Wired for Competition: Neomercantilist Dynamics in the US-China Chip War

Thesis MA Asian Studies (PSE)

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1. Introduction

In 1919, French politician Henry Bérenger proclaimed, "Who has oil has Empire!" (L'Espagnol de la Tramerye 1924, 10). This thesis departs from the premise that by replacing 'oil' with 'computer chips' in this assertion, we strike at the heart of one of our present era's most significant geoeconomic rivalries: the escalating chip war between the People's Republic of China (hereafter: China) and the United States. Over the past few years, it has become increasingly apparent that, akin to the great powers of the last century whose wealth and influence stemmed from the control of oil—a vital asset for economic prosperity in peacetime and military supremacy in times of conflict—in today's global landscape, superpowers vie for dominance in the realm of semiconductor technology (see, in general, Miller 2022).

In response to China's gambit to become a dominant player in the semiconductor industry, epitomized by its 'Made in China 2025' strategy, the US, under the Trump and Biden administrations, has ramped up efforts to protect its own semiconductor capabilities and maintain its position as a global leader in technological innovation. This has sparked a series of tit-for-tat actions, including US measures against Chinese companies like Huawei and ZTE and China's restrictions on rare earth mineral exports. As a result, the chip war has become a prominent feature in debates on the re-emergence of protectionism, the securitization (and weaponization) of economic interdependence, and the breakdown of the WTO-based trading system.

As the US-China semiconductor competition intensifies, researchers have increasingly turned their attention to theorizing the drivers, strategies, and implications of the chip war. This rivalry has been linked to various frameworks, including general international relations (IR) theory, the rise of trade securitization, techno-nationalism, and economic protectionism (e.g. Qiu 2023; Yoon 2023, 4; Bradford 2023; Malawer 2023). However, none of these approaches in and of themselves provide a comprehensive understanding of the complex dynamics at play. Specifically, realism-inspired approaches that perceive US-China technological rivalry as reflective of a continuous cycle of great power conflict tend to overemphasize the politico-military arena at the expense of considering the economic sphere (see Starrs and Germann 2021, 1124). Conversely, viewpoints centered on economic nationalism and protectionism within the high-tech industry, as viewed from an international political economy (IPE) standpoint, frequently overlook geopolitical and national security dimensions (see Steinberg 2023).

This thesis aims to fill this analytical gap by adopting the theory of neomercantilism, which is an approach situated at the intersection of IR and IPE theory. In particular, neomercantilism entails the pursuit of economic activism (such as strategic trade protectionism) to promote state wealth and power (Helleiner 2021, 4). Historically, neomercantilism arose as a critique of Adam Smith's advocacy of economic liberalism in *The Wealth of Nations* and, as Helleiner remarks, contemporary neomercantilist critiques of free trade can be placed within this intellectual history (Helleiner 2021, 1). As a school of thought, neomercantilism consists of certain assumptions about the

workings of global economic and strategic competition that are closely related to the position of states within the international industrial hierarchy. These entail the notion that economic and national security are fundamentally intertwined, a zero sum view of international economic and strategic competition, and the idea that state economic activism is appropriate and necessary in the pursuit of state building and the interests of the state (see Drezner 2010). These assumptions lead states to adopt typically neomercantilist policies, such as promoting trade surpluses, industrial development, strategic resource control, and selective multilateralism (Huntington 1993, 73).

Two key reasons suggest that applying neomercantilism is particularly fruitful in analyzing the US-China chip war. First, the US-China relationship is increasingly characterized by a competition for global influence and power. This rivalry extends into the realm of technology, where each nation seeks to outpace the other in critical sectors (Bradford 2023). Neomercantilism, with its emphasis on industrial and strategic rivalry, provides a robust framework for understanding such a dynamic. Second, computer chips are vital to both economic and national security, aligning with neomercantilism's focus on strategic economic resources. Semiconductors power modern technology, from consumer electronics to advanced military systems, making them strategic assets that states protect and promote.

1.1. Research question and contributions

Against this background, this thesis asks the question: *To what extent do the strategies and policies of the United States and China in the semiconductor industry align with neomercantilist theory, and what are the implications for global economic and geopolitical dynamics?* It is hypothesized that both nations are employing neomercantilist strategies to secure their positions in the global semiconductor market, and that the strategies of both superpowers are driven by a concern with maximizing their economic and strategic interests, leading them to adopt neomercantilist policies and engage in competitive rather than cooperative behavior in the semiconductor domain (cf. Ziegler and Menon 2014, 18).

If the hypothesis proves valid and the US and China indeed stand at a 'neomercantilist moment' (Steinberg 2023), this thesis offers two significant contributions. First, it offers further evidence to the claims of those who have presciently argued that (neo)mercantilism is alive and well and holds great appeal, much to the derision of economists of the neoclassical persuasion (W. Wang 2011; Rodrik 2013; see also Conti 2018). In terms of implications for the existing global trading order, this neomercantilist turn implies a potent challenge to the established principles of free trade and globalization that have dominated the post-Cold War economic order. Second, it will enrich the current IR literature on US-China relations, including debates on China's challenge to an American-led international liberal order as well as the implications of China's rise from the perspective of power transition theory, including the risks associated with the Thucydides Trap (see Ryan and Burman 2024, 355), by introducing a theory that specifically integrates the economic and security competition underlying these dynamics.

1.2. Thesis outline and methodology

The thesis proceeds as follows. First, it develops the theoretical framework of neomercantilism and presents its main tenets. This conceptual foundation will facilitate the analysis of the US-China chip war. The subsequent section will firstly provide a background to US-China rivalry and the strategic relevance of semiconductors herein. The section thereafter will conduct an in-depth examination of the strategic and economic policies of both nations in the semiconductor industry, and investigates to what extent these policies align with the hallmarks of neomercantilism. The analysis relies on a primarily qualitative and problem-driven assessment of US and Chinese policy documents and official government statements, which form the main empirical basis of the present study. It is further supported by a diverse array of secondary research sources, including recent academic studies, media reports, and think tank analyses. Through this approach, the thesis aims to reveal how neomercantilist theory can shed light on the behavior of the US and China in the chip war and the underlying motivations and strategies of their actions. Finally, the thesis explores the economic and political implications of these findings from a neomercantilist perspective, considering their impact on semiconductor geopolitics, as well as international trade relations and governance more broadly.

2. Theoretical Framework

Neomercantilism, as the term is used in this thesis, refers to a view of the IPE alternative to both economic liberalism and socialism (McCusker n.d.). Unlike economic liberalism, which prioritizes free market mechanisms and business interests, or socialism, which emphasizes the interests of the working class, neomercantilism centers the pursuance of national interests as the road to the common good (McCusker n.d.; 1996, 338). It does not reject the market, but instead "seeks to protect state interests, particularly the political and military standing of a country, by trying to shape the national and international workings of markets" (Ziegler and Menon 2014, 19).

Neomercantilism aligns with realist tenets, in that it sees the international order as an anarchic arena which drives states toward competition and maximizing relative power (Ziegler and Menon 2014, 19). It has therefore been described as an "economy-oriented notion of foreign policy realism" (Wigell 2016, 143) or, vice versa, an economic nationalism infused with foreign policy realism (Ziegler and Menon 2014, 19). As Conti has theorized, the rise of (neo)mercantilist assumptions can be linked to the extent of the convergence between economic and security concerns in a given time and space. According to Conti, "[t]he greater the perception of uncertainty and threats surrounding the production, distribution and consumption of goods relevant to local or national security, the greater the odds of mercantilist assumptions arising and being seen as credible" (Conti 2018, 187).

A further significant factor in predicting the behavior of neomercantilist states is the position of the state in the international division of labor, which influences both the existence of neomercantilist assumptions as well as the type of policies pursued (see Scott 2011). Ha-Joon Chang has shown how dominant industrialized economic powers often adhere to the ideal of free trade—imposing it on their developing counterparts to open up markets for their high-value manufactured goods, and extract resources and cheap labor—but resort to economic nationalism when their quasi-monopolistic high-value industries are threatened by rising economies (Chang 2002, 51). Developing economies, on the other hand, have historically resorted to neomercantilist policy, marked by state intervention and protectionist measures, as a 'catching up' strategy to avoid being relegated to a peripheral position within the global economy (Chang 2002; Scott 2011). In similar vein to Chang, Reinert has shown how rich nations became rich by intervening in their economy to shift from raw materials to manufacturing, and argues that poor nations should emulate these strategies in order to industrially develop (Reinert 2007). A notable example of such an approach is the Japanese statist development model, which has been described as "the mercantilist economy *par preference*" (Hettne 1993, 216).

2.1. Key assumptions of neomercantilism

The concept of neomercantilism is built on several fundamental assumptions that shape its approach to international economic and political relations. First, as stated,

neomercantilism recognizes the inherent link between economic strength and national security. While recent scholarship in IR has explored this relationship under the framework of 'economic statecraft,' focusing mainly on (geo)economic measures such as sanctions (Aggarwal and Reddie 2020), neomercantilism has long asserted that a strong economy is essential for a nation's international security posture. This principle of intertwining economic and national security finds its roots in the economic policies of mercantilist European colonial states, which emphasized the accumulation of wealth—measured in the national stocks of gold and silver—to strengthen the state and its armed forces (Smith 1776, bk. IV.I; see Heckscher 1935; Helleiner 2021; Balaam and Dillman 2018, 51). Later, the focus shifted to the importance of industrial development, as emphasized by the American neomercantilist thinker Alexender Hamilton: "Not only the wealth but the independence and security of a country appear to be materially connected with the prosperity of manufactures" (Hamilton 1791).

Second, neomercantilists view international environment as inherently zero-sum, whereby economic and security gains for one state directly translate to losses for others (Balaam and Dillman 2018, 51). In the global game of 'power and plenty', what matters is the state's military or economic power *relative* to competitors (Berdell, Mondschean, and Pecchenino 2019; Snidal 1991). As Ziegler and Menon explain: "In contrast to the variable-sum logic of liberalism, neomercantilism rests on the zero-sum premise that, as self-interested actors driven by their bottom lines, domestic firms may act in ways contrary to the interests of the home state, and foreign firms and other countries will do so to an even greater extent" (Ziegler and Menon 2014, 20). Historically, this worldview "led to policies supporting colonial expansion, securing sources of foreign goods (for importation and re-export), dominance of trade routes and the promotion of exports to maintain a positive balance of trade" (Berdell, Mondschean, and Pecchenino 2019, 37). As Conti argues, this zero-sum logic is most pronounced in sectors directly relevant to the security of the state, such as the arms industries and the nuclear, chemical and biological industries, leading states to perceive gains in these sectors by one country as a threat to all others instead of a win-win game of self-correcting features (Conti 2018, 196–97).

Lastly, neomercantilism is decidedly anti-laissez faire, as it promotes an interventionist state actively implementing industrial, trade, and technology (ITT) policy to achieve national objectives (Drezner 2010; Hettne 1993). According to neomercantilists, states should "seek to control the "commanding heights" of the economy, the largest and most strategic sectors, through wholly state-owned firms or ones that in effect act as agents of the state and are supported by it in various ways" (Ziegler and Menon 2014, 19). The pro-interventionist stance has been most prominently put forward by Hamilton, e.g. in his *Report on the Subject of Manufactures* (1791), and the German Friedrich list, in *Das Nationale System der Politischen Ökonomie* (The national System of Political Economy) (1841). Both writers perceived the industrial dominance of Great Britain as a threat to the economic development of the American and German economies, and argued that their own respective nations should adopt protectionist economic policies, such as export

promotion and import tariffs, to boost the growth of infant industries (Balaam and Dillman 2018, 54). Especially List's writings have continued to provide inspiration for statist theories of economic development, such as the Japanese 'flying geese model' and the ideas of the Latin American structuralists in the 1960s (see Hettne 1993; Kasahara 2019, 11).

2.2. Neomercantilist policies

In response to the convergence between economic and security concerns, neomercantilist states adopt a range of measures aimed at securing and maximizing their economic and strategic primacy vis-à-vis their rivals. These policies typically encompass (see Huntington 1993, 73; Balaam and Dillman 2018; Yu 2019):

2.2.1. Positive trade balance

The primary policy that links both classical mercantilism and neomercantilism is running account surpluses (Berdell, Mondschean, and Pecchenino 2019; Yu 2019).[1] While the pre-industrial mercantilists stressed the importance of an overall positive trade balance to enhance the inflow of precious metals, neomercantilists are more concerned with the specific composition of trade and emphasize the export of high-value manufactured goods. The strategic benefits of sustaining a surplus are summarized by Samuel Huntington, who states with regard to Japan's economic power maximization strategy: "The sustained surplus provides the wherewithal for the purchase of facilities, property, companies, technology, lobbies, research institutes, opinion leaders, and politicians, all of which and of whom could serve Japanese interests. The goal of a power maximization strategy is to counter the effects of economic forces and to maintain both a strong currency and a trade surplus" (Huntington 1993, 75). To achieve a positive trade balance, neomercantilist argue for the implementation of e.g. export promotion, import tariffs, and currency manipulation policies.

2.2.2. Industrial policy

Neomercantilism implies a national economy that is tilted towards producer rather than consumer interests. A key strategy to stimulate production is the implementation of industrial policy (Balaam and Dillman 2018, 62). In accordance with the neomercantilist preoccupation with wealth and power maximization, industrial policy should be targeted to the development of "strategic, high-technology, high-value-added industries" (Huntington 1993, 73). This serves to stimulate "the competitiveness of domestic industries and protect [the] economy from the perceived malevolent policies of other states" (Balaam and Dillman 2018, 60). Balaam and Dillman describe four common types of industrial policy (Balaam and Dillman 2018, 62). First, national innovation projects are designed to encourage large scale manufacturing in cutting-edge sectors, e.g. by funding R&D of domestic private companies. Second, promoting 'national champions', e.g. by using procurement policies, is in many cases a key part of industrial policy. Third, many states pursuing industrial policy place restrictions on Foreign Direct Investment (FDI), limiting in

what sectors foreign businesses can invest and what percentage of ownership foreigners can have in domestic companies. Fourth, industrial policy may include other restrictions on foreign companies, such as a requirement to form joint ventures with domestic companies or to buy certain inputs from domestic companies.

2.2.3. Strategic resource control

A third hallmark of neomercantilist strategy concerns securing access to and control over strategic resources. Neomercantilists "fear that being 'cut off' from energy, minerals, and metals will cripple their economies and weaken their war-fighting capability" (Balaam and Dillman 2018, 64). While Ricardian economics suggests that the increasing specialization of national industries dictated by international market forces increases welfare for all—the concept of comparative advantage—neomercantilists stress that purely economic rationale does not account for security externalities associated with resource and supply chain dependencies. Recent research, especially Farrell and Newman's concept of weaponized interdependence, highlights how states can exploit power imbalances in global economic networks to their advantage (Farrell and Newman 2019). When it comes to industrial supply chains, especially regarding strategic sectors, neomercantilist states "seek to minimize the risks of cutoffs or other supply disruptions", for example by building up national stockpiles of key resources, encouraging national companies to diversify supply chains, developing political and military alliances, buying foreign resource extraction companies, and switching to domestic alternatives for strategic imports (strategies commonly known today as 'decoupling', 'reshoring', 'friend-shoring', etc.) (Balaam and Dillman 2018, 64).

2.2.4. Technological nationalism

In the spectrum between techno-nationalism and techno-globalism (Rikap and Lundvall 2021), neomercantilism squarely aligns with techno-nationalism (Yu 2019; see Ostry and Nelson 1993). Historically, early industrial powers like Great Britain restricted key technologies and skilled labor movement to hinder rivals' progress (Chang 2002, 54). Less advanced economies responded with tactics like industrial espionage and recruiting skilled workers to gain access to advanced technologies (Chang 2002, 55). Similarly, in today's hyper-globalized and interconnected economy, technology acquisition and technological upgrading is seen as an indispensable strategy towards industrial development. In this respect, Kennedy and Lim speak of an 'innovation imperative' for rising nations, which they describe as "the need to acquire and develop new technologies in order to overcome the structural challenges facing middle-income states and continue its international ascent" (Kennedy and Lim 2018, 554). Dominant powers, in turn, aim to maintain and expand their technological lead (Kennedy and Lim 2018, 555). Furthermore, they are motivated to cut off supply of strategic technologies to their rising rivals and advocate for the implementation and enforcement of international intellectual property (IP) rules that limit technology transfer (Kennedy and Lim 2018, 559).

2.2.5. Selective multilateralism

Finally, neomercantilist states engage in selective multilateralism. As Wigell describes, "neomercantilist geoeconomic powers [...] define their national interest foremost in economic terms, while applying multilateralism selectively with a close view to national economic security concerns" (Wigell 2016, 143). Rather than fully embracing either globalization or autarky, neomercantilists promote the formation of strategic trading and military alliances to mitigate the security risks concomitant with growing economic interdependence. While export promotion remains a central tenet of neomercantilism, "the products encouraged should not cover such items that would help commercial competitors [abroad] (including capital goods, particularly machinery) as well as those that could strengthen imperialist opponents abroad (including arms and equipment)" (Kasahara 2019, 13). This approach favors the formation of allied trading blocs, whereby economic and security interests align. Although neomercantilism has not been conclusively linked to any specific formal theory regarding conditions for international cooperation (see, e.g., Glaser 1994), and does not negate the possibility of cooperation and the development of norms, rules, and institutions, its prioritization of strategic goals—notwithstanding financial or technical pressures incentives to cooperate—does "erect formidable barriers" in this regard (Ziegler and Menon 2014, 17).

2.3. Summary conclusion

To summarize, neomercantilist states are driven by a convergence of economic and national security concerns, the perception of threats and uncertainty, and their position in the international division of labor. These drivers shape the core assumptions and strategies of neomercantilist states. These variables are formalized in figure 1, whereby the drivers are the independent variables that influence the dependent variables of actor assumptions and strategies.

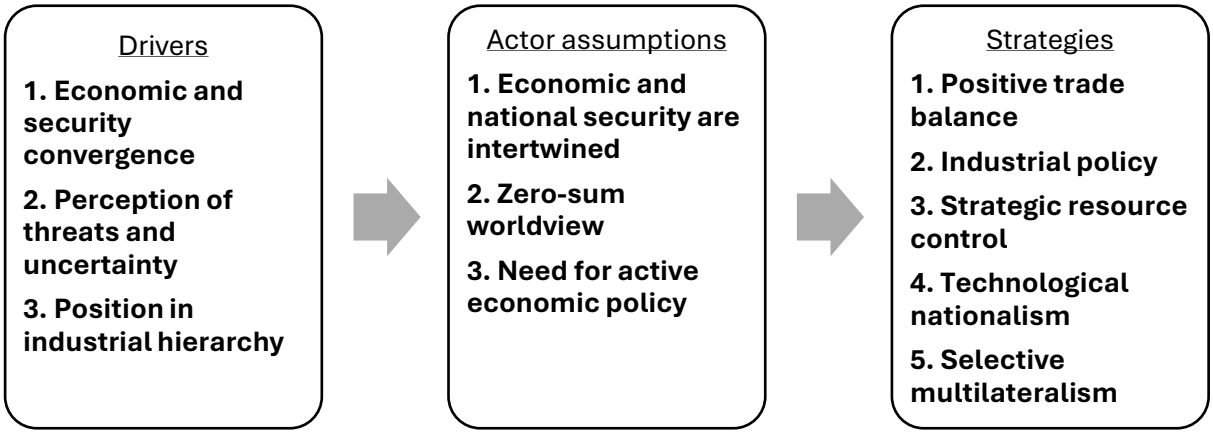

Figure 1 Neomercantilist theory

3. Background and Context: US-China Semiconductor Rivalry

Having outlined the concept of neomercantilism, it becomes possible to examine the approaches of China and the US in the chip war within this framework. For this analysis, however, it is important to first outline the broader context of their trade rivalry, the strategic importance of semiconductors, and the positions of both nations within the semiconductor value chain. To enable a comprehensive understanding of the US-China chip war, these aspects will be discussed below.

3.1. The background of US-China trade rivalry

As Bradford describes, a pivotal point in the backdrop to the current US-China high tech rivalry can be traced back to China's accession to the World Trade Organization (WTO) in 2001. This marked a significant advancement in global economic integration, as China agreed to open up its markets and adhere to international trade rules (Bradford 2023, 184; Mavroidis and Sapir 2021). The expectation was that China would progressively liberalize its economy. To a certain extent, these expectations materialized, as "Western companies were able to tap into China's vast and dynamic consumer market, while Western consumers benefited from having access to cheap Chinese imports" (Bradford 2023, 184). However, China's market opening has remained incomplete. Despite WTO commitments, foreign companies continued to face numerous restrictions in China, including stringent censorship requirements, limited market access, and preferences for domestic firms, especially state-owned enterprises (SOEs) (Bradford 2023, 184). These issues have been a persistent source of friction in US-China trade relations.

The initial optimism about China's potential alignment with international economic norms has thus faded, replaced by concerns over China's state-driven economic model and its impact on global competition (EU Commission 2021, 5). The US, in particular, has become increasingly critical of China's trade practices, accusing it of unfair economic policies such as intellectual property theft, currency manipulation, and industrial espionage (Bradford 2023, 185). It has at first responded by leveraging the WTO system to its advantage, *inter alia* by bringing complaints to the WTO's Dispute Settlement Body (DSB) against alleged Chinese violations and blocking the appointment of judges to the WTO Appellate Body because of perceived judicial activism condoning Chinese state-capitalist policies (Luo and Assche 2023, unpaginated). Furthermore, the US has sought to create alternatives to the WTO system by negotiating new trade agreements aimed at creating an economic bloc that reflects US preferences on investment, the environment, labor, IP rights protection, and state-owned enterprises (Luo and Assche 2023).

Meanwhile, China has sought to further consolidate its economic rise, especially in the technology sector. The Chinese leadership is well-aware of the need to avoid the so-called "middle-income trap" and recognizes the imperative of innovation (Kennedy and Lim 2018; cf. Felipe, Kumar, and Abdon 2014). Faced with growing assertiveness

in China's ambitions to achieve global technological and industrial leadership under Xi Jinping, the trade rivalry has evolved to encompass the digital economy as the primary field of contention. Under the Trump administration, a full-blown trade war was initiated, marked by the imposition of tariffs and other trade barriers (Liang and Ding 2020). This escalating trade rivalry has since morphed into a broader technological and geopolitical conflict. Accordingly, there is a close connection between the trade war and the technology war (Zhao 2021). As Bradford notes, "what may have been characterized as a "battle" in the past has now evolved into a "war" between two tech superpowers. This superpower conflict, many would argue, is also the main theatre of war where the highest-stakes battles for the future of the global digital economy are being fought" (Bradford 2023, 183).

3.2. The strategic nature of semiconductors

Within this context of trade and technological rivalry, another factor exacerbates this competition: the economic and national security relevance of semiconductors. As one White House review puts it: "The semiconductor-based integrated circuit is the "DNA" of technology and has transformed essentially all segments of the economy… Semiconductors are used in virtually every technology product and underpin state-of-the-art military systems" (White House 2021, 22). Indeed, semiconductors serve as the backbone of modern technological infrastructure, powering a vast array of devices and systems essential for economic activities—from consumer electronics to industrial machinery, from transportation systems to healthcare equipment, computer chips are integral components that enable the functioning of numerous sectors of the economy.

Beyond this, emerging technologies such as artificial intelligence, quantum computing, and the Internet of Things are heavily reliant on cutting-edge semiconductor capabilities (Calhoun 2021). Additionally, semiconductors are vital components in the functioning of military systems, intelligence operations, cyber warfare, and critical infrastructure networks (Arras 2024). The convergence of economic and national security concerns in the semiconductor industry has thus increasingly been a key factor driving the strategic policies of states. As Kim and Rho put it, "[i]n the semiconductor sector, the economy–security nexus plays an independent and meaningful role in shaping individual states' economic statecraft strategies" (2024, unpaginated). Kim and Rho also aptly describe the security implications of economic interdependencies in the semiconductor supply chain. While modern computer chips are the *sui generis* progeny of economic globalization, it is precisely this interwoven strategic sector that leads states to reduce dependencies on critical chokepoints and, especially in the case of the US, even weaponize these dependencies to gain strategic advantages (Kim and Rho 2024; cf. S. Lee 2024).

3.3. US and China's position in the semiconductor value chain

The US's economic and technological lead versus China's catchup dynamic in the broader US-China competition is deeply linked to the specific positioning of both countries in global high-tech value chains (Malkin and He 2024). With regard to the

semiconductor industry, this chain is highly complex and globally dispersed. Its main stages encompass design, manufacturing, and assembly, test, and packaging (ATP). The main business models in this sector are Integrated Device Manufacturers (IDMs), which perform all the aforementioned steps inhouse, and "fabless" companies, which outsource manufacturing and ATP (SIA 2015).

Historically, IDMs such as Intel dominated the semiconductor industry by controlling the entire production process. However, the rise of "pure-play" foundries, such as Taiwan's Taiwan Semiconductor Manufacturing Company (TSMC), revolutionized the industry by allowing fabless companies like Qualcomm and AMD to focus solely on chip design while outsourcing the manufacturing process. This specialization led to increased efficiency within the industry, as well as global fragmentation of the supply chain (Park 2023, 7).

Upstream ←	***Supply chain***	→ **Downstream**
IDM Model (Intel, Micron, Samsung, Texas Instruments)		
Design, Manufacturing, ATP		
Fabless Model		
Design (fabless)	*Manufacturing (foundry)*	*ATP*
NVDIA, AMD, Broadcom, MediaTek, HiSilicon, Qualcomm	GlobalFoundries, SMIC, TSMC, UMC	Amkor, ASE, JCET, Power-tech, SPIL, Chipbond

Table 1 The semiconductor supply chain. Adapted from: VerWey (2019, 5); Kim & Rho (2024, unpaginated)

Within this over 600 billion dollar industry, the US continues to dominate the global market (Peterson 2024). According to a 2023 report of the American Semiconductor Industry Association (SIA), the US semiconductor industry is the leader in chip sales worldwide, occupying a 48 percent market share (SIA 2023, 20). In particular, the US maintains a global lead in in R&D, design, and manufacturing process technology. American companies such as Intel, NVIDIA, and Qualcomm are world leaders in chip design. The US also boasts significant capabilities in Electronic Design Automation (EDA) tools, which are crucial for the development of new semiconductor technologies (Kim and Rho 2024). Resultingly, US computer chip dominance is self-reinforcing: the larger its market share, the more it is able to invest into R&D, which in turn helps ensure continued leadership. These monopoly rents from R&D spending are also known as the "virtuous cycle of innovation" (SIA 2023, 20).

China, on the other hand, has focused on expanding its semiconductor manufacturing capabilities and reducing its dependence on foreign technology. Over the past decades, the country has managed to gain market shares in all stages of in the semiconductor supply chain: fabless design, foundry manufacturing, and outsourced assembly, testing, and packaging (Zhao 2021). Yet, it lags behind significantly in global market

shares to the US, representing only 7 percent of global sales in the semiconductor market (SIA 2023, 20). Despite significant investments and policy support, China still relies heavily on foreign technologies for high-end semiconductor production (Hmaidi 2024). Chinese companies like SMIC have made strides in semiconductor manufacturing, but they have yet to reach the technological sophistication of their US and international counterparts. According to Zhao, these factors contribute to a highly asymmetric nature of US-China semiconductor competition. Whereas the US dominates the high-end segment of the semiconductor value chain, "China's segment of the semiconductor global value chain focuses on lower value-added functions and less sophisticated chips, and the country is extremely weak in equipment and electronic design automation software" (Zhao 2021).

Aside from these bilateral dynamics, the competition between the US and China in the semiconductor industry is further complicated by the sector's globalized nature. Both nations are deeply embedded in a network of international suppliers and markets. As mentioned above, many US companies have outsourced their manufacturing through the fabless model, which shifted the center of gravity of chip production to East Asia since the 1990 (Park 2023, 466). For example, Taiwan's TSMC and South Korea's Samsung together hold a near-monopolistic role in the global advanced semiconductor manufacturing ecosystem, providing advanced chips to both US and Chinese companies. Additionally, the Netherlands-based ASML, which produces essential semiconductor manufacturing equipment, is firmly ingrained within the US semiconductor ecosystem through sourcing and R&D agreements and US investments, while remaining an important autonomous link in the global supply chain (Malkin and He 2024, 684). The strategic importance of these third-party players adds another layer of complexity to the US-China semiconductor rivalry, which the below sections will address in more detail.

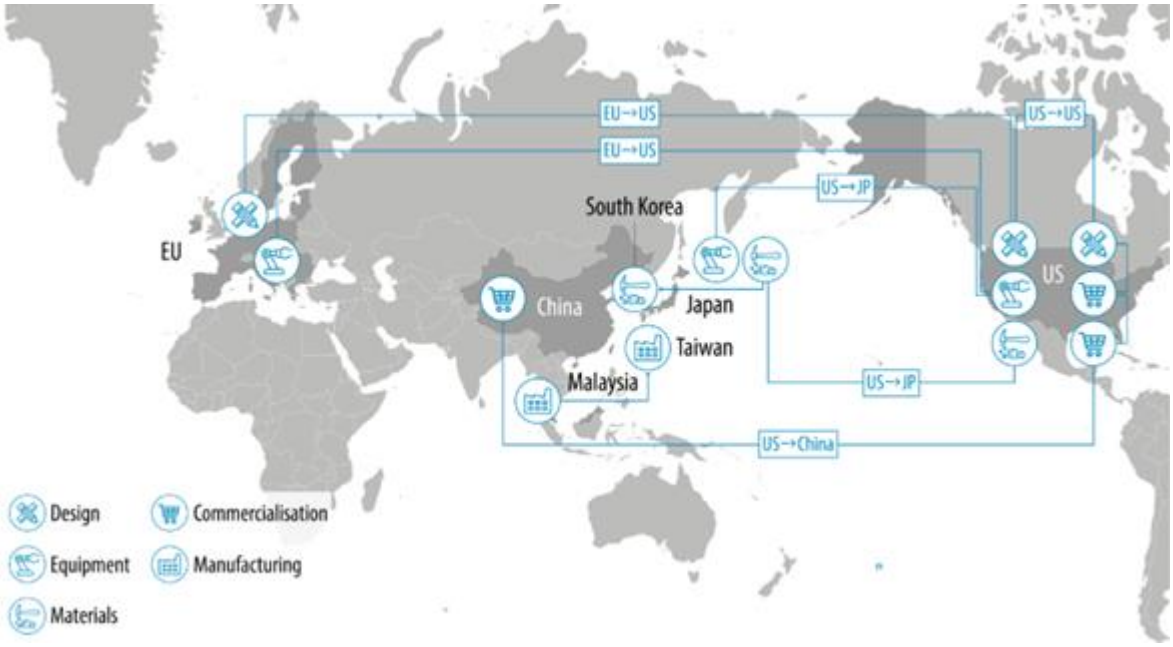

Figure 2 Global semiconductor industry. Source: Van Wieringen 2022, p. 7

4. Analysis: Neomercantilist Strategies in the US-China Chip War

From the last section it becomes clear that the US-China rivalry in the semiconductor industry is characterized by a struggle for dominance in a sector that is crucial to contemporary economic and national security. This rivalry is deeply tied to each nation's position within the global supply chain, whereby the US aims to maintain its primacy and China endeavors to ascend the value chain. This background sets an ideal stage for a neomercantilist analysis, and reflects the neomercantilist drivers of economic and security convergence, the mutual perception of threats stemming from the other's ambitions, and a concern with their respective positions in the industrial hierarchy (see *supra* fig. 1).

Both the US and China operate under assumptions of zero-sum competition. As Rikap and Lundvall state, "[t]he current conflicts between the US and China stand in sharp contrast to the situation just a decade ago when technological and scientific international collaboration was still seen as advantageous for both economies" (2021, 148). As will be discussed, both nations are adopting strategies that involve significant state intervention in the semiconductor industry, with the US increasingly adopting approaches similar to China (see Weiss and Wyne 2020). The following section analyzes the strategies and policies of China and the United States in the semiconductor industry through the lens of neomercantilist theory. This analysis will especially investigate the presence of the five key neomercantilist policies previously outlined in Section 2.

4.1. China's neomercantilist strategies

The development of the semiconductor industry in China has long been boosted by government industrial policy (SIA 2021, 3). For decades, China has "prioritized the development of a domestically competitive and commercially viable semiconductor industry … because it considers semiconductors to be a strategic technology and finds that control over semiconductor production confers both economic and national security benefits" (VerWey 2019, 9). As Zhao outlines, the Chinese government has adopted various industrial policies since the 1990s that have facilitated the development of an indigenous semiconductor industry, such as the 908 and 909 projects in the 1990s, and the State Council's Circular No. 18 in 2000 and Circular No. 4 in 2011 (Zhao 2021). However, while these measures have contributed to expanding a domestic manufacturing base, they did not result in a substantial closing of the technological gap between China and leading semiconductor-producing nations.

Recognizing the deficiencies in its path to achieve semiconductor dominance, the Chinese government embarked on an ambitious project to bridge the gap *vis-à-vis* high-tech economies, especially the US, and eventually leapfrog to an "advanced international level" (国际先进水平) across all major segments of the semiconductor chain by 2030 (State Council 2014; see VerWey 2019, 14). This project has been detailed in several key policy documents. In 2014, the "Guidelines to Promote a

National Integrated Circuit Industry" (2014 IC Guidelines) were published by the State Council, and in 2025, General Secretary Xi Jinping and Premier Li Keqiang announced "Made in China 2025" (中国制造 2025; hereafter MiC2025) initiative, which was later developed by the State Council in the "Made in China 2025 Technical Area Roadmap" (State Council 2015a; 2015b). Additionally, the semiconductor industry features prominently in China's overall industrial goals outlined in the Thirteenth and Fourteenth Five Year Plans (see Goodrich 2016; Stratford et al. 2021). From these key documents, three main strategies can be distilled that align closely with neomercantilist principles.

4.1.1. Technological self-sufficiency

In line with the neomercantilist notion that "every nation … ought to endeavor to possess within itself all the essentials of national supply" (Hamilton 1791), one key stated goal of China's semiconductor policy is to reduce its dependence on foreign imports and technology and build and indigenous supply chain. While this desire for self-reliance is not new—the 2014 National IC Guidelines mark China's fifth attempt to end dependencies on foreign semiconductors, according to Lewis (2019, 19)—the post-2014 drive represents the most concerted and far-reaching effort so far. The MiC2025 manifesto clearly articulates this ambition, aiming to achieve, by 2020, "independent assurance (自主保障) of 40 percent of core basic components and key basic materials" (this includes semiconductors) in order to "gradually ease the situation in which such components are controlled by others" (受制于人). By 2025, the goal is to "achieve independent assurance of 70 percent of core basic components and key basic materials" (State Council 2015a).

This self-sufficiency ambition should, on the one hand, be seen as a typical case of import-substitution industrialization (ISI), driven by motives of economic development (OECD 2019, 97). For example, China's dual-circulation (双循环) strategy, announced in 2020, emphasizes internal economic circulation to boost domestic production while external trade plays a complementary role (Z. Wang 2020). On the other hand, the increasing emphasis on reducing dependence on foreign technology has an explicit national security angle. As Xi Jinping stated in 2016, "the fact that core technology is controlled by others is our greatest hidden danger" (cited in Lewis 2019, 19). Notably, the emphasis on the national security imperative became much more pronounced after the US in 2018 imposed strict export controls against the key Chinese telecommunications company ZTE (see Section 4.2), which led to an enhanced realization amongst China's leadership that "even their strongest technology companies could potentially be strangled quickly and decisively by a U.S. government willing to exploit America's control of technology chokepoints" (Allen 2023). Consequently, in 2018, the Chinese government began conducting research into "stranglehold" (卡脖子) technologies where it is dependent on foreign imports, including semiconductor equipment (PRC Ministry of Science and Technology 2020). Facing new US and increasingly sweeping restrictions since the US's initial actions against ZTE and also Huawei, the emphasis on technological self-sufficiency has been

consistently emphasized and integrated into the concept of comprehensive national security (总体国家安全观) (see *Xinhua News* 2024).

4.1.2. Technological and industrial upgrading

Closely related to (and an indispensable precondition for) technological self-sufficiency, is China's strategy to comprehensively upgrade its semiconductor capabilities, in order to substitute domestic demand for high-tech components previously sourced from abroad. To realize this, the 2014 IC Guidelines set the main priorities of developing the IC design industry, speeding up the development of IC manufacturing, increase the technology level of the advanced packaging and testing industry, and make breakthroughs in key integrated circuit industry equipment and material. Additionally, the 2014 IC Guidelines emphasize enhancing the ability to train domestic talent and attract skilled personnel from abroad (State Council 2015b).

Importantly, the 2014 IC Guidelines call for the establishment of a "National IC Industry Investment Fund". This fund, also known as the "Big Fund", has come to play a key role in the development of China's semiconductor industry (OECD 2019, 50). When it was first established in 2014, it came with a $21 billion sum in state-backed financing. The fund's second phase, initiated in 2019, brought an additional $35 billion, and the third phase, launched in 2024, has introduced $47.5 billion in financing (L. C. Lee 2024). Furthermore, in addition to the Big Fund, provincial and local governments have established 15 semiconductor funds as of 2023, worth an additional $25 billion. Semiconductor companies in China further benefit from a host of other direct and indirect subsidies, such as "government grants, tax breaks, equity investments, and low-interest loans" (Allen 2023).

While these measures in theory need not necessarily benefit domestic firms over foreign firms, in practice, they have favored Chinese companies such as "national champions" SMIC and YMTC. For example, a 2019 OECD report found that 98 percent of below-market borrowings through Chinese state banks has been obtained by Chinese semiconductor firms, which the OECD attributes to the preferential access to credit enjoyed by SOEs and politically connected firms (OECD 2019, 69). Moreover, China has imposed restrictive Foreign Direct Investment (FDI) conditions for technology firms seeking to invest in China, including requirements of technology transfer, joint ventures, and other mechanisms designed to ensure that critical technology and expertise are transferred to domestic companies (VerWey 2019, 17). In this regard, Kennedy and Lim (2018) argue that China has engaged in a strategy of 'making', 'transacting', and 'taking' to acquire new technology and move up the value chain, whereby taking refers to longstanding accusations of Chinese intellectual property theft and cyber espionage against foreign firms (Kennedy and Lim 2018, 556).

Many question, however, to what extent China has succeeded in closing the technological gap with advanced semiconductor manufacturing economies. While China is poised to be competitive in memory and mature logic semiconductors (suitable for consumer and industrial applications), it still lags significantly behind in

areas such as leading-edge logic semiconductor manufacturing and manufacturing equipment (SIA 2021, 5). With regard to its import substitution strategy, China falls far short of its self-sufficiency goals, with only an estimated 16 percent self-sufficiency achieved in 2020 (Shunsuke 2021). In fact, semiconductor imports continue to be China's largest import product, surpassing even crude oil, at an estimated value of US$415.6 billion in 2020 (Citi 2023). Additionally, in the military industry, imported military ICs accounted for about 2 percent of China's total military expenditure (Chu 2023, 5). Analysts point to several factors contributing to these shortcomings, including US export controls and domestic challenges such as corruption scandals and poor investment choices in the management of the Big Fund (L. C. Lee 2024).

4.1.3. Leveraging rare earth control

One area where China does possess a significant strategic advantage is in the control of rare earth elements (REE), which are critical for semiconductor production. As part of MiC2025, China has declared the development of domestic REE industries a strategic goal. As Ferreira and Critelli note, China "now controls most of the global value chain and accounts for nearly 90 percent of global REE refining capacity" (Ferreira and Critelli 2022, 64). Specifically, China produces "64 percent of the world's silicon supply, almost 60 percent of the world's germanium supply, and 80 percent of the world's gallium," all essential for various applications in semiconductor manufacturing (Hmaidi 2024). Additionally, to ensure a stable supply chain for these critical minerals amid rising global tensions, China has intensified its efforts to secure mineral cooperation agreements with countries participating in its Belt and Road Initiative (BRI), encompassing investments in projects like an iron ore project in Guinea and nickel and tungsten projects in Indonesia and Kazakhstan (C. Feng 2022).

The Chinese government has recognized its strategic monopoly and has taken steps to leverage this. On July 3, 2023, the Ministry of Commerce and the General Administration of Customs issued an "Announcement on the Implementation of Export Control on Gallium and Germanium-related Items," mandating that exporters of gallium- and germanium-related materials obtain licenses for their exports (PRC MOFCOM/GAC 2023). A US Congressional report notes that, with these controls, China "may have aimed to signal pressure to key users of these inputs, South Korea and Japan, while also creating preferences and further pressure to localize semiconductor production in China, for firms from these countries who use the inputs domestically in China" (Sutter, Blevins, and Grossman 2023). Nevertheless, according to an analyst at the German MERICS Institute, while China holds significant control over relevant rare earths, its dominance is mainly related to subsidies, government support, and limited environmental regulation. Semiconductor companies have said that they could find other sources for gallium and germanium if necessary, making it harder for China to exploit these REE dominances in the medium to long term (Hmaidi 2024).

4.2. The US's neomercantilist strategies

While China is increasingly explicit in expressing and pursuing its self-sufficiency priorities, the US has also become more assertive in its strategic goals, aiming to contain China's technological rise and racing ahead of its rival in the global semiconductor industry (see Palmer 2023). Biden's National Security Advisor Jake Sullivan has emphasized that the US must maintain a "as large of a lead as possible" to preserve economic and national security, thereby revisiting the longstanding aim of staying ahead of China two generations—about three to four years—in semiconductor capabilities (White House 2022; US General Accounting Office 2002, 3)

National security concerns over China's high-tech are not new. For instance, in 2007, Huawei's attempted acquisition of a minority interest in US cybersecurity firm 3Com was halted after the Committee on Foreign Investment in the United States (CFIUS) recommended that President Bush block the transaction due to national security concerns. Later, in 2010, Huawei and ZTE were excluded from a multi-billion contract with Sprint Nextel Corporation due to national security concerns, and subsequent actions in 2011 and 2012 further restricted Chinese telecom companies from participating in the US market (Ryan and Burman 2024, 357). Laster national security investigations have specifically targeted Chinese investments in US semiconductor companies, as will be further discussed below.

Beyond immediate national security concerns, the focus on economic primacy is evident from the US government's increasing proactive measures to bolster its semiconductor industry, such as the adoption of the CHIPS and Science Act in 2022 (see Section 4.2.2). This stance is also not without historical precedent. In fact, "Silicon Valley would not exist as it does today without the Cold War-era tsunami of federal defense contracts" (Center and Bates 2019, 5). This reflects China's current approach of "Civil-Military Fusion," which the US now routinely criticizes (e.g. US Department of State 2020). While the US model of semiconductor innovation has since shifted to rely more on private investments with minimal government intervention, China's announcement of its MiC2025 initiative and the ensuing billions in government spending has led to something akin to a new "Sputnik moment," referring to the wake-up call experienced by the US during the Cold War in response to the Soviet Union's technological advancements (Huang 2018).

To understand the US's neomercantilist strategies, three main approaches can be identified:

4.2.1. Export controls and investment restrictions

The US has unleashed the full force of its export control regime, leveraging its dominant control over the upstream supply of high-end semiconductor technology. Initially, this strategy appeared to align with the aforementioned practice of targeting individual companies considered national security risks. Since 2016, these measures have involved placing companies like ZTE and then Huawei on the Entity List by the US Department of Commerce, followed more recently by the inclusion of *inter alia*

YMTC, SMIC, and Shanghai Micro Electronics.[2] Being placed on this list means that these companies face significant restrictions on their ability to access key US technology and components.

However, with the Biden administration imposing even more restrictive measures against Huawei and implementing sweeping across-the-board export controls for China as a whole in 2022 and 2023, it is clear that the US is now unambiguously focused on actively degrading China's technological capabilities in semiconductors through its export control regime (Benson 2023; see Department of Commerce (BIS) 2023). Indeed, the most far-going controls cover everything from advanced chips to cutting-edge manufacturing equipment such as lithography machines and are not only designed to deny China further technological progress, but also to "actively reverse their current state of the art" (Palmer 2023). This approach reflects the Trump administration's 2017 National Security Strategy, which emphasized economic security as a key component of national security and specifically focused on securing US military and technological superiority through regulating international trade and foreign investment (White House 2017).

Regarding foreign investment, the US has heightened its scrutiny of both inbound FDI from China and outbound FDI to China. Specifically, the CFIUS has stepped up its oversight of Chinese investments in the US semiconductor industry, especially after the 2018 Foreign Investment Risk Review Modernization Act (FIRRMA) broadened and strengthened CFIUS's jurisdiction and authority. Between 2017 and September 2022, semiconductor deals accounted for 20 percent of the CFIUS's interventions, with Chinese investments featuring most prominently in these reviews (Klein 2022). For example, in 2021 the attempted acquisition of Delaware-incorporated Magnachip Semiconductor, which has its main operations in South Korea, by Chinese Wise Road Capital's was derailed after a protracted CFIUS investigation (see US Securities and Exchange Commission 2021). Additionally, in August 2023, President Biden signed an Executive Order imposing emergency measures to address US investments in semiconductor, quantum information, and AI sectors in foreign "countries of concern," including China (White House 2023). This has been followed up by notices of proposed rules by the US Treasury Department in August 2023 and June 2024, laying down notification requirements and prohibitions for US persons relating to transactions involving these technologies (US Department of the Treasury 2024).

4.2.2. Supporting and protecting domestic industry

In addition to imposing export controls and investment restrictions, the US has implemented various measures to support and protect its domestic semiconductor industry. The most significant of these measures is the CHIPS and Science Act of 2022. The Act authorizes funding of approximately $280 billion in funding to boost competitiveness and allocates $52,7 billion specifically towards a range of subsidies, tax credits, and R&D incentives. Its aim is to restore US leadership in semiconductor production after decades of offshoring and advance the nation's technological capabilities through public and private research funding (see Luo and Assche 2023).

Of the $52,7 billion allocated, $39 billion is set aside for the CHIPS for America Fund, a financial assistance program mirroring China's Big Fund. This fund "is administered by the US Department of Commerce to build new and expand existing semiconductor facilities" (Kurilla 2024).

Overall, the CHIPS and Science Act represents a significant surge in government support compared to previous levels of government support, with over $29 billion in grant awards and up to $25.1 billion in loans announced as of June 12, 2024. Beneficiaries include US firms like Intel as well as foreign firms with a semiconductor manufacturing presence in the US, such as South Korea's Samsung and the UK's BAE Systems (SIA 2024). While the CHIPS and Science Act, unlike the US's export controls against China, is primarily intended to boost US industry in response to MiC2025, it also contains a national security and geopolitical component. This concerns the inclusion of "guardrail" provisions, which limit the extent to which semiconductor companies receiving assistance under the CHIPS and Science Act can expand investments in "countries of concern", thereby creating another avenue to restrict US outbound investment in China's semiconductor industry (Shivakumar, Wessner, and Howell 2023).

Additionally, to protect domestic industries and address unfair trade practices, the US in 2017 conducted an investigation on the grounds of Section 301 of the Trade Act of 1974 into China's trade practices. This investigation provided the main legal basis for the trade war initiated under the Trump administration, and concluded that China's practices related to technology transfer, intellectual property, and innovation were unfair and harmful to US interests (US Trade Representative 2018). As a result, tariffs worth billions of dollars were imposed on Chinese goods, including a 25 percent tariff on semiconductor imports (see Brown 2020, 2). While these measures were met with some success—they led China to introduce prohibitions on forced technology transfers and relax certain foreign ownership restrictions—a recent statutory four-year review of Trump's trade tariffs found that Washington's concerns regarding technology transfer-related acts, policies, and practices had not been adequately addressed, including issues related to China's burgeoning Cybersecurity and Data Security Reviews regime (US Trade Representative 2024). Consequently, President Biden has announced an increase of tariffs on Chinese semiconductor imports from 25 to 50 percent by 2025 (White House 2024).

4.2.3. Strategic alliances and international cooperation

Lastly, the US has sought to counterbalance China's semiconductor ambitions by enlisting the support of its democratic allies who play significant roles in the industry, especially the Netherlands, Taiwan, Japan, and South Korea. By forging what has become colloquially known as the "Chip 4 Alliance," which includes the US and the three Northeast Asian countries, the US aims to coordinate with these key partners to strengthen semiconductor supply chains, share technological advancements, and collectively address challenges posed by China's semiconductor strategies (Jacobs 2022; *Reuters* 2023). Furthermore, with the EU, the US has established a Trade and

Technology Council, which includes administrative arrangements to build resilient semiconductor supply chains. These arrangements include a joint early warning mechanism aimed at identifying potential supply chain disruptions and a transparency mechanism for reciprocal sharing of information about public support provided to the semiconductor sector (EU Commission 2024).

A notable success of these efforts has been the January 2023 pact with Japan and the Netherlands to align export controls on semiconductor manufacturing equipment with the US (Allen and Benson 2023). However, the interests of the US and its partners do not always align. Two main challenges emerge. First, countries have their own ambitions; Japan, for instance, is actively pursuing efforts to restore the competitiveness of its semiconductor industry, even outspending the US and other Western nations on semiconductor subsidies when measured as a share of GDP (Ogawa 2024). The EU has its own Chips Act, which aims to strengthen its semiconductor capabilities independently.[3]

Second, countries like Japan, Taiwan, and South Korea walk a tight line between relying on the US for national security and on China as their biggest trading partner. This dynamic has prompted the US to adopt a carrot-and-stick approach. While seeking cooperation, the US has also unilaterally enforced its export controls against its semiconductor allies by asserting extraterritorial jurisdiction over semiconductor-related exports containing US technology, software, or equipment. For example, these controls have impacted the export of Dutch ASML's most advanced chipmaking machines to China (Kingma 2024). This ensures that even if allies hesitate, they are compelled to align with US restrictions due to the global reach of the US export control regime (Malkin and He 2024).

4.3. Summary conclusion: Do the US and China strategies align with neomercantilist theory?

As the above analysis shows, the US-China semiconductor rivalry exemplifies neomercantilist theory in action. Both nations are leveraging state power to secure economic and technological dominance in an industry which they see as crucial for national security and economic prosperity. China's focus on technological self-sufficiency, industrial upgrading, and strategic resource control reflects a neomercantilist approach aimed at reducing dependency on foreign technology and establishing a competitive domestic industry. The US, conversely, employs stringent export controls, investment restrictions, substantial financial support through the CHIPS and Science Act, and strategic alliances to maintain its technological edge and contain China's rise (table 2).

Country	Strategies	Policies	Neomercantilist traits
China	- Self-sufficiency - Leveraging rare earth market - Technological and industrial upgrading	- Made in China 2025 - Dual-circulation - National Industry Fund - Rare earth export controls	**Positive Trade Balance:** Emphasis on self-sufficiency and export controls to reduce dependency on imports and boost domestic capabilities. **Industrial Policy:** Made in China 2025 and National Industry Fund focusing on domestic industrial development and technological upgrading. **Strategic Resource Control:** Rare earth export controls to leverage critical resources. **Technological Nationalism:** Promoting indigenous technology and reducing reliance on foreign tech. **Selective Multilateralism:** Initiatives like the Belt and Road Initiative to secure strategic resources.
US	- Containing Chinese industry - Bolstering industrial leadership - Creating strategic alliances	- Entity list designations - Expanded export controls - CFIUS interventions - CHIPS Act - CHIPS 4 Alliance	**Positive Trade Balance:** Measures to limit Chinese access to US technology and protect domestic industries, including import tariffs. **Industrial Policy:** CHIPS Act to support domestic semiconductor manufacturing and R&D. **Strategic Resource Control:** Entity list designations and across-the-board export controls to control technology flows. **Technological Nationalism:** Efforts to maintain technological superiority and leadership. **Selective Multilateralism:** Creating alliances like CHIPS 4 to strengthen supply chain resilience and align with strategic partners.

Table 2 Neomercantilist dynamics in US-China chip war

First, the analysis confirms the findings of the security literature that the chip war is about the security implications of economic interdependence, with both nations feeling pressure to secure supply within their own borders (Kim and Rho 2024). However, it also bears all the hallmarks of a trade war—characterized by import tariffs, massive subsidies, and competitive industrial policies—where striving towards economic and industrial primacy is a goal in itself (Luce 2022). Importantly, the analysis finds that these security and economic drivers and strategies cannot be disentangled or seen as separate. Many of the strategies and policies of both countries are dual-purpose, serving both economic and security objectives, making it often

unclear whether the US and China's policies are strategic actions with economic implications or economic actions with strategic implications. In fact, neomercantilism suggests that such a strict distinction is artificial due to the mutual complementarity of economic and national security interests.

While the motives of the US and China are similar in their pursuit of technological and economic supremacy, important differences also exist. China's approach aligns with an historical emphasis on industrial and technological self-reliance, which has lost in prominence after Deng Xiaoping's opening up policy following the Maoist era but is increasingly undergoing a revival under Xi Jinping (cf. Wildau 2018). Conversely, the US strategy represents a significant shift from its traditional reliance on market-driven innovation over the past few decades. Furthermore, the US adopts a more offensive strategy enabled by its structural advantages, such as its near-monopoly in certain advanced technology sectors and its dominant position in global alliances, especially those with key roles in the semiconductor industry. China adopts a more defensive posture, seeking to shield its industry and overcome structural challenges posed by US hegemony. While China also seeks to leverage its allies through initiatives like the Belt and Road Initiative (BRI), most of these countries are not semiconductor industry juggernauts like the US's allies. Lastly, the approaches of the two countries are tailored to the specific conditions of the semiconductor industry; for example, China's reliance on state-owned enterprises contrasts with the US's public-private partnerships.

The question remains, however, how these neomercantilist strategies will shape the future dynamics of the global semiconductor industry and international relations. The next section will discuss the broader implications of these findings for global economic and geopolitical dynamics.

5. Discussion and Implications

The US-China chip war, analyzed through the lens of neomercantilist theory, reveals several key implications for global economic and geopolitical dynamics. A significant conclusion from the neomercantilist strategies of the US and China is that the resurgence of neomercantilist policies in the semiconductor sector signifies a profound shift away from the post-Cold War era's principles of free trade and globalization. While the US and China both continue to pay rhetorical lip-service to this "rules-based international order" and accuse each other of violating its principles, their neomercantilist actions tell a different story. As US Secretary of State Antony Blinken remarked, "[t]he post-Cold War world has come to an end, and there is an intense competition underway to shape what comes next. And at the heart of that competition is technology" (US Department of State 2022). This turn away from neoliberalism towards a dynamic of both political and economic realist thinking creates a feedback loop of escalating competition. As the US tightens its export controls and investment restrictions, China intensifies its efforts to achieve self-sufficiency and technological independence. This reinforces the zero-sum nature of the competition, the consequences of which reverberate through the global semiconductor industry, multilateral trade mechanisms, and the broader geopolitical landscape.

5.1. Impact on the global semiconductor industry

5.1.1. Short-term economic impact

While it is challenging to quantitatively assess the full impacts of these policies, researchers have found that the neomercantilist strategies of the US and China have already caused partial reconfiguration of the global semiconductor supply chain, with both economies importing less chips from each other (Miki and Tamanyu 2024; Ando, Hayakawa, and Kimura 2024; Yan 2023; cf. Wu and Tan 2024). Decoupling imposes direct costs on the semiconductor industries of China and the US, with macroeconomic modeling showing welfare losses for the US and even greater losses for China as a result of the chip war (Funke and Wende 2022). These studies align with the conventional view in economics that "trade wars have no winners." This view is based on the neoclassical critique of neomercantilist policy, which suggests that protectionism and state intervention distort markets, leading to suboptimal resource allocation and stifling innovation, which typically thrives in a competitive and open market environment (see Ruehl and White 2023). Furthermore, neomercantilist policies reduce the efficiency gains from globalized production networks, limit access to global markets, and negatively impact innovation by emphasizing self-sufficiency (cf. Spencer and Brander 2008). While both China and the US consider these policies to be in their self-interest, they may ultimately end up worse off, which makes the economics of the chip war resemble a "prisoner's dilemma."[4]

5.1.2. Long-term strategic goals

However, neomercantilism challenges such purely economic reasoning, emphasizing that trade in strategic sectors like semiconductors can hasten the technological self-

sufficiency of rivals and that the interdependence of economic supply chains poses national security risks. The neoclassical view also does not take into account that states often prioritize relative gains over absolute gains, preferring to maintain or achieve technological primacy even at the cost of overall economic efficiency (Snidal 1991; Mastanduno 1991). Therefore, it should also be investigated whether reaping the strategic benefits of the US's and China's strategies justify the economic costs. An initial assumption would be that this logic holds more strongly in more strategic and advanced sectors, particularly those with military applications, leading to more severe decoupling in these areas compared to others. It seems indeed that so far, US-China semiconductor decoupling is ending up as a partial one (Ando, Hayakawa, and Kimura 2024). In fact, multiple researchers hold the view that the far-reaching integration of the contemporary world economy and the resulting exorbitant costs of cutting ties make a total or "hard" decoupling in the semiconductor or other trade sectors impractical, if not impossible (see J. Feng 2022).

As to whether the US and China will succeed in achieving their long-term strategic goals, experts disagree on the effectiveness of the US's efforts to hamper China's semiconductor industry. On one hand, some argue that US restrictions, in concert with those from the Netherlands and Japan, on the world's most advanced semiconductor manufacturing equipment have dealt a significant blow to China's long-term prospects for development, as China lags far behind (by some estimates, decades) in advanced manufacturing technology (Schuman 2024). On the other hand, critics suggest that these restrictions might backfire and ultimately hurt the US industry more, and could lead China to ramp up its domestic production capabilities and innovate around these barriers (Varas and Varadarajan 2020; Schleich and Denamiel 2024). For example, China's SMIC has managed to develop a groundbreaking 7nm process despite US restrictions (Araya 2024). There is also evidence that China is finding ways around these restrictions. For instance, China's People's Liberation Army has made use of intermediate and shell companies to purchase advanced US-designed AI chips manufactured in Taiwan and South Korea (Kshetri 2023, 104).

There are also divergent views regarding the impacts and effectiveness of the industrial policies aimed at securing technological primacy. While some believe that initiatives like the US CHIPS Act will mitigate negative impacts of trade rivalry by providing substantial public funding, others doubt the effectiveness of injecting billions of dollars of public money into the industry, reflecting the fundamental disagreement between neoliberalists and neomercantilists concerning industrial policy (Lincicome 2022; Prestowitz 2022). While the CHIPS Act's manufacturing incentives have so far sparked substantial investments in the US totaling nearly $450 billion dollars in private investment encompassing 20 projects in 12 states (SIA 2024), it remains to be seen this will translate into a sustainable advantage in the long term.

Similarly, as mentioned earlier, there is ongoing debate regarding to what degree China is succeeding in its goal of self-sufficiency, as the country remains significantly reliant on foreign imports. On the other hand, it is also succeeding in aggressively expanding its market share in mature technologies (as opposed to advanced ones),

with 22 new manufacturing plants ("fabs") under construction as of January 2024 and an expected market share increase in this sector from 31 percent in 2023 to 39 percent by 2027 (Pan 2024). All of this merits the conclusion that the concrete outcomes of the strategies of both great powers warrant further investigation and remain a fruitful area for future research for strategic studies as well as micro- and macroeconomic analyses.

5.1.3. Challenges and opportunities for other countries

Furthermore, the US-China semiconductor rivalry presents both challenges and opportunities for other countries. Trade uncertainty and volatility related to geopolitical tensions, as well as reduced efficiency and higher costs related to supply chains, affect economies worldwide, especially those with advanced semiconductor capabilities such as the Netherlands, South Korea, Japan, and Taiwan (Chorzempa 2023; Tang 2022, 2). However, these countries may also benefit from increased demand for their semiconductor technologies as the US and China seek to diversify their supply chains. This "bystander effect" of bilateral trade wars can lead to trade diversion that favors other nations. Indeed, several studies support the view that the effect of trade diversion favors the rest of the world (Tang 2022; Funke and Wende 2022). For example, one analysis suggests that South Korea might replace the US in chip hegemony as a result of these geopolitical shifts (Varas and Varadarajan 2020). This effect is not limited to established players; the US has announced plans to partner with Latin American countries to further diversify its supply chains, highlighting the potential for other regions—especially emerging markets—to become significant players in the global semiconductor market (see e.g. US Department of State 2023).

5.2. Broader implications for global trade and geopolitical relations

5.2.1. A decline of trade multilateralism

The US-China chip war is likely to contribute to the ongoing unraveling of global trade governance and its main institution: the WTO. In recent years, it has become increasingly clear that the rules-based framework for the global economy has been intricately tied to the political stability of the international system, with rising geopolitical instability causing significant challenges for multilateral trade mechanisms (Bradford 2023, 214). US-China semiconductor rivalry is hardly the only factor contributing to this trend. Other significant events, such as the Ukraine war, the COVID-19 pandemic, and more fundamental disagreements among WTO members regarding the future direction of the organization (as reflected in the stalled Doha Development Round), along with the US-caused crisis in the WTO's dispute settlement system, have also played a substantial role (Baršauskaitė and Tipping 2022).

While it goes too far to claim that the chip war will be the final nail in the coffin for the WTO, it exacerbates the trade institution's woes in at least three ways. First, it highlights the limitations of existing multilateral frameworks to address the increasing intertwinement of economic and national security concerns. In the trade law literature, this phenomenon has been described as the "New National Security" challenge, which

has focused on trade-restrictive measures taken by countries such as Russia, Japan, the United Arab Emirates, and the United States justified on grounds of national security (Heath 2019). The strategies in the chip war firmly fit within this context. Second, the tremendous rise in state support for the semiconductor sector reveals the failure of existing market-oriented rules, such as the Agreement on Subsidies and Countervailing Measures (ASCM), to effectively regulate this new wave of protectionism. The issue is further complicated by the fact that WTO members routinely fail to report subsidies and other state support measures, contributing to a transparency crisis within the organization (Brown and Hillman 2019; OECD 2019). Third, the chip war exemplifies a shift towards plurilateral trade arrangements with sometimes clear strategic and ideological undertones (Grieger 2024). Strategic decoupling, driven by national security concerns, undermines the foundational principles of non-discrimination and reciprocity that underpin the WTO. The chip war is both a symptom and a driver of this trend, contributing to the fragmentation of global trade governance and the emergence of competing economic blocs.

5.2.2. Escalating great power rivalry

The US-China chip war is a microcosm of the broader strategic competition between these two superpowers, reflecting an escalating great power rivalry. While there is controversy about whether the US and China are caught in a "Thucydides Trap"—the idea that rising powers inevitably clash with established ones—the neomercantilist dynamics of the chip war show clear signs of an escalating great power rivalry (Bradford 2023, 216). As long as the US remains committed to a strategy that can be described as "kicking away the ladder," a term coined by Friedrich List to describe Great Britain's efforts to hinder other nations' economic development, and China remains equally determined to overcome these barriers and achieve technological self-sufficiency, there is little chance of abating tensions.

The economic and technological contestation even raises concerns about the potential for this rivalry to spill over into military conflict. For example, while uniting Taiwan with the mainland is a constitutional goal for China, its critical role in semiconductor manufacturing due to the presence of TSMC has raised the stakes of strategic maneuvering for both superpowers, enhancing the potential for conflict (Y. Lee, Shirouzu, and Lague 2021). The chip war thus exemplifies how the US-China rivalry will likely remain a defining feature of international relations, with implications for global trade, security, and the balance of power that extend far beyond the semiconductor industry.

5.2.3. Global geopolitical responses

Lastly, the US-China chip war has prompted strategic reactions from other countries that go beyond the immediate semiconductor industry. Nations are reassessing their strategic positions and alliances in light of the shifting dynamics in global technology and trade. As Bradford states, prolonged technological rivalry will contribute to "making the pursuit of technological self-sufficiency a key policy objective not just for

the US and China, but for other governments as well" (Bradford 2023, 211) As already discussed, the US and China are not the only countries with semiconductor ambitions, and other important players have started implementing their own technological sovereignty-centric policies, risking the entrenchment of state-driven protectionism as a global norm (Bradford 2023, 212).

In Europe, while many remain highly critical of US and China nationalist policies, the region has not been able to avoid being drawn into the escalating rivalry. This has led to research on how the EU can best recalibrate its relationships with both great powers, aiming for a strategy of "de-risking" from China that represents a departure from the EU's longstanding principles of open trade (Brinza et al. 2024). The EU Chips Act is part of this strategic response, although it is as much a reaction to the actions of the US as it is to those of China. Similarly, East and Southeast Asian countries are also reformulating their alliances and trade strategies to navigate this great power rivalry, responding differently depending on their economy-security tradeoffs. Some nations are aligning more closely with the US, others are tilting towards China, while many are balancing or hedging their positions to maintain advantageous relationships with both superpowers (Kuik 2024; Kim and Rho 2024).

6. Conclusion and Policy Relevance

This thesis has examined the question of whether the strategies and policies of the United States and China in the semiconductor industry align with neomercantilist theory, and what the implications are for global economic and geopolitical dynamics. The analysis demonstrates that the motivations and strategies of both the US and China are more in line with neomercantilist principles, akin to those espoused by thinkers like Friedrich List, rather than the Smithian free trade that has characterized the globalization age. This is the first irony of the chip war: while globalization has spurred semiconductor development, it has also broadened their applications and heightened their industrial and military relevance, leading states to view semiconductor technology through a neomercantilist lens.

The second irony is that, despite the crucial role of semiconductors in future digital technologies, states are resorting to policies reminiscent of the 19th-century era of protectionism and economic nationalism. Neomercantilist theory is valuable for highlighting the driving factors behind these strategies and predicting states' strategic actions. It reveals that these developments are not surprising but entirely predictable, given the strategic importance of semiconductor technology and the inherent link between economic and national security interests. Third, in combating what it sees as China's aggressive economic and technological nationalism, the US has adopted similar strategies, effectively "out-China-ing China" (Weiss and Wyne 2020).

To prevent an all-out costly undoing of the semiconductor industry's global integration, policymakers should promote collaborative international frameworks that address both trade and security concerns. The chip war demonstrates the high need for international frameworks that can better manage the intersection of trade, technology, and security to mitigate the risks of escalating great power rivalry and promote a more stable and cooperative global order. Existing frameworks such as the EU-US Trade and Technology Council should be pursued, but efforts should not remain limited to "like-minded" frameworks without reaching out to broader international cooperation.

Furthermore, countries should resist adopting a broad view of national security, as seen in the policies of the US and China, where nearly all trade potentially falls under its purview. While it is necessary to carefully assess vulnerabilities and dependencies, countries should promote a rules-based trading system for economic activities that have no direct link to national security. Similarly, in formulating their responses to the US CHIPS Act and China's Made in China 2025, countries should ensure non-discriminatory practices unless there is a clear national security justification. This approach is crucial to maintain the competitiveness and innovation of global semiconductor markets.

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Endnotes

[1] As Guerrieri and Padoan (1986) explain, the economic justifications for maintaining a positive trade balance are drawn from the literature on Keynesianism.

[2] See Supplement no. 4 to part 744 of the Export Administration Regulations (EAR), https://www.bis.gov/ear/title-15/subtitle-b/chapter-vii/subchapter-c/part-744/supplement-no-4-part-744-entity-list.

[3] Regulation (EU) 2023/1781 of the European Parliament and of the Council of 13 September 2023, *Official Journal* L 129, 18 September 2023, p. 1–54.

[4] Irwin (1992, 135) emphasizes that mercantilist states are trapped in a prisoner's dilemma.