemonic projects consolidate stability by embedding directionality into durable material systems — such as information and communication networks — that outlast conventional political cycles. These infrastructures serve as the "game space" of modern politics, shaping how entities interact and determining which forms of cooperation become possible or constrained (Williams 2019a, 176).

By designing DSR, China is effectively reconfiguring the topology of international connectivity, creating new routes and dependencies through which information, finance, and influence circulate (Williams 2019a, 177). The scale and durability of digital infrastructure generate a self-reinforcing boot, giving the DSR sociotechnical depth that blends physical systems with political, cultural, and economic interactions (Williams 2019a, 178). Moreover, the DSR exemplifies a generative entrenchment due to being a mechanism through which infrastructural systems embedded power relations and reproduce hegemonic stability over time (Williams 2019a, 176-178).

Beyond physical dimension, the DSR carries important normative and political implications, extending into the field of digital governance and standards-setting. It embodies a "platform power": a solidification of political direction within technological infrastructures that operates as automated mechanisms of influence (Gilbert and Williams 2022). In practical terms, these systems act as an "operating system" that defines what forms of digital behavior and connectivity are possible (Williams 2019a, 178).

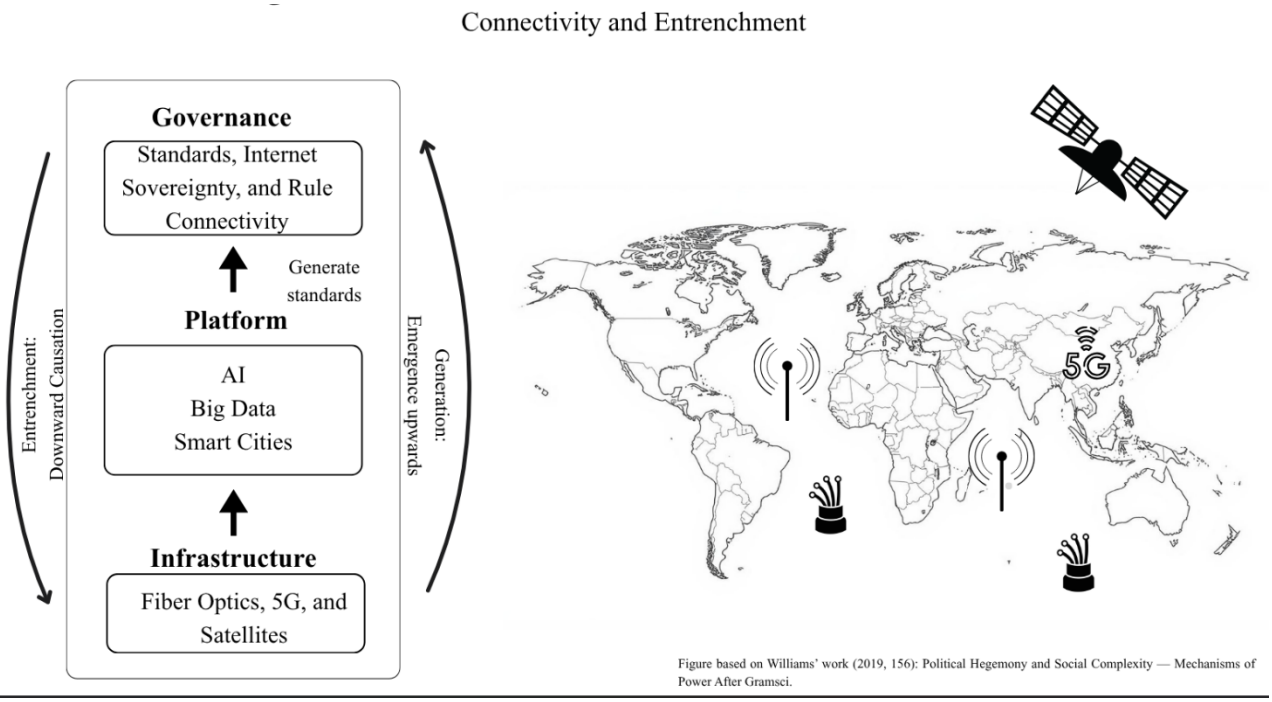

Figure 3.3. The Digital Silk Road as Continuation and an Evolution of BRI
Source: Elaborated by the author based on Williams' Complex Hegemony theory (2019a), He (2020), Nurgozhayeva (2020), and Leonov and Zaostrovskikh (2025).

Through DSR, China encourages its SOEs to establish and export technological standards across partner countries (He 2020, 160). The DSR also promotes China's preferred vision of digital governance, notably the principle of "Internet sovereignty": the idea that each state has the legitimate right to regulate and control its cyberspace (Nurgozhayeva 2020, 256-257). This concept contrasts with the open internet model championed by Western powers and has resonance among several BRI participants, including Saudi Arabia, Egypt, and the United Arab Emirates (UAE), which have agreed to cooperate on building an interconnected DSR (Nurgozhayeva 2020, 257).

Economically, DSR facilitates China the internationalization of its technology and investments, serving as a spatial fix that redirects capital overaccumulation into new digital frontiers (Gonzalez-Vicent 2019, 491, 495). By exporting technological expertise and expanding OFDI, the DSR strengthens China's position in high-value sectors such as telecommunications, AI, and data infrastructure (An and Wang 2023, 262, 278).

The DSR thus represents both a continuation and an evolution of BRI. It shifts the BRI's core from material infrastructure toward digital connectivity and governance, deepening China's systemic reach. As part of China's expanding strategies, the DSR showcases an adaptive hegemonic project — one that combines economic needs, technological innovation,

and political direction to keep influence within a metastable international system (He 2020, 159-161; Williams 2019a, 176-178).

Beyond Hard Power: BRI as an Ideological and Cultural Project

BRI extends far beyond a conventional strategy of hard power or economic expansion. It also works as an ideological and cultural project, underpinned by extensive soft power mechanisms that complement its material and political dimensions (Fu et al. 2024, 7; An and Wang 2023, 262; Nye 2023, 89, 101). The previous statement was made because through BRI, China seeks not only to expand its economic reach but also to shape international norms and narratives (like showcased on the previous topics), offering an alternative model of development and a distinct vision for international governance. This multidimensional approach became especially visible during the Covid-19 pandemic, when Beijing reframed the initiative through the creation of the HSR, combining humanitarian outreach and crisis diplomacy to keep legitimacy and project influence.

From its origins, BRI has explicitly combined economic, political, and social goals. The initiative's founding documents identify "people-to-people bonds" as one of its five priorities, situating social and cultural cooperation alongside infrastructure, trade, and financial integration (He 2020, 144; Coenen et al. 2020, 3; Leonov and Zaostrovskikh 2025, 88).

Ideologically, BRI has been framed by Chinese leadership as "the great practice for the community of shared future for mankind", a slogan central to Xi Jinping's vision of international governance (He 2020, 140, 159). Through this statement, Beijing positions BRI as a platform for shared growth through consultation and collaboration, acting from a cooperative stance instead of a confrontational one (He 2020, 159).

Again, this posture represents a state-led alternative to the Western liberal model of free-market capitalism and liberal democracy. For many developing countries, BRI's non-conditional approach — one that emphasizes infrastructure and growth without political prerequisites — presents an appealing counterpoint to the stringent requirements often attached to loans from Bretton Woods Institutions (He 2020, 159, 166).

However, this model exports an elite development paradigm that privileges large-scale connectivity, urbanization, and industrial growth over participatory or labor-centered approaches (Gonzalez-Vicente 2019, 488-490). In this sense, this development logic often employs a futuristic narrative to justify ambitious engineering and modernization projects, depicting them as pathways to a shared prosperous future (Gonzalez-Vicente 2019, 490).

Moreover, beyond economic and ideological appeals, China strengthens its influence through cultural diplomacy and educational cooperation. It has increased academic scholarships for students from BRI countries and established Confucius Institutes in key partner states such as Kazakhstan (Nurgozhayeva 2020, 253, 275; Carmody and Wainwright 2022, 2842). These "people-to-people exchange" initiatives seek to promote mutual understanding and cultural familiarity, consolidating China's soft power image as a cooperative and benevolent partner (Nurgozhayeva 2020, 275; Carmody and Wainwright 2022, 2842).

China's pursuit of soft power also reflects a strategic adjustment to mitigate the perception of its rise as threatening. Beijing recognized that the rapid growth of its military and economic power could prompt neighboring states to form balancing coalitions, making the cultivation of soft power an effective counterstrategy to reduce opposition and build trust (Nye 2023, 22, 37).

To enhance legitimacy, China has sought recognition from international organizations: More than 25 UN agencies have signed cooperation agreements supporting BRI-related project (Coenen et al. 2020, 9). Simultaneously, new thematic branches such as the DSR and GSR have been incorporated to broaden BRI's appeal and align it with international development agendas (He 2020, 159-161).

The DSR promotes technological interconnectivity through cooperation in fields as artificial intelligence, cloud computing, and smart-city development, while also serving as channel for China to export digital standards and cyber governance principles (Nurgozhayeva 2020, 257). The GSR extends this agenda by emphasizing sustainability and environmental cooperation, positioning China as a leader in low-carbon and circular development (He 2020, 140, 160; Coenen et al. 2020, 4, 8, 13).

The COVID-19 pandemic was a defining moment that tested and transformed BRI, revealing its adaptive capacity and underscoring its ideological dimension. As the pandemic disrupted infrastructure projects and worldwide supply chains, China reframed BRI through the HSR, presenting it as an instrument for solidarity and shared resilience (Leonov and Zaostrovskikh 2025, 92).

During BRI's third implementation phase (2021-2025)[38], China shifted emphasis toward the DSR, GSR, and the HSR (Leonov and Zaostrovskikh 2025, 92). Beijing launched extensive health diplomacy efforts engaging in what observers described as "donation diplomacy" or "mask diplomacy", supplying medical equipment and vaccines across developing regions as

[38] The year 2025 here is mentioned due to the BRI's third implementation phase (2021-2025), China's five-year plan, and not an analysis outside the timeframe established in this research (2001-2024).

part of a broader soft power campaign (Carmody and Wainwright 2011, 2842). While these actions were sometimes viewed as strategic, they also enhanced China's image as a reliable partner during a period of international crisis.

The pandemic period marked a new phase in China's hegemonic evolution. It demonstrated that China's state-directed development model possessed the institutional capacity to mobilize and respond effectively to emergencies — a capacity that many Western states appeared to lack (Gilbert and Williams 2022; Leonov and Zaostrovskikh 2025, 92). Although China's initial management of the outbreak was criticized for suppressing information, subsequent official narratives reframed the country's actions as benign, effective, and cooperative (Nye 2023, 117, Leonov and Zaostrovskikh 2025, 92).

Beijing formalized this reframing in official documents such as the white paper *The Belt and Road Initiative: A key Pillar of the Global Community of Shared Future* (The State Council Information Office of the People's Republic of China 2023), which outlined the goal of eliminating structural barriers to development among member states (Leonov and Zaostrovskikh 2025, 92). This narrative reinforced China's self-portrayal as both responsible power and a model of governance, capable of aligning pragmatic cooperation with moral leadership.

BRI thus works as a multi-layered hegemonic project in which economic investment creates a structural base, while soft power policies — from educational exchanges to health diplomacy — keep its legitimacy and ideological appeal. Through initiatives such as the HSR, DSR, and GSR, China has transformed BRI into a flexible, adaptive mechanism capable of evolving within a metastable international system. By combining material infrastructure with cultural, ideological, and humanitarian narratives, BRI showcases how hegemony under conditions of complexity depends as much on shared meaning and legitimacy as on economic or technological power (An and Wang 2023, 262; Williams 2019a, 176-178).

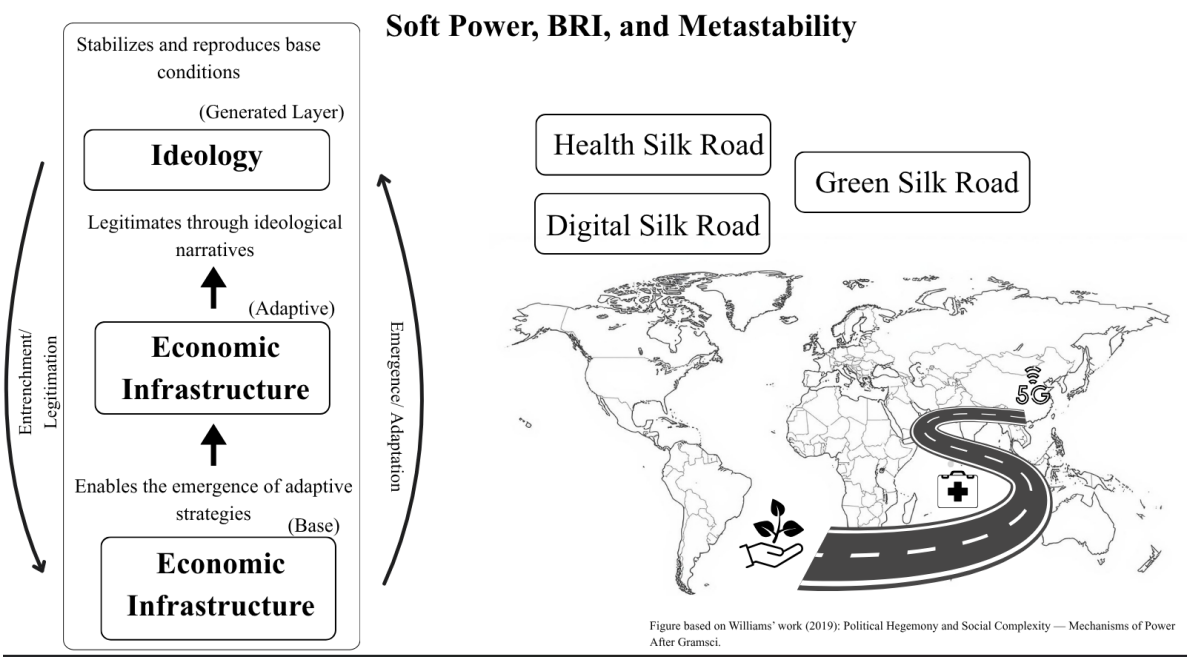

Figure 3.4. BRI as an Instrument of Soft Power and Hegemonic Mechanism
Source: Elaborated by the author based on Williams' Complex Hegemony theory (2019a), He (2020), Nurgozhayeva (2020), and Leonov and Zaostrovskikh (2025).

Partial Conclusions

BRI showcases a metastable hegemonic mechanism: it builds durable platforms that reorganize trade, finance, and connectivity, while continuously recalibrating through thematic reframings such as the DSR, GSR, and HSR. Considering Complex Hegemony framework, China's strategy coupes emergence (new patterns generated by infrastructure and Finance) with downward entrenchment (standards, rules, and narratives that stabilize those patterns).

The same features create systemic reach — state-led finance, policy-bank intermediation, and platform-like infrastructures — also embed vulnerabilities when project performance, transparency, or debt sustainability waver. BRI's recent adjustments show resilience rather than retreat: influence is kept by adapting the mix of tools, scales, and narratives to preserve coherence under stress. Since infrastructure and finance organize a metastable order, the next chapter analyzes the accelerants of this transition — technological and military domains — where digital networks, standards, and dual-use capabilities can compress time, magnify feedback effects, and thus speed (or strain) the reconfiguration of systemic power.

Chapter 4: Technological and Military Domains as Accelerators of Complex Transition

This chapter examines how digital and military-technical domains function as accelerators of systemic rivalry within the framework of Complex Hegemony. It focuses on standards, data governance, R&D ecosystems[39], and strategic military repositioning. In this context, control over digital standards — rules, guidelines, and specifications governing technology and communication — operates alongside data and R&D ecosystems to shape the international order. Moreover, these elements structure dependencies and influence across both states and markets (Lucio 2025, 11, 14-18; Rolf and Schindler 2023, 1258).

Rather than treating these domains as neutral sites of innovation, this analysis approaches them as complex systems in which material infrastructure, regulatory authority, and ideological projection converge. This perspective clarifies why technological competition is increasingly inseparable from broader strategic and political alignments (Lucio 2025, 13-14).

This chapter also applies Complex Hegemony by treating standards, data governance, and R&D ecosystems as a technological-infrastructural domain whose dynamics interact with economic and security domains. This analysis considers how key entities (states, firms, standard-setting bodies, and infrastructures) generate systemic downward causation. The goal is to identify how these mechanisms stabilize or destabilize the configuration of rivalry and reshape systemic trajectories (Williams 2019a, 138-41).

Digital competition is also connected to strategic military repositioning. This chapter evaluates how military modernization, maritime access, and resilience concerns interact under conditions of strategic competition (Robertson 2024, 810–19; Yaqub et al. 2024, 75–76, 80, 82-85). It examines Anti-Access/Area-Denial capabilities (A2/AD),[40] alliance formation, and the dual-use nature of overseas infrastructure and defense cooperation with BRI partner countries (Char 2020, 145; Popescu 2024, 10-12; Turker 2024, 52, 54–59, 64). Overall, rivalry is presented not as a single-domain contest, but as a cumulative interaction between technological

[39] R&D ecosystems are composed of governments, universities, companies, and research institutes that seeks for innovation through collaboration, shared knowledge, and integration.

[40] Military strategists use anti-access/area denial (A2/AD) to describe strategies and capabilities intended to prevent an adversary from entering a contested operational area (anti-access, A2) and, if the entry happens, to limit the adversary's freedom to move within that area (area denial, AD), typically through integrated systems such as missiles, sensors, and guidance technologies (Global Defense Insight 2022).

change, infrastructure development, and security perceptions (Lucio 2025, 11–18; Rolf and Schindler 2023, 1258–59).

Setting the Acceleration in Motion

To connect the empirical discussion in this chapter to the conceptual commitments established in Chapter 1, Chapter 4 operationalizes Complex Hegemony through four analytical anchors: systemic forces, downward causation, attractors, and metastability. To recap, let's begin with systemic forces, which refer to the "relation of forces" across economic, political, and military domains. Systemic forces are perceived not as static but as active pressures that shape the trajectory of China-U.S. rivalry (Gramsci 1971, 182, 455; Williams 2019a, 7, 53-55, 149-57). In this chapter, these forces are tracked through indicators such as military modernization, techno-nationalist industrial policy, and State Platform Capitalism (SPC), as well as through the fusion of economic and military dynamics in dual-use infrastructures and access strategies.

Second, downward causation captures the way emergent higher-level structures — laws, standards, infrastructures, and governance regimes — exert causal force on lower-level components by constraining behavior and shaping the space of feasible action (Williams 2019a, 24, 43). In this chapter, downward causation is observed through indicators such as regulatory frameworks and technical standards that enforce compliance, infrastructural constraints that structure "possibility spaces", and data localization mechanisms that re-territorialize information flows. Empirically, this is supported by the analysis of technological standards as strategic instruments structuring ecosystems and pathways of diffusion, by the discussion of China's Cybersecurity Law (CLS), Data Security Law (DSL), and Personal Information Protection Law (PIPL) as mechanisms compelling firms to localize data, and by the argument that infrastructures function as "operating systems" that make certain actions practical while rendering others costly or impossible (Williams 2019a, 176-77).

Third, attractors refer to states or patterns toward which a dynamic system tends to evolve — socially visible as converging configurations of norms, institutions, and dependencies that pull components into a given basin of alignment (Williams 2019a, 55-58, 147). In this chapter, attractor dynamics can be identified through indicators such as technological bifurcation, the formation of a digital iron curtain, and convergence patterns in which states and firms align security and economic policies with one major power's standards and governance principles.

The chapter's discussion showcases how rival configurations increasingly reduce interoperability, thereby generating directional pressures toward competing basins of attraction.

Finally, we'll end this brief recap with metastability, which refers to an apparently stable configuration that remains sensitive to shocks because it contains latent potentials for reorganization, phase shifts, or bifurcation (Williams 2019a, 147-48). In this chapter, metastability is tracked through indicators such as accelerators (crises that reveal fragilities and speed up structural change) and threshold effects (points at which accumulated pressures trigger rapid reconfiguration).

Empirically, this chapter treats COVID-19 as a technological accelerator that intensified securitization, supply-chain security, and "de-risking," and it identifies the Edward Snowden[41] revelations as a turning point that undermined trust and strengthened claims to digital sovereignty — both functioning as perturbations that pushed rivalry from "implicit" competition toward more explicit, institutionalized contestation. Table 4.1 below offers a quick map of the chapter's key concepts, the indicators used to track them, and where they appear in the discussion that follows.

[41] In June 2013, former U.S. intelligence contractor Edward Snowden provided journalists with classified NSA documents revealing extensive surveillance practices. Snowden disclosures triggered a wide international debate over privacy, democratic oversight, and national security (Greenwald, MacAskill, and Poitras 2013).

Table 4.1 From Concepts to Evidence: A Guide to Chapter 4's Accelerators

Analytical Anchor	Indicator (what to look for)	Illustrative evidence (example)
Systemic forces	Military modernization; techno-nationalism/industrial policy; SPC; dual-use logistics/access	PLA A2/AD dynamics; alliance/posture adaptation; dual-use infrastructure and interoperability effects.
Downward causation	Regulatory frameworks/standards; infrastructural constraints; data localization laws.	Standards shaping interoperability; CLS/DSL/PIPL-type of constraints; infrastructures structuring "possibility spaces".
Attractors	Technological bifurcation; "digital iron curtain"; convergence toward blocs/ecosystems.	Modular but increasingly incomplete ecosystems; alignment pressures driven by standards + governance choices.
Metastability	Accelerators/perturbations; threshold effects; sensitivity to shocks	COVID-19 as an accelerator; informational shocks (e.g., trust breaks) amplifying securitization; cascading effects across domains.

Source: Elaborated by the author based on Williams' (2019a) Complex Hegemony theory.

Standards, Data, and the International Race for Tech Dominance

Within Complex Hegemony, it is possible to perceive control over digital standards (rules, guidelines, and specifications over technology and communication), data, and R&D ecosystems as a key accelerator of contemporary systemic rivalry. This competition increasingly unfolds as a sort of hybrid context or "network war", in which technological infrastructures, regulatory frameworks, and platform governance function as mechanisms of power rather than neutral tools (Lucio 2025, 14, 18; Rolf and Schindler 2023, 1258). Control over these domains shapes the architecture of the international order itself, structuring dependencies, access, and influence across states and markets (Lucio 2025, 11).

This is where this research's framework emphasizes non-human domains and becomes analytically useful: data governance regimes and platform architectures function as infrastructural arrangements that stabilize power beyond discourse, reinforcing feedback and lock-in, making the configuration durable even amid contested legitimacy (Williams 2019a, 176). In Complex Hegemony's account, infrastructures — including design standards — shape politics by structuring "possibility spaces", making certain actions practical while rendering others costly or impossible (Williams 2019a, 176-77).

From this perspective, standards are not confined to innovation or economic competitiveness; they operate as strategic instruments that structure technological ecosystems, regulatory environments, and pathways of diffusion. In this sense, technological dominance emerges not from isolated capabilities but from the ability to entrench standards, govern data flows, and align R&D ecosystems with broader strategic objectives. These dynamics exemplify how power transitions unfold in non-linear and interconnected ways within a complex international system.

Competition over digital standards, data governance, and R&D ecosystems translate directly into geopolitical and economic leverage. As rival powers promote incompatible technical norms and regulatory models, the international digital environment increasingly fragments along geostrategic lines (Lucio 2025, 14). This fragmentation undermines interoperability and institutionalizes technological separation, reshaping patterns of cooperation and competition.

Rivalry over technological standards — particularly in domains such as 5G and 6G networks, artificial intelligence, cloud computing, and quantum research [42]— has accelerated a "technological bifurcation" (Lucio 2025, 12, 14). Rather than reflecting competition over innovation alone, this process presupposes the gradual division of digital ecosystems into distinct and increasingly incompatible technological regimes. Divergent technical standards constrain coordination and interoperability. The emergence of a "digital iron curtain" limits the international circulation of data, talent, and innovation, embedding technological choices within broader strategic and political alignments (Lucio 2025, 17). In this context, the pursuit of "digital sovereignty" has become a central axis of competition, reflecting fundamentally different models of technological governance: until the end of 2024, the U.S. emphasized open, market-oriented networks, while China advances a state-centric approach in which security considerations play a defining role (Lucio 2025, 13).

R&D ecosystems play a critical role in this rivalry through the logic of techno-nationalism. States increasingly pursue technological supremacy as a means of safeguarding sovereignty and strategic autonomy, relying on aggressive industrial policies to secure leadership in key sectors (Lucio, 2025, 13). China's drive for semiconductor self-sufficiency is closely linked to its goal to become a "world-class" military power by 249, reinforcing the integration of technological innovation, artificial intelligence development, and military modernization (Chu 2023, 662). The U.S. has responded with strategic investments aimed at reducing dependence on foreign supply chains and keeping technological leadership, most notably through the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act, which promotes domestic semiconductor manufacturing (Mukherjee 2025, 223).[43]

Control over data has emerged as a foundational element of state power, comparable to traditional strategic resources (Huang and Mayer 2022, 335). This competition is increasingly structured through what scholars describe as State Platform Capitalism (SPC), whereby states mobilize domestic digital platforms to pursue geopolitical and economic goals (Rolf and

[42] *Cloud computing* refers to using servers (accessed via the internet) to store, manage, and process data, instead of relying on a personal computer or a local server. *Quantum research* refers to studying and applying quantum mechanics to develop new technologies. These technologies are very important because they enable much faster measurement in certain tasks with applications in fields such as medicine, finance, and cryptography.

[43] The CHIPS and Science Act is a U.S. law from August 2022, which allocates over US$75 billion to strengthen domestic semiconductor manufacturing and R&D in the U.S., addressing vulnerabilities exposed by pandemic-related supply chain disruptions and reducing dependence on foreign suppliers. The legislation supports large-scale investment in fabrication plants (fabs), particularly in states such as Arizona and Texas, as part of a broader strategy to keep technological leadership amid rising international competition in advanced semiconductors (McKinsey & Company 2022).

Schindler 2023, 1259). Both Beijing and Washington instrumentalize major platform firms — such as Alibaba, Tencent, Amazon, and Microsoft — as extensions of national power within international digital ecosystems.

China's data regime exemplifies this approach. Through a comprehensive regulatory framework — including the Cybersecurity Law (CLS), Data Security Law (DSL), and Personal Information Protection Law (PIPL) — China enforces strict data localization requirements, mandating that data generated within its territory remain under domestic territory jurisdiction (Lucio 2025, 17). These laws grant the state extensive authority over information flows and corporate compliance, reinforcing data sovereignty while increasing regulatory costs for foreign firms (Gao and Chen 2024, 404). In response, the U.S. has increasingly prioritized security considerations, restricting sensitive data transfers to China-linked companies, alleging to protect national security (Lucio 2025, 18).

COVID-19 as a Tech Accelerator and the Digital Silk Road

The COVID-19 pandemic (World Health Organization 2020)[44] worked as a tech accelerator of digital transformation, intensifying reliance on digital infrastructure, surveillance technologies, and data governance frameworks (Gao and Chen 2024, 394). In China, the crisis prompted the launch of the "New Infrastructure" plan in 2020, which aimed to stimulate post-pandemic recovery through investments in artificial intelligence, smart logistics, and digital connectivity (Seta 2023, 248). During the pandemic, digital applications such as the Health Code system were rapidly deployed for epidemic management and evolved into an "access infrastructure", regulating mobility and participation in everyday activities (Seta 2023, 250).

These developments intersected with China's broader international strategy through the Digital Silk Road (DSR), launched in 2025 as a key feature of BRI. The DSR seeks to expand the reach of Chinese hardware and software platforms through the financing and construction of digital infrastructure abroad (Rold and Schindler 2023, 1258; Casagrande and Dallago 2025, 5). Its focus includes internet connectivity, satellite systems, fiber-optic networks, undersea cables, and 5G technology (Dahdal and Ghafar 2025, 164).

[44] On March 11, 2020, the World Health Organization announced that the Coronavirus 2019 (COVID-19) would be characterized as a pandemic (World Health Organization 2020).

The DSR serves multiple strategic purposes. It aims to integrate developing countries into China-led value chains by embedding technological networks more deeply within BRI partnerships (Lucio 2025, 18). It promotes the adoption of technical standards developed by Chinese enterprises, increasing the likelihood that partner countries align with China's technological ecosystem (Dahdal and Ghafar 2025, 170; Chu 2023, 644). The initiative also facilitates market expansion for Chinese technology firms such as Huawei and Alibaba, extending their presence across the Asia-Pacific, the Middle East, and Africa (Lucio 2025, 18; Turker 2024, 70). While framed as a development-oriented project, the DSR simultaneously advances China's geopolitical goals by promoting Beijing's principles of cyberspace governance and digital sovereignty (Dahdal and Ghafar 2025, 170; Chu 2023, 644).

TikTok as a Case of Platform Competition and Securitization within the China-U.S. Rivalry

TikTok can also be seen as a case of platform competition and securitization within the China-U.S. rivalry. TikTok, owned by the Chinese company ByteDance, has become a focal point of geopolitical struggles over digital technology, regulation, and sovereignty, serving as a test case for competing approaches to platform governance in the U.S. and the European Union (Chu 2023, 662; Yaqub et al. 2024, 85). The controversy surrounding TikTok reflects a broader clash of standards related to data privacy, content moderation, and algorithmic control (Gonzalo and Sly 2021, 257; Gao and Chen 2024, 394).

Regulatory responses diverge sharply. The U.S. has adopted a securitized, techno-nationalist approach focused on ownership and control. Legislation such as the Protecting Americans from Foreign Adversary Controlled Applications Act (PAFACA) frames TikTok as a national security threat, absorbing data protection concerns into broader security imperatives (Ogasawara 2025, 136; Dahdal and Ghafar 2025, 164). Political discourse has employed martial and public health metaphors, describing the platform as a "weapon" or "digital fentanyl", illustrating how technological interdependence becomes securitized in systemic rivalry (Mukherjee 2025, 224). Measures such as forced divestiture or bans represent extraordinary assertions of sovereignty grounded in strategic control (Uctu, Essop, and Şahbaz 2025, 80). TikTok's Project Texas, which localizes U.S. user data on Oracle-managed servers, reflects attempts to adapt to these pressures by reducing operational dependence on Chinese infrastructure (Casagrande and Dallago 2025, 4; Dahdal and Ghafar 2025, 171).

The International Standards Race and Data Sovereignty

China has pursued an active strategy of shaping international telecommunication and digital standards, recognizing their key role in structuring digital trade and technological governance (Gao and Chen 2024, 406). Initiatives such as "Standards 2035" aim to foster innovation and promote standards with "Chinese characteristics", aligning technological development with national strategic objectives (Gao and Chen 2024, 406; Rolf and Schindler 2023, 1271).

China has also sought to increase its influence within international standards organizations, including the International Organization for Standardization (ISO), by supporting Chinese officials in leadership roles and actively drafting standards proposals (Gao and Chen 2024, 406). Chinese firms such as Huawei, ZTE, Alibaba, and Tencent export digital infrastructure and services, establishing *de facto* standards in recipient countries, particularly through DSR projects (Rolf and Schindler 2024, 1272; Gao and Chen 2024, 406). Huawei's position as the leading filer of standard-essential patents for 5G illustrates how corporate expansion reinforces standard-setting power (Rolf and Schindler 2023, 1270).

The U.S. has responded through exclusionary measures, alliances, and alternative initiatives. Bans on Chinese telecommunications firms in countries such as the U.S., the United Kingdom, and Australia cite security concerns related to potential government access to communications (Dahdal and Ghafar 2025, 164; Casagrande and Dallago 2025, 7). These policies contribute to technological bifurcation while reinforcing competing ecosystems (Bernot, Cooney-O'Donoghue, and Mann 2024, 3).

Cybersecurity, Data Sovereignty, and Systemic Rivalry

Cybersecurity concerns are deeply intertwined with data sovereignty, reflecting states' efforts to govern and protect digital infrastructure and data flows independently (Cristiano and Monsees 2025, 4; Dahdal and Ghafar 2025, 168). Sovereignty increasingly depends on the ability to control data location, legal jurisdiction, and access rights, particularly in sensitive sectors.

The Snowden revelations of 2013 marked a critical turning point by exposing the scale of U.S. surveillance embedded within digital communication infrastructures under the logic of the "War on Terror" (Ogasawara 2025, 134-135). These disclosures undermined trust in U.S. technological leadership and provided political justification for states, including China, to

pursue alternative models of digital governance and sovereignty (Cristiano and Monsees 2025, 5).

The COVID-19 pandemic further deepened mistrust surrounding data flows and surveillance technologies, reinforcing securitized narratives around foreign technology (Seta 2023, 250; Ogasawara 2025, 137). In this context, bans on Chinese technologies and the framing of TikTok as a security threat illustrate how digital interdependence becomes politicized and weaponized within the context of systemic rivalry (Uctu, Essop, and Şahbaz 2025, 80).

Through the lens of Complex Hegemony, it is possible to perceive the China-U.S. rivalry over standards, data, and R&D as something that resembles competing infrastructural systems: each power seeks not merely to supply technology, but to define the rules, interfaces, and governance mechanisms that structure participation. Control over these foundational layers ensures that technological ecosystems and values embedded within them become entrenched as defaults within the international system.

Strategic Military Repositioning and Systemic Consequences

From what has already been explored about Complex Hegemony theory, this chapter approaches strategic military repositioning as the gradual realignment of military forces, doctrines, resources, and infrastructures shaped by shifting threat perceptions and evolving conditions of systemic competition. Rather than referring to isolated deployments or short-term adjustments, military repositioning reflects a longer-term process through which states recalibrate how, where, and with what means they organize security in an evolving international environment (Turker 2024, 52-53). In the current context, these processes have unfolded alongside the transition from counter-terrorism-centered security agendas toward renewed patterns of great power competition, particularly involving China and the U.S. (Dahdal and Ghafar 2025, 164; Yaqub et al. 2024, 75-76).

From an analytical perspective, military repositioning does not operate independently from technological and economic dynamics. Instead, it intersects with changes in technological capabilities, industrial organization, and infrastructure development, linking military adaptation to broader transformations in innovation systems and supply chains (Lucio 2025, 19; Yaqub et al. 2024, 81). As a result, assessments of military power increasingly depend not only on force size or nominal budgets, but also on access to dual-use technologies, resilience of production

networks, and the capacity to operate across shared domains such as oceans, cyberspace, and outer space (Turker 2024, 52-53).

In this context, the competition for technological dominance appears increasingly intertwined with observable patterns of military repositioning. China's military modernization and the systemic disruptions highlighted by the COVID-19 pandemic have interacted in ways that have contributed to adjustments in regional and international security arrangements, particularly in how states evaluate vulnerability, resilience, and access to critical capabilities. These interactions suggest that military repositioning functions less as a singular strategic choice and more as an adaptive process shaped by cumulative pressures arising from technological chance, infrastructure dependencies, and evolving threat perceptions.

A key feature of this process has been the readjustment of U.S. strategic priorities. In recent years, the U.S. has gradually shifted attention and resources away from the Middle East and the post-9/11 "War on Terror" toward the Indo-Pacific, which is increasingly getting more attention for future competition with China (Dahdal and Ghafar 2025, 164; Yaqub et al. 2024, 75-76). This reposition has involved the redistribution of naval forces, renewed emphasis on freedom of navigation, and efforts to strengthen alliance frameworks with regional partners through mechanisms such as the Quad and AUKUS (Yaqub et al. 2024, 76, 82; Turker 2024, 61-63) [45]. At the same time, the U.S. modernization initiatives — including investments in nuclear forces, next-generation bombers and submarines, and cyber and space capabilities — reflect an attempt to adapt military posture to technological and strategic conditions related to great power rivalry (Yaqub et al. 2024, 75).

U.S. Leadership Tested by China's Military Modernization

China's military development has been described as involving a gradual transition from a labor-intensive force toward a more capital-intensive and technologically advanced military structure (Robertson 2024, 810, 813-14). Over the past two decades, China's real military equipment spending grew at an average annual rate of 10.2%, a pace notably higher than that the U.S. (Robertson 2024, 810, 813). This sustained increase in spending has coincided with qualitative changes in the PLA, including expanded capacities for long-range precision strike and more integrated "system of systems" operations (Char 2020, 145; Popescu 2024, 10). It is

[45] AUKUS stands for Australia, the United Kingdom, and the U.S. It is a trilateral security military alliance formed by these three countries in 2021 (U.S. Department of War n.d.). The Quad stands for the Quadrilateral Security Dialogue. It is an informal strategic security-focused forum involving Australia, India, Japan, and the U.S. (Australian Government Department of the Prime Minister and Cabinet n.d.)

important to observe that analyses that focus solely on nominal expenditure figures may underestimate these developments, as China's real defense purchasing power exceeds what market exchange-rate comparisons alone would suggest (Robertson 2024, 817-19).

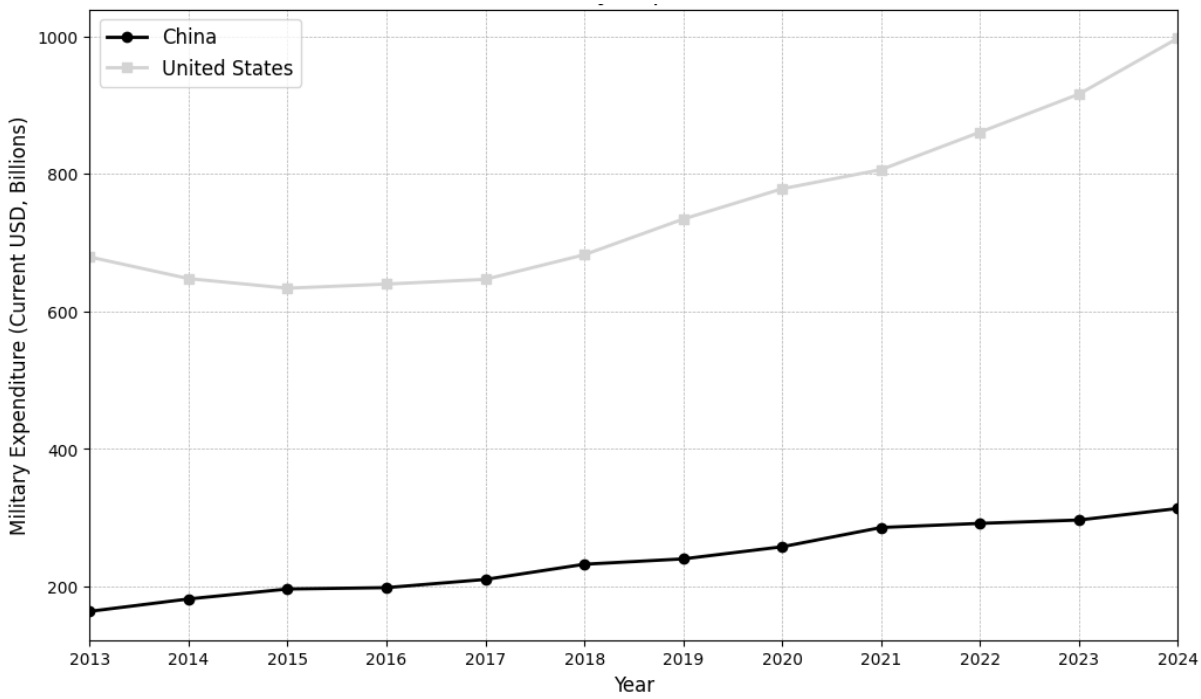

Figure 4.1 China and U.S. Military Expenditure (2013-2024).

Source: Elaborated by the author using data retrieved from the World Bank and Stockholm International Peace Research Institute (World Bank and SIPRI 202*6*). Full data available at the sources cited in the references

Naval development has been a particularly visible dimension of this broader modernization process. Long-term strategic planning associated with the "China Dream" includes a multi-phase naval trajectory oriented toward enhanced maritime capabilities by reaching beyond the first island chain and toward the second island chain, alongside investments in a fleet capable of sustained operations at greater distances (Yaqub et al 2024, 75; Popescu 2024, 12). From an analytical perspective, these developments have altered long-standing assumptions about maritime access in the Western Pacific, an area historically characterized by U.S. naval predominance.

At the operational level, modernization efforts within the PLA Air Force, Navy, and Rocket Force have emphasized A2/AD capabilities (Yaqub et al 2024, 75). These capabilities have introduced new constraints into U.S. military planning, particularly with respect to the deployment of submarines and aircraft carriers in contested maritime spaces. Within a complex

hegemonic lens, maritime corridors emerge not merely as transit routes but as infrastructural environments in which influence, access, and control interact dynamically (Turker 2024, 57).

These developments have contributed to dynamics commonly described as a security dilemma. Measures undertaken by China to address perceived vulnerabilities and secure strategic mobility are frequently interpreted by U.S. policymakers as potentially offensive in character, reinforcing cycles of military accumulation and alliance formation (Yaqub et al. 2024, 75, 82). The establishment or strengthening of security arrangements, such as AUKUS and the Quad — previously discussed as elements of strategic repositioning — can here be understood as outcomes of reciprocal threat perception and interactive security dynamics rather than expressions of unilateral strategic intent.

Maritime Access and Rivalry: U.S. Primacy Confronts China's Expanding Reach

Maritime access strategies also extend beyond naval assets alone. Analyses of China's overseas presence often reference the "string of pearls" hypothesis (see Figure 4.2), which describes a network of commercial and military-related facilities extending from the Chinese mainland toward the Horn of Africa (Turker 2024, 54-55). These facilities are frequently interpreted as serving to secure Sea Lines of Communication (SLOCs) and to reduce exposure to chokepoint vulnerabilities. In this sense, efforts to overcome the geographic constraints imposed by the first island chain are better understood as part of a broader attempt to expand strategic options rather than as isolated military initiatives (Turker 2024, 58-59).

From a Complex Hegemony perspective, the "string of pearls" is not best treated as a static line of bases, but as a material platform that can generate durable systemic effects over time. Within this framework, it can be read as a process of generative entrenchment, in which built infrastructures become foundational layers upon which secondary systems — such as trade routes, energy logistics, and diplomatic coordination — come to depend, thereby increasing the costs of reversal (Williams 2019a, 154-156). As these infrastructures consolidate, they may also shape the systems' possibility space, making certain behaviors and alignments more likely than others, and reinforcing patterns of dependence through feedback and lock-in (Williams 2019a, 53, 58, 147-48). In this sense, maritime infrastructure projects can function as indirect mechanisms of power, meaning they do not merely support military mobility but can recognize the environment in which strategic options and security calculations are made.

Figure 4.2. String of Pearls.
Source: Elaborated by the author based on the work of Turker 2024.

The COVID-19 pandemic introduced an additional layer into these dynamics by highlighting the degree to which military readiness is linked to industrial and technological resilience. Pandemic-related disruptions exposed vulnerabilities in supply chains for key medical and military equipment across the U.S. and its allies (Aristovnik et al. 2023, 2; Tianming et al. 2021, 2). As disruptions affected an estimated 90% of the world economy, dependence on single-country sourcing, especially for dual-use components such as semiconductors, became an evident security concern (Wang and Cheng 2025, 15; Tianming et al. 2021, 17-19). In response, concepts such as "de-risking" (i.e., businesses take actions to

make less risks, avoiding financial loss) and "supply chain security" gained prominence as elements of contemporary strategic planning (Wang and Cheng 2025, 15; Turker 2024, 52).

Strategic Military Implications of BRI Infrastructure

Within this environment, China's overseas infrastructure engagement has increasingly been analyzed through a dual-use lens. Investments in ports such as Djibouti and Gwadar, while officially commercial, have been assessed as providing logistical capabilities that could support PLA operations under certain conditions (Turker 2024, 54; Popescu 2024, 8). From this perspective, such facilities function as potential force multipliers by extending operational reach without requiring extensive permanent deployments (Turker 2024, 64; Popescu 2024, 8). Similar interpretations have been applied to BRI projects more broadly, where infrastructure is viewed as embedding latent strategic potential alongside economic objectives (Popescu 2024, 8).

Civil-military integration practices reinforce these patterns. Under the "People's War" doctrine, civilians are formally incorporated into national defense planning, and technical standards introduced in 2015 require new civilian vessels to meet defense-related specifications (Popescu 2024, 10). As a result, commercial fleets may serve auxiliary functions during wartime. Digital infrastructure projects can further entrench such linkages: broadband networks designed to operate exclusively with Chinese hardware create long-term technological dependencies that may extend into security and information systems (Rolf and Schindler 2023, 1271; Casagrande and Dallago 2025, 14).

China's approach to infrastructure development has also evolved in response to international scrutiny. Shifts toward "small yet smart" projects and weather-resilient "Green Silk Road" initiatives are frequently interpreted as efforts to address concerns related to debt sustainability while maintaining technological and standards-based influence (Casagrande and Dallago 2025, 5; Popescu 2024, 16). These projects may foster long-term reliance on Chinese technical standards while framing infrastructure provision in terms of stability and sustainability (Popescu 2024, 16, Uctu, Essop, and Şahbaz 2025, 92).

Pandemic experience has additionally influenced how resilience is conceptualized in military planning. Scenarios involving public health crises have incorporated into resilience strategies emphasizing safety stocks, redundancy, and "access infrastructure" capable of sustaining operations during prolonged disruptions (Yaqub et al. 2024, 80; Tianming et al. 2021, 21). In this context, public health emergencies are increasingly treated as conditions that may

justify expanded state intervention in technology sectors to secure critical hardware and software systems (Yaqbub et. al. 2024, 80; Mat and Khalid 2024, 167).

Defense Cooperation and Security Ties with BRI Countries

Defense cooperation has complemented these developments. China's arms sales, training programs, and joint exercises have expanded its security relationships with countries in the Middle East and Africa, often appealing to partners seeking alternatives to Western security frameworks (Dahdal and Ghafar 2025, 166, 187). Joint drills, negotiations over access arrangements, and export of surveillance technologies further align domestic security systems in partner states with Chinese standards, embedding influence through technical and institutional convergence rather than formal alliances (Dahdal and Ghafar 2025, 166; Bernot, Cooney-O'Donoghue, and Mann 2024, 3).

From an analytical standpoint, these developments suggest a pattern of strategic military repositioning shaped less by single decisions than by cumulative interactions among technological change, infrastructure development, and security perceptions. These dynamics configure themselves in a more complex manner than the often-cited analogy of a chessboard. Politics, perceptions, and competition move beyond simply calculated moves. The pandemic functioned as a disruptive event that could not be predicted and exposed missing and fragile elements, particularly in supply chain resilience, prompting reassessments of how competition is sustained under conditions of systemic stress.

Partial Conclusions

This chapter has shown that technological and military-technical domains function as accelerators of the China-U.S. rivalry because they reshape the structural conditions under which interdependence, alignment, and security are organized. Rather than neutral arenas of innovation, standards, data governance, R&D ecosystems, and strategic military repositioning operate as interconnecting mechanisms through which dependencies are produced, constrained, and redirected across states and markets (Lucio 2025, 11-13-18; Rolf and Schindler 2023, 1258-59). Read through Complex Hegemony, this acceleration is best understood as a cumulative interaction between technological change, infrastructure development, and evolving security perceptions, meaning an emergent configuration whose dynamics cannot be reduced to linear causality or single-domain competition (Williams 2019a, 138-41; Lucio 2025, 11-18).

In the technological-infrastructural domain, this chapter demonstrated how downward causation operates through standards, regulatory frameworks, and platform architectures that structure "possibility spaces", making certain forms of participation, interoperability, and data circulation more possible than others (Williams 2019a, 176-77). Competition over 5G/6G, AI, cloud, and quantum research increasingly unfolds as a hybrid "network war" in which technological infrastructures and regulatory authority become mechanisms of power (Lucio 2025, 14, 18; Rolf and Schindler 2023, 1258).

As rival powers promote incompatible or antagonistic technical norms and governance models, the international digital environment fragments along geostrategic lines, undermining interoperability and institutionalizing technological separation (Lucio 2025, 12-14, 17). These dynamic expresses attractor tendencies toward modular and increasingly incompatible ecosystems; captured in this chapter through "technological bifurcation", the prospect of a "digital iron curtain", and recurring disputes around "digital sovereignty" (Lucio 2025, 12-17).

This chapter further shows that R&D ecosystems amplify these pressures through techno-nationalist strategies aimed at strategic autonomy. The rivalry over semiconductors, industrial policy, and the alignment of innovation systems with security goals showcases how technological competition is increasingly bound to long-term strategic goals: China's pursuit of semiconductor self-sufficiency is explicitly tied to military modernization, while the U.S. response seeks to reduce supply-chain dependence and preserve technological leadership (Lucio 2025, 13; Chu 2023, 662; Mukherjee 2025, 223). At the same time, "data" emerges as a key strategic resource, and SPC clarifies how platform firms are mobilized within political projects, shaping digital ecosystems through market expansion and regulatory contestation (Huang and Mayer 2022, 335; Rolf and Schindler 2023, 1259). Also, China's CLS/DSL/PIPL framework exemplifies this regulatory entrenchment by re-territorializing information flows through strict localization and compliance requirements, while the U.S. measures increasingly frame sensitive data transfers as a national security issue (Lucio 2025, 17-18; Gao and Chen 2024, 404).

These structural dynamics also reveal the system's metastable character, because it can sustain provisional arrangements, yet remains sensitive to shocks and perturbations that accelerate reorganization. COVID-19 operates in this chapter as a disruptive accelerator of securitization and digital transformation, intensifying reliance on surveillance technologies, strengthening data governance frameworks, and reshaping the relationship between mobility, participation, and infrastructural control (Gao and Chen 2024, 394; Seta 2023, 248-50).

The Snowden revelations appear as a turning point that undermined trust in the U.S. digital leadership and provided political justification for alternative models of digital sovereignty (Ogasawara 2025, 134-35; Cristiano and Monsees 2025, 4-5). Cases such as TikTok further showcase how platform governance is rapidly securitized, transforming privacy, content moderation, and algorithmic control into sovereignty disputes and extraordinary regulatory interventions (Chu 2023, 662; Yaqub et al. 2024, 85; Gonzalo and Sly 2021, 257; Gao and Chen 2024; Ogasawara 2025, 136; Dahdal and Ghafar 2025, 164; Uctu, Essop, and Şahbaz 2025, 80; Mukherjee 2025, 224). Meanwhile, the DSR is presented as a diffusion channel for Chinese hardware and software infrastructures abroad, embedding standards and governance principles within connectivity projects and value-chain integration (Casagrande and Dallago 2025, 5; Dahdal and Ghafar 2025, 164, 170; Chu 2023, 644; Lucio 2025, 18; Turker 2024, 70).

The military sections in this chapter showcased how technological rivalry and strategic repositioning are mutually conditioning. Military modernization, maritime access, and A2/AD dynamics interact with alliance formation and regional security dilemmas, reshaping expectations about operational mobility and contested corridors (Robertson 2024, 810-19; Yaqub et al. 2024, 75-74; Char 2020, 145; Popescu 2024, 10-12; Turker 2024, 57). This chapter also highlighted how "resilience" becomes a security variable. COVID-19-era disruptions exposed vulnerabilities in supply chains for dual-use components (e.g., semiconductors), pushing "de-risking" and supply-chain security into contemporary strategic planning (Aristovnik et al. 2023, 1; Tianming et al. 2021, 2, 17-19; Wang and Cheng 2025, 15; Turker 2024, 52; Yaqub et al. 2024, 80).

At the infrastructural edge of these dynamics, BRI-related facilities and civil-military integration practices are perceived through dual-use potential, interoperability constraints, and long-term dependence on embedded systems like ports, maritime logistics, vessel standards, and broadband networks that may lock in hardware ecosystems over time (Turker 2024, 54-55, 58-64); Popescu 2024, 8, 10, 16; Rolf and Schindler 2023, 1271; Casagrande and Dallago 2025, 14) Defense cooperation and the export of surveillance technologies similarly deepen security ties by aligning domestic security systems through technical and institutional convergence rather than formal alliances (Dahdal and Gafar 2025, 166, 187, Bernot, Cooney-O'Donoghue, and Mann 2024, 3).

Altogether, this chapter supports the conclusion that the China-U.S. rivalry accelerates through coupled domain mechanisms in which standards and infrastructures shape data sovereignty and interoperability, regulatory entrenchment hardens ecosystem divergence, shocks intensify securitization, and security repositioning feeds back into techno-industrial

strategy. This is where this research's conclusion, by synthesizing these accelerators as a self-organizing systemic process, examines how such configurations generate patterned adaptation, resistance, and trajectory-shaping effects under conditions of metastability (Williams 2019a, 138-41).

Conclusion

This section brings the analysis to a close by synthesizing the theoretical commitments established in Chapter 1 with the empirical findings developed across the case study. Because the analysis spans multiple domains — economic, political-ideological, technological, and military — there is a considerable volume of evidence and conceptual material to integrate. Accordingly, this conclusion does not introduce additional arguments besides what was presented in Chapters 1-4. Instead, it makes explicit how the research's core concepts and findings connect to one another and ensures that the final conclusions remain transparent and traceable to the material already presented.

It first reframes the China-U.S. rivalry across 2001-2024 as an emergent configuration produced by intertwined domain dynamics rather than by centralized planning; it then explains why rivalry oscillates between phases of relative stabilization and episodes of disruption using Complex Hegemony's conceptual vocabulary — metastability, phase space, and equilibria — to interpret shocks and reorganization processes discussed in earlier chapters. From there, it consolidates the evidence on how rival projects of order formation extend beyond bilateral competition and depend on the positioning of other entities, infrastructures, and governance arrangements, before returning to what Complex Hegemony helps reveal in this case, the study's methodological constraints, and the implications that follow from interpreting rivalry under conditions of uncertainty.

This conclusion returns to the theoretical promises made in Chapter 1 and attempts to "speak back" to them through the evidence assembled across the case study (China-U.S. rivalry throughout 2001-2024). If Chapter 1 framed the China-U.S. rivalry as a complex hegemonic configuration — emergent, multi-layered, and not simplified to linear causality — Chapters 2 to 4 demonstrated how that configuration takes shape through interconnected dynamics in economic, political-ideological, technological, and military forces. The core findings are that rivalry does not unfold as a centrally planned contest in which any single entity fully commands outcomes; rather, it emerges through cumulative interactions, infrastructural constraints, and adaptive responses that generate systemic patterns over time (Williams 2019a, 138-40).

Within the framework of Complex Hegemony, these domains operate not as isolated verticals, but as a single self-organizing configuration of coupled domains (Williams 2019a; Strange 1988). The mechanism is recursive: economic integration — driven by the BRI as a spatial fix — channels finance into the deployment of technological infrastructures through the

DSL, materially rerouting trade, data, and communication flows (He 2020, 140-41; Carmody and Wainwright 2022, 2832; Gonzalez-Vicent 2019, 491; An and Wang 2023, 262, 278; Williams 2019a, 176-78).

Under Complex Hegemony, as these infrastructures diffuse, they produce generative entrenchment — technical architectures and standards become embedded defaults that reshape the security environment by structuring data sovereignty and conditions of interoperability, including military-relevant coordination (Yaqub et al. 2024, 75, 82). This techno-security layer then crystallizes into an ideological struggle in which competing governance norms, such as "internet sovereignty" versus a "liberal open order," function as social semiosis, legitimating and stabilizing rival hegemonic projects (Nye 2005, 5, 30; Williams 2019a, 146-47, 162; Nurgozhayeva 2020, 256-57).

The result is a metastable configuration, since shifts in economic policy or technical standards can rapidly reconfigure the system's "possibility space", altering security practices and the conditions under which consent can be sustained internationally (Williams 2019a, 55-58, 147-48). In this sense, the case study supports the broader claim that order can be generated without central planning through feedback effects across domains, and that rivalry's trajectory is shaped as much by infrastructural and regulatory constraints as by deliberate acts of statecraft.

In terms of complexity and self-organization, the evidence collected across Chapters 2-4 aligns with the rationale for adopting Complex Hegemony in the first place: it treats power as an emergent configuration generated by multi-layered interactions rather than as a direct product of command or intention (Williams 2019a, 138). Looking back at the data collected across Chapters 2-4, the China-U.S. rivalry can be understood as a self-organizing systemic process driven by economic interdependence, political-ideological competition, technological governance, and military repositioning, interacting like interdependent currents, producing outcomes that neither side can fully design in advance. In this sense, rivalry is not best perceived as a "chess match" where the pieces are moved one at a time, but as a dynamic configuration in which strategic choices are continually reshaped by constraints, dependencies, and feedback effects produced across domains (138-40).

Across the case study period (2001-2024), the rivalry evolved through distinct but interconnected accelerators. Chapters 2 highlighted how the relationship's structural foundations were already formed under conditions of interdependence and crisis-driven adaptation, while Chapter 3 examined how BRI consolidated as a multi-layered hegemonic mechanism that could be reframed and adjusted under stress (Lenov and Zaostrovsikh 2025, 92; Williams 2019a, 176-78). Chapter 4 then demonstrated how standards, data governance,

R&D ecosystems, and military-technical repositioning intensified rivalry by shaping the possibility conditions of participation, access, resilience, and security posture (Lucio 2025, 11, 14-18; Rolf and Schindler 2023, 1258-59; Turker 2024, 52, 54, 59).

A key empirical pattern across the chapters is oscillation: phases of partial coexistence and practical interactions are repeatedly followed by sharper confrontations as new arenas become politicized or securitized. TikTok is an example of this non-linearity as a cultural/entertainment platform acquired geopolitical weight as governance, privacy, and algorithmic control became reframed as a matter of sovereignty and systemic competition (Gonzalo and Sly 2021, 257; Gao and Chen 2024, 394). The purpose of this research was not to simply point out that rivalry manifests itself or "spreads" into new spaces, but that unexpected arenas can become structurally significant once embedded in wider contests over standards, data, and security (Chu 2024; Rolf and Schindler 2023).

Chapter 1 introduced metastability to capture how systems can exhibit relative stabilization while remaining capable of shifting when pressures accumulate, or shocks occur (Williams 2019a, 54-56). The empirical chapters support that premise. The rivalry repeatedly forms temporary equilibria — patterns that appear durable — while simultaneously showing sensitivity to disruption. In Complex Hegemony terms, rivalry evolves through the interaction of multi-domain forces that generate metastable configurations rather than permanent settlements (Williams 2019a, 54-56).

The case study showed crises function as triggers that recognize priorities, perceptions, and institutional practices. Chapter 4 highlighted informational shocks as structurally consequential, with the Snowden revelations serving as a turning point that deepened mistrust and hardened the politics of digital governance and sovereignty (Cristiano and Monsees 2025, 5). Chapter 3 and 4 also treated the COVID-19 pandemic as a disruptive accelerator, as it heightened reliance on digital infrastructures, intensified debate over cross-border data flows, and reshaped the narrative and operational framing of connectivity and resilience under this rivalry (Seta 2023, 258-50; Gao and Chen 2024, 394); Uctu, Essop, and Şahbaz 2025, 80). Within the BRI discussion, the pandemic period was presented as a stress test that encouraged reframing and adaptation rather than linear breakdown, showcasing how hegemonic projection can be reconfigured under shock (Lenov and Zaostrovskikh 2025, 92).

The evidence suggests that moments of relative stabilization are best interpreted as provisional accommodation rather than durable convergence. Rivalry may stabilize around certain arrangements — trade dependencies, infrastructural linkages, governance regimes — yet these same arrangements can amplify friction when they become reinterpreted through

security and sovereignty concerns (Lucio 2025, 11, 14-18; Turker 2024, 52). The result is not continuous escalation in a straight line, but recurring cycles of adjustments; constraints harden, entities adapt, and the system reorganizes around altered parameters (Williams 2019a, 54-56). However, these phases of relative stabilization do not restore a previous baseline; they often coincide with institutional and strategic adjustments that reconfigure how governance and security coordination are organized.

Crises and shocks in a complex order not only raise costs or intensify perceptions of threat; they also reshape how international governance and security coordination are organized. In this case study, the rivalry's digital and technological components pushed regulatory and institutional practices toward questions of jurisdiction compliance and sovereignty, making governance itself a structural arena of power (Huang and Mayer 2022, 335; Gao and Chen 2024, 404; Lucio 2025, 17-18). As platform governance and data flows became securitized, institutional responses increasingly treated technical rules and regulatory regimes as strategic instruments rather than administrative tools, reinforcing the coupling between governance and security dynamics (Rolf and Schindler 2023, 1259; Chu 2023, 662).

In parallel, the military-technological dimension of China-U.S. rivalry reinforced alliance dynamics and defense cooperation patterns shaped by perceptions of vulnerability and access. The evidence discussed in Chapter 4 indicates that modernization, maritime corridors, and A2/AD capabilities interact with broader strategic coordination and resilience concerns (Robertson 2024, 810-19; Yaqub et al. 2024, 75-76, 82; Turker 2024, 57).

Moreover, the dual-use interpretation of overseas infrastructure and the diffusion of surveillance and security-related technologies illustrate how technical convergence fosters security ties and long-term dependencies (Popescu 2024, 8, 10; Dahdal and Ghafar 2025, 166; Bernot, Cooney-O'Donoghue, and Mann 2024, 3). Taken together, these dynamics reveal that rivalry reorganizes institutions and alliances not through a single redesign plan, but through cumulative adjustments in governance practices and security coordination as those involved respond to evolving constraints and risks.

This research framed China-U.S. rivalry as the competition between hegemonic projects whose effects extend beyond their bilateral relations into broader systemic organization. The case study suggests that rivalry is not simply about "who wins" but about which infrastructural arrangements, norms, and governance regimes become entrenched across multiple regions and institutions (Rolf and Schindler 2023, 1258; Williams 2019a, 176-78).

Chapters 3 and 4 showcase that China's initiatives — particularly through BRI/DSR-linked infrastructures and standard-setting strategies — function as mechanisms for shaping

participation and dependence, not only through rhetoric but through material and technical arrangements (Dahdal and Ghafar 2025, 164, 170; Chu 2023, 644; Williams 2019a, 176-78). Chapter 4 emphasized that the U.S. response includes exclusionary measures, alliance strategies, and constraining rival ecosystems (Bernot, Cooney-O'Donogue, and Mann 2024, 3; Rolf and Schindler 2023, 1259). The broader implication is that system organization is shaped through the interaction of multiple entities — states, firms, standard-setting bodies, infrastructures — whose decisions generate cumulative effects beyond any single plan (Williams 2019a, 138-40).

Returning to theory, Chapter 1 argued that Complex Hegemony is useful for analyzing systemic transitions because it captures interdependence, non-linearity, and multi-layered dynamics that are often underspecified by more linear approaches (Williams 2019a, 138-39). The evidence in Chapters 2-4 supports that claim. Complex Hegemony helped interpret rivalry as a configuration produced by interacting domains — economic, political-ideological, technological, and military — rather than as a single-axis contest. It also enabled the possibility analysis to treat standards, data governance, and infrastructures as mechanisms that shape possibility conditions and dependencies, thereby stabilizing or destabilizing configurations over time (54-56, 176-78).

At the same time, the interpretation advanced here must remain consistent with the limitations stated in Chapter 1. First, the analysis focuses on foreign policy and institutional dynamics rather than representing the full diversity of social experiences within either country; therefore, it does not claim to capture the complete cultural and demographic complexity of the populations involved (Lacy et al. 2015, 793-94). Second, language bias remains a constraint because much of the analyzed literature is in English, which limited the range of perspectives incorporated (Siddaway, Wood, and Hedges 2018, 758). Third, practical limitations of time and resources shaped the research design, reinforcing the choice to narrow the inquiry to a single case study rather than aiming for generalization. Then, this research does not propose a definitive, all-encompassing definition of the international system or the hegemonic rivalry in general. Instead, it offered a theoretically guided interpretation whose applicability to other contexts depends on careful attention to differing conditions (Lacy et al. 2015, 793; Siddaway, Wood, and Hedges 2018, 758).

Taken together, the case study findings support the core statement advanced in Chapter 1: power transition dynamics in the contemporary international system are better understood as non-linear processes emerging from multiple domains than as a linear sequence driven by any single variable or centrally directed strategy. The China-U.S. rivalry, as reconstructed throughout this research's empirical chapters, does not unfold as a "chess match" in which

outcomes are fully designed and executed by one "player" or "actor"; rather, it emerges through cumulative, interdependent dynamics spanning economic, political-ideological, technological, and military domains. In this sense, rivalry is produced through reinforcing interactions among standards-setting, data governance, R&D ecosystems, and security dynamics, where infrastructural choices feed back into a political alignment and threat perception (Lucio 2025, 11, 14-18; Rolf and Schindler 2023, 1258-59).

The analysis showed that contestation over digital standards, platform governance, and data regimes is not something exclusive to hard power competition but increasingly constitutive of it, because these arrangements structure dependencies, access, and resilience across states and markets (Lucio 2025, 11, 14-18). Viewed through Complex Hegemony, these dynamics indicate not a single stable order, but competing attractor tendencies — partially compatible yet increasingly modular configurations — whose durability rests on how deeply technical and institutional constraints become embedded (Williams 2019a, 54-56). The system is therefore best characterized as metastable, meaning it can stabilize around provisional arrangements while remaining sensitive to shocks and cascading effects as constraints harden across domains (54-56).

This metastable quality becomes clearer once this research's crisis-oriented evidence is brought back into synthesis. Crisis and shocks did not simply "interrupt" the rivalry; they operated as accelerators that reorganized governance debates, strategic priorities, and perceptions of vulnerability. Informational disruption intensified contestation over surveillance, trust, and jurisdiction, deepening the politics of digital governance and sovereignty (Cristiano and Monsees 2025, 5). The COVID-19 pandemic introduced another layer into these dynamics by intensifying reliance on digital infrastructures and amplifying concerns with resilience, supply-chain security, and cross-border governance of data and technologies (Seta 2023, 248; Gao and Chen 2024, 394; Turker 2024, 52).

These episodes showcase a core implication of the framework: stability does not necessarily indicate the absence of rivalry; it may instead reflect the temporary consolidation of constraints and practices that render certain pathways more viable than others, until disruption or cumulative pressure forces adaptation (Williams 2019a, 54-56). In other words, international structures in this case persist not through static dominance but through continual reconfiguration — where shifts in one domain (e.g., technological governance) intensify pressures in another (e.g., security posture), producing system-level changes that exceed bilateral intent.

These findings also carry practical implications for how policymakers, institutions, and scholars interpret rivalry under conditions of uncertainty. If rivalry emerges through complex interactions rather than direct command, then strategic action cannot be reduced to episodic bargaining or deterrence alone. The case study suggests that decisions about standards, data governance, and infrastructural design operate as systemic interventions because they shape the environment in which entities/agents make choices, constrain future options, and generate long-term dependencies that persist beyond immediate political cycles (Lucio 2025, 11, 14-18; Rolf and Schindler 2023, 1258-59). This does not imply that agency disappears; it implies that agency is exercised within — and often through — the design, entrenchment, and contestation of material and regulatory architectures that organize participation in the international system.

Thus, interpreting contemporary rivalry requires attention to how resilience, interoperability, compliance regimes, and technological ecosystems become focused with security perceptions and alliance behavior over time (Turker 2024, 52). For scholarship, the same point holds: explaining rivalry increasingly demands analytical approaches capable of tracing cross-domain coupling, indirect mechanisms of power, and the emergence of systemic effects from distributed interactions, rather than assuming stable separations between economic and security logics.

Consistent with the limitations stated in Chapter 1, these conclusions do not claim universal generalizations beyond the specific case and object examined. This research focused on foreign policy and institutional dynamics, not on capturing the full heterogeneity of social experiences within either society (Lacy et al. 2015, 793-94). Future research can nonetheless extend this one's contribution cautiously by applying the same analytical logic — multi-domain interaction, infrastructural constraints, and metastability — to other contexts where rivalry, interdependence, and governance are tightly coupled, while remaining attentive to case-specific conditions and variation (Lacy et al. 2015, 193-94; Siddaway, Wood, and Hedges 2018, 758). Comparative designs could test whether similar patterns of modularization, dependence formation, and crisis-driven adaptations occur across other rivalries or regional orders, and expanded datasets could clarify which dynamics observed here are contingent and which reflect broader tendencies of power transitions in a non-linear international system.

Appendix A – Qualitative Codebook

Introduction to the Codebook: This Appendix presents the audit trail for the qualitative content analysis conducted in this research. Following the "miner" orientation proposed in Chapter 1, the analysis prioritized the identification of patterns of meaning and systemic interdependencies over isolated lexical frequency (Breslin and Gatrell 2020, 142). Thus, each code below represents an analytical category derived from Williams' (2019a) Complex Hegemony theory, mapped directly to the empirical evidence gathered throughout this research.

Table A.1 Qualitative Codebook.

Theme (Code)	Analytical Definition (Williams, 2019a)	Empirical Indicators (Examples Found)
Generative Entrenchment	The process by which material and institutional arrangements become embedded within the international system, generating dependencies.	Fiber-optic networks, submarine cables, satellite systems (BeiDou), and physical BRI infrastructure.
Guided Self-Organization	The capacity of dominant entities to influence systemic evolution indirectly through rules, infrastructures, and flows.	Soft Power initiatives, digital governance norms (Internet Sovereignty), and technical standards (ISO).
Metastability	A state of dynamic equilibrium where a configuration is stable enough to endure but remains sensitive to disturbances that can trigger rapid phase shifts.	The 2008 Financial Crisis, the COVID-19 pandemic, and China's 2001 WTO accession.
Navigation	The adaptive dimension of hegemony; the ability of dominant entities to adjust strategy and orientation in response to uncertainty.	BRI thematic reframing (Health/Green Silk Road) and the adaptation of TikTok's "Project Texas".
Social Semiosis	Use of narratives and disclosure to organize social groups and sustain hegemonic projects through consent.	"Community of Share Future" vs, "Liberal International Order" narratives.
Securitization (Military-Tech)	Convergence where civilian technologies and infrastructures acquire strategic security or defense functions.	A2/D2 capabilities, semiconductors as strategic resources, and dual-use maritime ports and fleets.

Source: Elaborated by the author based on Williams (2019a).

Appendix B – Analyzed Corpus Matrix

This matrix demonstrates the scope and rigor of the data collection process through literature review and document analysis.

Table B.1 Matrix of Analyzed Corpus.

Document Category	Primary and Secondary Sources Examples	Analytical Objective
Official Documents (China)	State Council White Paper on "Peaceful Development", Five-Year Plans, and BRI foundational documents.	Identify narratives of guided self-organization
Official Documents (U.S.)	National Security Strategy (NSS), CHIPS and Science Act, and Department of Defense (DoD) reports.	Analyze securitization responses, techno-nationalist policies, and strategic military repositioning.
Economic and Defense Indicators	World Bank, SIPRI Military Expenditure Database, and OECD Science and Technology database.	Quantify systemic forces, including trade flows, R&D expenditures, and military modernization trends.
Specialized Academic Literature	Theoretical works by Williams (2019a), Strange (1988), Nye (2023), and Gramsci (1971).	Sustain the relational ontology and provide the framework for analyzing metastability and generative entrenchment.

Source: Elaborated by the author.

Bibliography

An, Jingjing, and Yanzhen Wang. 2023. “The Impact of the Belt and Road Initiative on Chinese International Political Influence: An Empirical Study Using a Difference-in-Differences Approach.” Journal of Chinese Political Science 29 (2): 257–81. https://doi.org/10.1007/s11366-023-09860-4.

Aristovnik, Aleksander, Guo-liang Yang, Yao-yao Song, and Dejan Ravšelj. 2023. “Industrial Performance of the Top R&D Enterprises in World-Leading Economies: A Metafrontier Approach.” Socio-Economic Planning Sciences 89: 101698. https://doi.org/10.1016/j.seps.2023.101698

Athreye, Suma, Abubakr Saeed, and Muhammad Saad Baloch. 2021. “Financial Crisis of 2008 and Outward Foreign Investments From China and India.” Journal of World Business 56 (3): 101190. https://doi.org/10.1016/j.jwb.2021.101190.

Australian Government Department of the Prime Minister and Cabinet. n.d. “Quad.” Accessed December 29, 2025. https://www.pmc.gov.au/quad#:~:text=The%20Quad%20is%20a%20diplomatic,connectivity%20through%20undersea%20cable%20cooperation.

Bae Systems, Inc. 2025. Advancing the Mission with C4ISR Leadership. July 21, 2025. https://www.baesystems.com/en-us/who-we-are/electronic-systems/c4isr#:~:text=C4ISR%20is%20an%20abbreviation%20created,C4ISR%20refers%20to%20technologies%20and

Baxter, Pamela, and Susan Jack. 2015. “Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers.” *The Qualitative Report*, January. https://doi.org/10.46743/2160-3715/2008.1573.

Beeson, Mark, and Corey Crawford. 2022. “Putting the BRI in Perspective: History, Hegemony and Geoeconomics.” Chinese Political Science Review 8 (1): 45–62. https://doi.org/10.1007/s41111-022-00210-y.

Bernot, Ausma, Diarmuid Cooney-O’Donoghue, and Monique Mann. 2024. “Governing Chinese Technologies: TikTok, Foreign Interference, and Technological Sovereignty.” Internet Policy Review 13 (1). https://doi.org/10.14763/2024.1.1741.

Breslin, Dermot, and Caroline Gatrell. 2020. “Theorizing Through Literature Reviews: The Miner-Prospector Continuum.” Organizational Research Methods 26 (1): 139–67. https://doi.org/10.1177/1094428120943288.

Brown, Michael, Eric Chewning, and Pavneet Singh. 2021. “Preparing the United States for the Superpower Marathon With China.” In *Global China: Assessing China’s Growing Role in the World*, edited by Tarun Chhabra, Rush Doshi, and Ryan Hass. Brookings Institution Press.

Carmody, Pádraig, and Joel Wainwright. 2022. “Contradiction and Restructuring in the Belt and Road Initiative: Reflections on China’s Pause in the ‘Go World.’” Third World Quarterly 43 (12): 2830–51. https://doi.org/10.1080/01436597.2022.2110058.

Casagrande, Sara, and Bruno Dallago. 2025. “Mapping China’s Belt and Road Initiative in Europe: Developments and Challenges.” Economies 13 (10): 301. https://doi.org/10.3390/economies13100301.

Char, James. 2020. “The People’s Liberation Army in Its Tenth Decade: Assessing ‘Below the Neck’ Reforms in China’s Military Modernization.” Journal of Strategic Studies 44 (2): 141–48. https://doi.org/10.1080/01402390.2020.1731953.

Chengqiu, Wu. 2019. “Ideational Differences, Perception Gaps, and the Emerging Sino–US Rivalry.” The Chinese Journal of International Politics 13 (1): 27–68. https://doi.org/10.1093/cjip/poz020.

Chu, Ming-Chin Monique. 2023. “China’s Defence Semiconductor Industrial Base in an Age of Globalisation: Cross-strait Dynamics and Regional Security Implications.” Journal of Strategic Studies 47 (5): 643–68. https://doi.org/10.1080/01402390.2023.2164852.

Clearing House Interbank Payments System (CHIPS). “CHIPS: USD Clearing and Settlement.” The Clearing House. Accessed May 2, 2025. https://www.theclearinghouse.org/payment-systems/CHIPS#:~:text=The%20CHIPS%C2%AE%20network%20is,liquidity%20savings%20mechanism%20available%20today.

Coenen, Johanna, Simon Bager, Patrick Meyfroidt, Jens Newig, and Edward Challies. 2020. “Environmental Governance of China’s Belt and Road Initiative.” Environmental Policy and Governance 31 (1): 3–17. https://doi.org/10.1002/eet.1901.

Cristiano, Fabio, and Linda Monsees. 2025. “Beyond the Ban: TikTok and the Politics of Digital Sovereignty in the EU and US.” Politics and Governance 13 (October). https://doi.org/10.17645/pag.10461.

Dorraj, Manochehr, and James E. English. 2012. “China’s Strategy for Energy Acquisition in the Middle East: Potential for Conflict and Cooperation With the United States.” Asian Politics & Policy 4 (2): 173–91. https://doi.org/10.1111/j.1943-0787.2012.01335.x.

Dunlap, Charles J. 2011. “The Military-Industrial Complex.” *Daedalus* 140 (3): 135–47.

https://doi.org/10.1162/daed_a_00104.

Fagioli, Monica, and Debora V Malito. 2024. “Dialectics of International Interventions through Scale, Space, and Time.” International Studies Quarterly 68 (2). https://doi.org/10.1093/isq/sqae050.

Fan, Jishe. 2021. “Managing China–U.S. ‘Strategic Competition’: Potential Risks and Possible Approaches.” China International Strategy Review 3 (2): 234–47. https://doi.org/10.1007/s42533-021-00091-x.

Farrell, Henry, and Abraham L. Newman. 2019. “Weaponized Interdependence: How Global Economic Networks Shape State Coercion.” International Security 44 (1): 42–79. https://doi.org/10.1162/isec_a_00351.

Fingar, Thomas. 2019. “Forty Years of Formal—but Not yet Normal—relations.” China International Strategy Review 1 (1): 11–20. https://doi.org/10.1007/s42533-019-00003-0.

Florini, Ann. 2011. “Rising Asian Powers and Changing Global Governance.” *International Studies Review* 13 (1): 24–33. https://doi.org/10.1111/j.1468-2486.2010.00995.x.

Fu, Hao, Feng Wei, Hong Zhou, and A-Mei Deng. 2024. “Research on ‘The Belt and Road Initiative’ Report of Think Tank Based on Theme Evolution and identification—— Taking 2013–2020 as an Example.” *PLoS ONE* 19 (6): e0297127. https://doi.org/10.1371/journal.pone.0297127.

Funaiole, Matthew P., and Brian Hart. 2025. “China’s Military in 10 Charts.” Center for Strategic and International Studies (CSIS). September 2, 2025. https://www.csis.org/analysis/chinas-military-10-charts

Galán, Enrique Martínez, and Francisco José Leandro. 2019. “The Belt and Road Initiative: The Cornerstone of the New-Fangled Financial Institutionalism Led by China.” Baltic Journal of European Studies 9 (2): 153–82. https://doi.org/10.1515/bjes-2019-0018.

Gao, Xinchuchu, and Xuechen Chen. 2024. “The Regime Complex for Digital Trade in Asia and China’s Engagement.” Asia Europe Journal 23 (2–3): 393–413. https://doi.org/10.1007/s10308-024-00705-0.

Gilbert, Jeremy and Alex Williams. 2022. Hegemony Now: How Big Tech and Wall Street Won the World (And How We Win it Back). Verso Books.

Gilles, Barbara. 2014. “Taxonomies for Categorization and Research: Is a Mining Analogy Valid?” Bulletin of the Association for Information Science and Technology 40 (4): 34–36. https://doi.org/10.1002/bult.2014.1720400413.

Global Defense Insight. “What Is Anti-Access Area Denial Strategy.” Global Defense Insight, November 6, 2022. Accessed December 29, 2025. https://defensetalks.com/what-is-anti-access-area-denial-strategy/

Goldstein, Avery. 2020. “US–China Rivalry in the Twenty-first Century: Déjà Vu and Cold War II.” China International Strategy Review 2 (1): 48–62. https://doi.org/10.1007/s42533-020-00036-w.

Gonzalez-Vicente, Ruben. 2019. “Make Development Great Again? Accumulation Regimes, Spaces of Sovereign Exception and the Elite Development Paradigm of China’s Belt and Road Initiative.” Business and Politics 21 (4): 487–513. https://doi.org/10.1017/bap.2019.20.

Gonzalo, Manuel, and María José Haro Sly. 2021. “Emergencia Del 5G En El Sur Global: India Y Brasil Entre Estados Unidos De América Y China.” OASIS, no. 35 (December): 255–77. https://doi.org/10.18601/16577558.n35.13.

Gorian, Ella, and Avinash Dadhich. 2024. “The Winner Takes It All?: Innovations of China’s Soft Power Strategies.” Journal of East Asia and International Law 17 (1): 25–40. https://doi.org/10.14330/jeail.2024.17.1.02.

Gramsci, Antonio. 1971. Selections From the Prison Notebooks of Antonio Gramsci. International Publishers Co.

Graneheim, Ulla H., Britt-Marie Lindgren, and Berit Lundman. 2017. “Methodological Challenges in Qualitative Content Analysis: A Discussion Paper.” Nurse Education Today 56 (June): 29–34. https://doi.org/10.1016/j.nedt.2017.06.002.

Greenwald, Glenn, Ewen MacAskill, and Laura Poitras. “Edward Snowden: the whistleblower behind the NSA surveillance revelations.” The Guardian, June 11, 2013. Accessed January 29, 2026. https://www.theguardian.com/world/2013/jun/09/edward-snowden-nsa-whistleblower-surveillance

Hamilton, Scott. 2016. “A genealogy of metatheory in IR: how ‘ontology’ emerged from the inter-paradigm debate.” International Theory 9 (1): 136–70. https://doi.org/10.1017/s1752971916000257.

Hancock, Dawson R., Bob Algozzine, and Jae Hoon Lim. (2021). "Doing case study research: A practical guide for beginning researchers."

Harvey, David. 1981. “THE SPATIAL FIX – HEGEL, VON THUNEN, AND MARX.” Antipode 13 (3): 1–12. https://doi.org/10.1111/j.1467-8330.1981.tb00312.x.

Hass, Ryan. 2021. “U.S.-China Relations: The Search for a New Equilibrium.” In *Global China: Assessing China’s Growing Role in the World*, edited by Tarun Chhabra, Rush Doshi, and Ryan Hass. Brookings Institution Press.

He, Alex. 2020. “The Belt and Road Initiative: Motivations, Financing, Expansion and Challenges of Xi’s Ever-expanding Strategy.” Journal of Infrastructure Policy and Development 4 (1): 139. https://doi.org/10.24294/jipd.v4i1.1180.

Hlovor, Ishmael, and Lord Mawuko-Yevugah. 2024. “Current World-System and Conflicts.” Journal of World-Systems Research 30 (2): 583–609. https://doi.org/10.5195/jwsr.2024.1192.

Hope, Wayne. 2006. “Global Capitalism and the Critique of Real Time.” Time & Society 15 (2–3): 275–302. https://doi.org/10.1177/0961463x06066943.

Hu, Bo. 2021. “Systemic Obstacles and Possible Solutions to Crisis Management Between China and the US.” China International Strategy Review 3 (2): 261–77. https://doi.org/10.1007/s42533-021-00088-6.

Hu Jintao. 2005. *“Full Text of Hu Jintao’s Speech at Asian-African Business Summit Reception 2005-04-22 -- china.org.cn.” n.d. http://www.china.org.cn/english/features/focac/184793.htm.*

Huang, Ying, and Maximilian Mayer. 2022. “Digital Currencies, Monetary Sovereignty, and U.S.–China Power Competition.” Policy & Internet 14 (2): 324–47. https://doi.org/10.1002/poi3.302.

Information Office of the State Council of China. 2011. *China’s Peaceful Development. Information Office of the State Council*. The People’s Republic of China September 2011, Beijing. https://english.www.gov.cn/archive/white_paper/2014/09/09/content_281474986284646.htm

Jie, Dalei. 2020. “The Emerging Ideological Security Dilemma Between China and the U.S.” China International Strategy Review 2 (2): 184–96. https://doi.org/10.1007/s42533-020-00059-3.

Jisi, Wang. 2019. “Assessing the Radical Transformation of U.S. Policy Toward China.” China International Strategy Review 1 (2): 195–204. https://doi.org/10.1007/s42533-019-00029-4.

Jisi, Wang, and Hu Ran. 2019. “From Cooperative Partnership to Strategic Competition: A Review of China–U.S. Relations 2009–2019.” China International Strategy Review 1 (1): 1–10. https://doi.org/10.1007/s42533-019-00007-w.

Kania, Elsa B. 2021. “Artificial Intelligence and Autonomy in China’s Drive for Military Innovation.” In *Global China: Assessing China’s Growing Role in the World*, edited by Tarun Chhabra, Rush Doshi, and Ryan Hass. Brookings Institution Press.

Kapur, Devesh. 2017. “The Quest for Global Leadership: U.S.-China Competition in Multilateral Financial Institutions.” China Quarterly of International Strategic Studies 03 (02): 243–65. https://doi.org/10.1142/s2377740017500154.

Kleinheksel, A.J., Nicole Rockich-Winston, Huda Tawfik, and Tasha R. Wyatt. 2020. “Demystifying Content Analysis.” *American Journal of Pharmaceutical Education* 84 (1): 7113. https://doi.org/10.5688/ajpe7113.

Krauthammer, Charles. “The Unipolar Moment”. 1990. Foreign Affairs, Vol. 70, No. 1, America and the World 1990/91 (1990/1991), pp. 23-33. Published by: Council on Foreign Relations table URL: http://www.jstor.org/stable/20044692

Kraus, Sascha, Matthias Breier, Weng Marc Lim, Marina Dabić, Satish Kumar, Dominik Kanbach, Debmalya Mukherjee, et al. 2022. “Literature Reviews as Independent Studies: Guidelines for Academic Practice.” Review of Managerial Science 16 (8): 2577–95. https://doi.org/10.1007/s11846-022-00588-8.

Lacy, Stephen, Brendan R. Watson, Daniel Riffe, and Jennette Lovejoy. 2015. “Issues and Best Practices in Content Analysis.” Journalism & Mass Communication Quarterly 92 (4): 791–811. https://doi.org/10.1177/1077699015607338.

Leandro, Francisco José. 2019. “The Mesmerizing Journey From Gyeongju to Lisbon: The BRI as a Mechanism of De-bordering, Re-bordering, and Co-bordering.” Baltic Journal of European Studies 9 (2): 123–52. https://doi.org/10.1515/bjes-2019-0017.

Lee, Brice Tseen Fu, Salman Ali Bettani, and Juan Pablo Sims. 2024. “Rise of China: Hegemony or Harmony?” Chinese Political Science Review 9 (3): 381–417. https://doi.org/10.1007/s41111-024-00253-3.

Lee, Nicol Turner. 2021. “Navigating the U.S.- China 5G Competition.” In *Global China: Assessing China’s Growing Role in the World*, edited by Tarun Chhabra, Rush Doshi, and Ryan Hass. Brookings Institution Press.

Leoni, Zeno. 2022. “The Economy-security Conundrum in American Grand Strategy: Foreign Economic Policy Toward China From Obama to Biden.” China International Strategy Review 4 (2): 320–34. https://doi.org/10.1007/s42533-022-00120-3.

Leonov, Sergey, and Elena Zaostrovskikh. 2025. “China’s Belt and Road Initiative: Evolution, Opportunities, Contradictions.” Экономические И Социальные Перемены Факты Тенденции Прогноз / Economic and Social Changes Facts Trends Forecast, no. 3 (99) (January). https://doi.org/10.15838/esc.2025.3.99.4.

Lin, Cheng-Yi, and Denny Roy. 2011. *The future of United States, China, and Taiwan relations*. *Palgrave Macmillan US eBooks*. https://doi.org/10.1057/9780230118966.

Liu, Guy Shaojia, and Wing Thye Woo. 2001. “How Will Ownership in China’s Industrial Sector Evolve With WTO Accession?” China Economic Review 12 (2–3): 137–61. https://doi.org/10.1016/s1043-951x(01)00048-7.

Liu, Ruonan, and Songpo Yang. 2023. “China and the Liberal International Order: A Pragmatic and Dynamic Approach.” International Affairs 99 (4): 1383–1400. https://doi.org/10.1093/ia/iiad169.

Lucio, Jorge Navarro. 2025. “Digital Diplomacy and Conflict Between the United States and China: Strategic Analysis.” PORTES Revista Mexicana De Estudios Sobre La Cuenca Del Pacífico, no. 5 (August): 9–25. https://doi.org/10.53897/revportes.2025.05.01.

Mao, Weizhun, and Keyu Wang. 2023. “Deliberating a Development-international Finance-security Nexus in Great-power Strategic Competition.” China International Strategy Review 5 (2): 317–27. https://doi.org/10.1007/s42533-023-00145-2.

Mat, Bakri, and Amna Khalid. 2024. “China’s Energy Security Strategy in Central Asia: A BRI and Green Energy Perspective (2019–2024).” China Quarterly of International Strategic Studies 10 (02): 155–85. https://doi.org/10.1142/s2377740024500076.

Mazarr, Michael J. et al. 2021. Stabilizing Great-Power Rivalries.

McKinsey & Company. 2022. “The CHIPS and Science Act: Here’s What’s in It.” October 4, 2022. Updated May 16, 2024. https://www.mckinsey.com/industries/public-sector/our-insights/the-chips-and-science-act-heres-whats-in-it

Ministry of Foreign Affairs of the People’s Republic of China. 2004. *Foreign Ministry Spokesman Kong Quan's Response to US State Department Spokesman's Remarks on the 25th Anniversary of the Taiwan Relations Act*. April 13, 2004. Consulate General of the People’s Republic of China in Los Angeles. https://losangeles.china-consulate.gov.cn/eng/confenrence/200404/t20040413_4978331.htm

Mukherjee, Biplav Bipul. 2025. “Regulating Digital Fintech: How States Navigate Power and Geopolitics.” UNISCI Journal 23 (68): 213–41. https://doi.org/10.31439/unisci-235.

Nye, Joseph S. 2023. *Soft Power and Great-Power Competition*. *China and Globalization*. https://doi.org/10.1007/978-981-99-0714-4.

_____. 2013. *Hard, Soft, and Smart Power*. *Oxford University Press eBooks*. https://doi.org/10.1093/oxfordhb/9780199588862.013.0031.
_____. 2008. "Smart Power and the 'War on Terror.'" *Asia-Pacific Review* 15 (1): 1–8. doi:10.1080/13439000802134092.

_____. 2005. "The Rise of China's Soft Power." Wall Street Journal, December 29, 2005. https://www.wsj.com/articles/SB113580867242333272

_____. 2004. Soft power: The means to success in world politics. Public affairs.

Nurgozhayeva, Roza. 2020. "Rule-Making, Rule-Taking or Rule-Rejecting Under the Belt and Road Initiative: A Central Asian Perspective." The Chinese Journal of Comparative Law 8 (1): 250–78. https://doi.org/10.1093/cjcl/cxaa006.

OECD Data Explorer. 2025a. "Gross Domestic Expenditure on R&D (GERD) – China vs United States (2001–2012)." Main Science and Technology Indicators (MSTI database). Accessed July 3, 2025. https://data-viewer.oecd.org/?chartId=644cec03-032b-40d7-9bf6-72d880b85fa8

_____.2025b. Aerospace Industry Imports and Exports – China and United States (2001–2012). Accessed July 3, 2025. https://data-viewer.oecd.org/?chartId=ebef9186-0279-4e18-98ea-82839b174c16

_____. 2025c. Trade balance of aerospace industry – China and United States (2001- 2012). Acessed July 3, 2025. https://data-explorer.oecd.org/vis?fs[0]=Topic%2C0%7CScience%252C%20technology%20and%20innovation%23INT%23&pg=0&fc=Topic&bp=true&snb=34&vw=tl&df[ds]=dsDisseminateFinalDMZ&df[id]=DSD_MSTI%40DF_MSTI&df[ag]=OECD.STI.STP&df[vs]=1.3&dq=USA%2BCHN.A.TD_BAERO.USD..&pd=2001%2C2012&to[TIME_PERIOD]=false

Ogasawara, Midori. 2025. "In The Heart of Liberal Democracy: Whitewashing Authoritarian Surveillance a Decade After the Snowden Revelations." Surveillance & Society 23 (1): 133–39. https://doi.org/10.24908/ss.v23i1.18894.

Park, Sang-Chul. 2020. "Trade Conflict Between the U.S. and China: What Are the Impacts on the Chinese Economy?" International Organisations Research Journal 15 (2): 153–165. https://doi.org/10.17323/1996-7845-2020-02-10.

Popescu, Alba Iulia Catrinel. 2024. “The ‘China’s Dream’ - the Grand Strategy of Transforming China Into a Global Maritime Power.” Cogent Social Sciences 10 (1). https://doi.org/10.1080/23311886.2024.2414873.

Qi, Haotian. 2021. “‘Smart’ Warfare and China–U.S. Stability: Strengths, Myths, and Risks.” China International Strategy Review 3 (2): 278–99. https://doi.org/10.1007/s42533-021-00094-8.

Rolf, Steve, and Seth Schindler. 2023. “The US–China Rivalry and the Emergence of State Platform Capitalism.” Environment and Planning a Economy and Space 55 (5): 1255–80. https://doi.org/10.1177/0308518x221146545.

Ross, Robert S. 2020. “It’s Not a Cold War: Competition and Cooperation In US–China Relations.” China International Strategy Review 2 (1): 63–72. https://doi.org/10.1007/s42533-020-00038-8.

Roy, Alpana. 2007. “A New Dispute Concerning the TRIPS Agreement: The United States and China in the WTO.” The Journal of World Intellectual Property 10 (6): 476–84. https://doi.org/10.1111/j.1747-1796.2007.00331.x.

Salvatore, Dominick. 2020. “Growth and Trade in the United States and the World Economy: Overview.” Journal of Policy Modeling 42 (4): 750–59. https://doi.org/10.1016/j.jpolmod.2020.03.001.

Seedhouse, Erik. 2010. The new space Race. https://doi.org/10.1007/978-1-4419-0880-3.

Seta, Gabriele. 2023. “China’s Digital Infrastructure: Networks, Systems, Standards.” Global Media and China 8 (3): 245–53. https://doi.org/10.1177/20594364231202203.

Siddaway, Andy P., Alex M. Wood, and Larry V. Hedges. 2018. “How to Do a Systematic Review: A Best Practice Guide for Conducting and Reporting Narrative Reviews, Meta-Analyses, and Meta-Syntheses.” *Annual Review of Psychology* 70 (1): 747–70. https://doi.org/10.1146/annurev-psych-010418-102803.

Sharma, Shalendra D. 2002. “Why China Survived the Asian Financial Crisis?” Brazilian Journal of Political Economy 22 (2): 225–52. https://doi.org/10.1590/0101-31572002-1235.

Shi, Zhaoxi, and Haixia Qi. 2024. “Sino–US Competition: The Context for China’s OFDI in BRI Countries.” China an International Journal 22 (3): 93–114. https://doi.org/10.56159/chn.2024.a936310.

Smith, Michael H. 2019. “European Responses to US Diplomacy: 'special Relationships', Transatlantic Governance and World Order”. figshare. https://hdl.handle.net/2134/15008.

Smith, M., 2012. European responses to US diplomacy: 'special relationships', transatlantic governance and world order. IN: Sharp, P. and Wiseman, G. (eds). American Diplomacy. Brill, pp. 65 - 83

Snodgrass, Jeffrey G., Kaylin R. Clements, William Cody Nixon, Cynthia Ortega, Samantha Lauth, and Michelle Anderson. 2020. “An Iterative Approach to Qualitative Data Analysis: Using Theme, Cultural Models, and Content Analyses to Discover and Confirm a Grounded Theory of How Gaming Inculcates Resilience.” Field Methods 32 (4): 399–415. https://doi.org/10.1177/1525822x20939749.

Steinbock, Dan. 2018. “U.S.-China Trade War And Its Global Impacts.” *China Quarterly of International Strategic Studies* 04 (04): 515–42. https://doi.org/10.1142/s2377740018500318.

Strange, Susan. 1988. States and markets. http://ci.nii.ac.jp/ncid/BA22801889.

Tan, Kim Song, and Hoe Ee Khor. 2006. “China’s Changing Economic Structure and Implications for Regional Patterns of Trade, Production and Integration.” *China & World Economy* 14 (6): 1–19. https://doi.org/10.1111/j.1749-124x.2006.00042.x.

The State Council Information Office of the People’s Republic of China. 2023. The Belt and Road Initiative: A Key Pillar of the Global Community of Shared Future. The State Council Information Office of the People’s Republic of China. Available at: http://en.cidca.gov.cn/2023-10/11/c_932108.htm.

The White House. 2002. The National Security Strategy of the United States of America. Washington, DC: The White House. Accessed January 22, 2026. https://2009-2017.state.gov/documents/organization/63562.pdf

Tianming, Gao, Vasilii Erokhin, Aleksandr Arskiy, and Mikail Khudzhatov. 2021. “Has The COVID-19 Pandemic Affected Maritime Connectivity? An Estimation for China and the Polar Silk Road Countries.” Sustainability 13 (6): 3521. https://doi.org/10.3390/su13063521.

Todo, Yasuyuki, Shuhei Nishitateno, and Sean Brown. 2025. “The Impact of the Belt and Road Initiative on Foreign Direct Investment From China, the United States, and Major Investor Countries.” *Journal of the Japanese and International Economies*, May, 101365. https://doi.org/10.1016/j.jjie.2025.101365.

Trends Research & Advisory. 2018. Mapping the Belt and Road Initiative: Geography and Architecture. September 6, 2018. https://trendsresearch.org/insight/mapping-the-belt-and-road-initiative-geography-and-architecture/. Accessed October 20, 2025.

Turner, Oliver, and Nicola Nymalm. 2019. “Morality and progress: IR narratives on international revisionism and the status quo.” Cambridge Review of International Affairs 32 (4): 407–28. https://doi.org/10.1080/09557571.2019.1623173.

Turker, Hasim. 2024. “Charting a Course in Troubled Waters: Towards a New Cold War in Global Commons.” Journal of Asian Security and International Affairs 11 (1): 51–75. https://doi.org/10.1177/23477970241230372.

Uctu, Ramazan, Hassan Essop, and Ahmet Şahbaz. 2025. “Unveiling the Transformative Effect of China’s Digital Silk Road on Southeast Asian Countries.” East Asian Policy 17 (03): 79–96. https://doi.org/10.1142/s1793930525000224.

U.S. Department of Defense. 2006. Quadrennial Defense Review Report. Washington, DC: U.S. Department of Defense, February 6. Accessed January 22, 2026. https://history.defense.gov/Portals/70/Documents/quadrennial/QDR2006.pdf?ver=2014-06-25-111017-150

U.S. Department of the Treasury. 2025. “Role of the Treasury.” Accessed August 26, 2025. https://home.treasury.gov/about/general-information/role-of-the-treasury

U.S. Department of War. n.d. “AUKUS: The Trilateral Security Partnership Between Australia, U.K. and U.S.” Spotlight. Accessed December 29, 2025. https://www.war.gov/Spotlights/AUKUS/

University of Oxford. 2025. “Data Governance: Establishing Roles, Definitions, Standards and Procedures to Help Keep Data Accurate and Fit for Purpose.” University of Oxford. https://governance.admin.ox.ac.uk/data-governance

Waddington, Hugh et al. 2012. “How to Do a Good Systematic Review of Effects in International Development: A Tool Kit.” *Journal of Development Effectiveness* 4 (3): 359–87. doi:10.1080/19439342.2012.711765.

Wallenstein, Stephen. 1994. “Chapter 6: Debt–Equity Swaps and Conversion Funds.” In International Capital Markets: Developments, Prospects, and Policy Issues, 125–140. Washington, DC: International Monetary Fund. https://www.elibrary.imf.org/display/book/9781557753069/ch006.xml. Accessed October 17, 2025.

Wang, Pengfei, and Hua Cheng. 2025. “Research on the Competitive Situation and Technical Opportunities of Global New Textile Materials Technology R&D.” PLoS ONE 20 (4): e0321923. https://doi.org/10.1371/journal.pone.0321923.

Wei, Da. 2019. “A Restructuring International Order and the Paradigm Shift in China–U.S. Relations.” China International Strategy Review 1 (1): 21–32. https://doi.org/10.1007/s42533-019-00004-z.

Wenzhao, Tao. 2018. “Forty Years of Win-Win Cooperation: China-U.S. Relations in Retrospect and Prospect.” China Quarterly of International Strategic Studies 04 (04): 481–93. https://doi.org/10.1142/s237774001850032x.

Williams, Alex. 2019a. *Political Hegemony and Social Complexity*. *International Political Theory*. https://doi.org/10.1007/978-3-030-19795-7.

_____, Alex. 2019b. “Political Hegemony and Social Complexity: Mechanisms of Power After Gramsci: An Interview with Alex Williams.” Eastminster: Global Politics & Policy. University of East Anglia. United Kingdom. August 12. https://www.ueapolitics.org/2019/08/12/political-hegemony-and-social-complexity-mechanisms-of-power-after-gramsci-an-interview-with-alex-williams/

Womack, Brantly. 2017. “International Crises and China’s Rise: Comparing the 2008 Global Financial Crisis and the 2017 Global Political Crisis.” *The Chinese Journal of International Politics* 10 (4): 383–401. https://doi.org/10.1093/cjip/pox015.

World Bank. 2025a. World Integrated Trade Solution (WITS). Accessed April 30, 2025. https://wits.worldbank.org/CountryProfile/en/Compare/country/USA/indicator/CNTRY-GRWTH/partner/WLD/product/Total/country/CHN;/show/line#

_____. 2025b. Data Bank – Global Financial Development. Accessed April 30, 2025. https://databank.worldbank.org/source/global-financial-development#

_____. 2025c. Metadata Glossary – Global Financial Development. Accessed April 30, 2025. https://databank.worldbank.org/metadataglossary/global-financial-development/series/GFDD.OI.06#:~:text=Assets%20of%20five%20largest%20banks,data%20from%20Bankscope%20and%20Orbis.

_____. 2026. Data Bank — China and U.S. Military Expenditure (2013-2024). World Development
Indicators .https://databank.worldbank.org/reports.aspx?source=2&series=MS.MIL.XPND.GD.ZS&country=CHN#

_____ and Stockholm International Peace Research Institute (SIPRI). 2025. China and the U.S. Military expenditure (current USD) – China, United States. Accessed July 7, 2025. https://data.worldbank.org/indicator/MS.MIL.XPND.CD?contextual=min&end=2012&locations=CN-US&start=2001

World Health Organization. 2020. “WHO Director-General’s Opening Remarks at the Media Briefing on COVID-19 – 11 March 2020.” March 11, 2020. https://www.who.int/news-room/speeches/item/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020

Wu, Xiangning. 2020. “Technology, Power, and Uncontrolled Great Power Strategic Competition Between China and the United States.” China International Strategy Review 2 (1): 99–119. https://doi.org/10.1007/s42533-020-00040-0.

Xi, Jinping. 2017. Secure a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Strive for the Great Success of Socialism with Chinese Characteristics for a New Era. Report to the 19th National Congress of the Communist Party of China. http://www.xinhuanet.com/politics/19cpcnc/2017-10/27/c_1121867529.htm.

Xing, Yuqing. 2012. "Processing Trade, Exchange Rates and China's Bilateral Trade Balances." *Journal of Asian Economics* 23 (5): 540–47. https://doi.org/10.1016/j.asieco.2012.06.001.

Xu, Manshu, and Chuanying Lu. 2021. "China–U.S. Cyber-crisis Management." China International Strategy Review 3 (1): 97–114. https://doi.org/10.1007/s42533-021-00079-7.

Yaqub, Muhammad, Junaid Ali, Sarfaraz Khan, and Attaullah Jan. 2024. "Analyzing Post-2010 China-US Defense Expenditures: Uncovering the NewArmsRace." FWU Journal of Social Sciences, September, 74–86. https://doi.org/10.51709/19951272/fall2024/7.

Yang, Suzanne Xiao. 2020. "Complexity in China's Current Role in Multilateral Orders." China International Strategy Review 2 (2): 288–305. https://doi.org/10.1007/s42533-020-00054-8.

Yao, Yang. 2021. "The New Cold War: America's New Approach to Sino-American Relations." China International Strategy Review 3 (1): 20–33. https://doi.org/10.1007/s42533-021-00071-1.

Yao, Yunzhu. 2019. "Sino-American Military Relations: From Quasi-allies to Potential Adversaries?" *China International Strategy Review* 1 (1): 85–98. https://doi.org/10.1007/s42533-019-00016-9.

Yin, Jiwu. 2020. "The Cold War Analogy's Misrepresentation of the Essence of US–China Strategic Competition." China International Strategy Review 2 (2): 257–69. https://doi.org/10.1007/s42533-020-00058-4.

Yong, Wang. 2019. "Interpreting US-China Trade War Background, Negotiations and Consequences." China International Strategy Review 1 (1): 111–25. https://doi.org/10.1007/s42533-019-00019-6.

Yong, Wang. 2019. "Interpreting US-China Trade War Background, Negotiations and Consequences." China International Strategy Review 1 (1): 111–25. https://doi.org/10.1007/s42533-019-00019-6.

Yuan, Nansheng. 2020. "Reflections on China–US Relations After the COVID-19 Pandemic." China International Strategy Review 2 (1): 14–23. https://doi.org/10.1007/s42533-020-00049-5.

Yuan, Shaoyu. 2025. “Coexistence or Competition? China’s Evolution in Global Institutional Power.” Histories 5 (2): 20. https://doi.org/10.3390/histories5020020.

Zahedi, Razieh, Asghar Shahmoradi, and Ali Taiebnia. 2022. “The Ever-evolving Trade Pattern: A Global VAR Approach.” Empirical Economics 63 (3): 1193–1218. https://doi.org/10.1007/s00181-021-02182-5.

Zeng, Lingliang. 2020. “State Sovereignty in the Post-Cold War Era.” In *Modern China and International Economic Law*, 3–22. https://doi.org/10.1007/978-981-15-8657-6_1.

Zhang. 2021. *Reform, Opening-up and China’s Changing Role in Global Governance*. *Springer eBooks*. https://doi.org/10.1007/978-981-33-6025-9.

Zhao, Suisheng. 2019. “Projection of China’s Soft Power in the New Century: Reconstruction of the traditional Chinese world order.” In *Soft Power With Chinese Characteristics: China’s Campaign for Hearts and Minds*, edited by Ying Zhu, Kingsley Edney, and Stanley Rosen, 1st Edition, 25–44. Routledge. https://doi.org/10.4324/9781315208671-2.

Zhu, Qichao, and Kun Long. 2019. “How Will Artificial Intelligence Impact Sino–US Relations?” China International Strategy Review 1 (1): 139–51. https://doi.org/10.1007/s42533-019-00008-9.