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THE IMPACT OF U.S.-CHINA TRADE RELATION AND TARIFF POLICIES ON ACTUAL GLOBAL ECONOMY

A CASE STUDY OF THE SEMICONDUCTOR INDUSTRY

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INTRODUCTION

Context and Objectives

In the evolving landscape of global economic and geopolitical relations, the strategic rivalry between the United States and China has emerged as a defining feature of the twenty-first century. As the two largest economies in the world, their bilateral relationship extends far beyond trade balances and market access, encompassing broader questions of technological supremacy, national security, and ideological divergence. The initiation of the trade war in 2018 under the Trump administration, marked by the imposition of sweeping tariffs on Chinese goods, signaled a decisive rupture with decades of engagement-oriented policy and inaugurated a new era of strategic economic confrontation.

This thesis explores the multidimensional nature of the U.S.-China trade war, analyzing it through both theoretical and empirical lenses. It begins by revisiting the classical debate between free trade and protectionism, situating contemporary policy decisions within historical and ideological contexts. It then traces the evolution of U.S.-China trade relations, passing through the two distinct U.S. administrations and underlying the structural tensions embedded in their economic models and the far-reaching impacts of tariff measures on global supply chains, labor markets, and technological ecosystems. Particular attention is devoted to the semiconductor sector, which has become the central battleground in the broader contest for technological leadership and strategic autonomy.

Methodology and Scope

Through an integrated analysis of economic data, policy developments, and expert commentary, this work seeks to understand how trade policy has evolved into a tool of geopolitical leverage and industrial transformation. In doing so, it reflects on the broader implications for globalization, multilateral governance, and the future architecture of international trade. The goal is not only to assess the effectiveness of

protectionist strategies but also to consider the viability of emerging economic paradigms in an increasingly fragmented global order.

1. THEORETICAL FOUNDATIONS AND HISTORICAL DYNAMICS OF U.S.-CHINA TRADE RELATIONS

The trade relations between the United States and China are among the most significant economic events of the present era. Being the largest economies of the world, their relations define the patterns of trade, production and distribution of goods and services, and the economic models of countries. The Trump administration's decision to impose tariffs on Chinese products in 2018 marked a new dimension in trade relations between the two countries and sparked a trade war that has affected both nations and the rest of the world in a significant way. This part of the thesis discusses the theoretical foundations of free trade and protectionism with practical illustrations and the criticisms of both; followed by the historical background of U.S.-China trade relations and the effects of tariff policies on trade and supply chains. Based on the theoretical frameworks and empirical evidence, this study aims to contribute to the understanding of the U.S.-China trade policies and their effects.

1.1 Theoretical Foundations: Free Trade vs Protectionism

The struggle between free trade and protectionism is a critical issue in the modern international trade theory and practice as it determines important events and explains the concepts that define international economic relationships. This debate revolves around the differing views on how nations should position themselves in the world market.

1.1.1 Free Trade

According to classical economic theory, which is based on David Ricardo's theory of comparative advantage, countries achieve their maximum advantage by focusing on producing goods where they have a comparative advantage and trading with other countries. According to Overbeek (2001), in the absence of tariffs, quotas, or geopolitical issues, this model guarantees lower prices for consumers, increased innovation, and better relations between countries due to interdependence. Free trade promotes economic development through competition, investment, and political stability, as trade ties are believed to reduce the likelihood of conflict (Overbeek, 2001). The concept "Trade

liberalization" means the process of removing or lowering trade barriers including tariffs, quotas, and subsidies. It is one of the main tenets of economic globalization and is encouraged by organizations such as the World Trade Organization (WTO), International Monetary Fund (IMF) and World Bank (Proceedings 3rd ICEMCI, 2021).

However, this idealized framework is not always practical. For instance, the United States also practiced free trade policies, for instance, the North American Free Trade Agreement (NAFTA) between the U.S.A., Canada and Mexico. In summary, this free trade agreement sought to remove tariffs on most products such as automobiles and agricultural products traded between the three countries, resulting in some positive results such as the increased exports between 1994 and 2020. Nevertheless, numerous complaints were raised, primarily because while NAFTA increased trade between the United States, Canada and Mexico, there was also evidence of trade diversion in industries where tariffs on other countries were still in place (Stern, 2009).

According to the critics, the gains from free trade are not well balanced, with the gains going mainly to capital holders and the skilled labor force at the expense of the general labor force that is likely to be competed away (Autor, Dorn and Hanson, 2013). The decrease in manufacturing employment in developed countries such as the United States and the rise in income inequality have raised questions on the effectiveness of globalization. Nevertheless, it is worth noting that falling tariffs have increased world trade significantly. It is a fact that post-World War II reductions in tariffs and trade barriers through the GATT and latterly the WTO have enhanced trade expansion (Baier & Bergstrand, 2007). Another significant point worth noting is that free trade opens new economic possibilities that help people move out of poverty, especially in developing countries. Moreover, some protectionist policies limit market access for poor countries and therefore deny their workers a chance to raise their living standards (Griswold, 2001).

1.1.2 Protectionism

On the flip side, however, protectionism is considered here as a response to the problems with free trade, which its advocates claim as a means of defending domestic industries, employment, and strategic weaknesses (Overbeek, 2001). The principal reason why governments employ protectionist measures is to defend their home-based industries, particularly in the emerging or strategic sectors. In some way, the use of tariffs and duties provides a kind of protection to domestic firms from more effective and cheaper foreign rivals (Suhail Abboushi, 2010). This type of approach is especially effective when the market fails to guarantee equal competition (Venables & Smith, 1986). Another important point to make is that trade policy decisions are not only made on the basis of economic factors but also on political and strategic ones (Helpman, 1995). Protectionist policies have a positive effect on wages and employment in the manufacturing sector especially in the United States (Gaston & Trefler, 1994).

However, Paul Krugman (1997) warns that such measures can bring only short-term benefits and may even worsen the long-term competitiveness of the country. “Too much reliance on protectionism can make it difficult for countries to adjust to new economic trends in the world” (Krugman, 1997). Such measures have, indeed, some negative effects like high cost of consumer goods, countering measures from trade partners and low technological development which raise doubts about their sustainability (Abboushi, Proceedings 3rd ICEMCI 2021). For instance, in 1981, U.S. imposed Voluntary Export Restraints (VERs) on the importation of Japanese cars in order to shield the domestic auto industry from increasing competition and employment losses. At first, the policy was advantageous in the short run since the U.S. automobile industry recaptured market share, prices of Japanese cars increased, and Japanese companies started establishing plants in the United States, thus creating employment. However, the long-term adverse effects did not take a long time to be felt; consumers paid more money and had limited options, while the U.S. auto makers delayed innovation. Japanese brands learned how to adapt and succeed and even regained the leadership of the market through shifting production to the U.S.

The above examples clearly show that tariff policies may not necessarily bring better conditions. A notable point of view is that non-tariff barriers can affect trade flows and restrict market access in a way that is more sophisticated and less clear than the traditional tariff (Baldwin, 1989). Protectionism in whatever form can be very inefficient in promoting international trade and may lead to inefficiency in the economy and may also provoke counter measures from trading partners. Empirical studies show that there is a need for better tools in order to assess these barriers, as without them, decision makers will have difficulty in comprehending the implications of protectionist policies (Baldwin, 1989).

Opposition to the current global trade model asserts that liberalized trade and capital movements have led to greater economic disparity and political turbulence. Also, these policies affect the workers and regions that are already vulnerable (Rodrik, 2024). These criticisms point out the necessity of rethinking the trade policies to achieve a better balance between efficiency and equity and to ensure economic security. This anticipatory analysis provides a platform for further investigation of the contradictions of globalization. Further analysis will discuss how the U.S.-China trade war embodies the advantages and disadvantages of free trade and whether it is possible to find a compromise between the market's openness and the social measures to make the global economy more stable and equitable.

1.2 Historical Context U.S. vs China Trade War

At present, the U.S.-China trade relations, which were once considered as a model of globalization's promotion, are being debated because of the perceived injustices. The first issue to mention is the huge difference in the political systems of the two countries. The United States has a capitalist system of government where private businesses and competition are the main drivers of the economy with minimal interference from the government. This model promotes private business, private property, and de-regulation. China, however, is a state-led capitalist system that is referred to as "socialism with Chinese characteristics". Although it permits private enterprises and market

competition, the government has a great influence on the economy and controls the strategic sectors of the economy and gets the benefits of information sharing.

The course of the U.S.-China trade relations is closely associated with the post-World War II international economic system which was established by the General Agreement on Tariffs and Trade (GATT). Established in 1947, the General Agreement on Tariffs and Trade was established to remove the restrictive measures that had impeded the economic recovery of the inter-war period and to facilitate trade liberalization. Through several rounds of negotiations, the GATT succeeded in cutting down average global tariffs from more than 20% to less than 5% thus allowing the war-torn countries to purchase critical raw materials and capital goods necessary for reconstructing industries (Irwin, 2009). This included non-discrimination and tariff stability as well as other rules-based principles to enhance the predictability of international markets thus encouraging long-term investment and development of cross-border supply chains. This structure prepared the way for the establishment of the World Trade Organization in 1995 which enlarged GATT's coverage to include services, intellectual property, and dispute settlement. Global trade operations underwent fundamental changes when China became a WTO member in 2001. The country entered the rules-based system by using cheap labor together with state-led industrial policy to become the leading manufacturer of electronics, textiles and machinery products. The quick expansion to global prominence generated more trade disputes. China has faced criticism from the United States for its economic model which includes currency manipulation export subsidies and forced technology transfers that distort competition and maintains a persistent U.S. trade deficit (Abboushi, Proceedings 3rd ICEMCI 2021). This situation exposed fundamental differences between China's state-led economic model and Western market economy principles.

The trade tensions reached a boiling point when they escalated to become a total trade war during 2018. The Trump administration implemented $360 billion worth of Chinese import tariffs because the administration believed these measures protected American strategic industries and intellectual properties. The Chinese government imposed trade restrictions on U.S. farm and energy products which resulted in market instability and trade route adjustments across the world. Research indicates how the tariffs produced adverse effects on American market participants and buyers, who experienced higher

expenses and manufacturing sector employment reductions in Chinese-trade exposed sectors (Autor, Dorn and Hanson, 2013). The protectionist policies interfere with the typical efficiency improvements which result from trade liberalization (Baier & Bergstrand, 2007).

The history of international cooperation from the post-war era through to modern-day competition creates a foundation to understand U.S.-China trade war effects. The following sections will explore three major trade war consequences: globalization's impact on "winners versus losers", together with the challenges of maintaining rules-based trade during geopolitical conflicts and safeguarding national security interests against economic dependencies.

1.3 Impact of Tariffs on Trade Flows and Supply Chain

The introduction of tariffs by the United States has created significant alterations in global trade patterns and supply chain operations together with modifications to various economic sectors. The largest economy in the world functions as a trade policy benchmark which creates national and international business impacts throughout industries and consumer markets while shaping diplomatic relationships. The present-day adjustments in trade routes demonstrate how protectionist measures and retaliatory actions lie at the heart of the debate between interdependence and policy barriers in trade.

The electronics and machinery industries represent the core aspect of this new industry configuration. Manufacturers who depended on Chinese components endured rising expenses and disrupted supply chains due to U.S. tariffs reaching up to 25% on Chinese imports. The quick market adjustment caused import volume to dramatically decrease because businesses needed to shift rapidly (Bown, 2020). Businesses responded by establishing new production facilities in Vietnam, Mexico, and Taiwan to reduce the impact of tariffs on their operations (Baldwin & Freeman, 2021). The supply chain dynamics demonstrate how businesses must adapt their strategies because the trade environment continues to transform. Agricultural sector endured the worst impact from China's retaliatory trade measures that emerged during this time. The Chinese tariffs on U.S. agricultural products specifically targeting soybeans resulted in major economic

strain on American rural areas. The United States lost three quarters of its soybean exports to China following the implementation of tariffs in 2019 (FAS, 2020). American farmers faced major financial troubles because of this massive decline which required billions of dollars in federal aid for loss compensation (Handley & Limão, 2022). The economic data shows more than just monetary loss because of protecting domestic industries conflicts with maintaining economic stability on a larger scale.

These tariffs caused extensive changes throughout the trade environment that can be observed in multiple industries. The higher costs together with supply chain breakdowns forced businesses from both countries to discover new suppliers which resulted in trade diversion (Baier & Bergstrand, 2007). The semiconductor industry shows this effect because production delays in critical sectors such as automotive and consumer electronics resulted from tariff-driven shortages (Baldwin, 1989). Some manufacturing activities have moved from China to the United States as supply chains across Southeast Asia have undergone major transformations (Baier & Bergstrand, 2007).

The U.S.-China tariff policies have brought about complex economic and strategic changes. Although these policies are meant to support domestic industries, they have revealed the difficulties of managing an interconnected world economy. Protectionism and economic interdependence remain central in policymaking as they continue to shape it and policymakers have to develop strategies that balance competitiveness with the negative effects of protectionism.

1.4 Economic Costs and Unintended Consequences

Protectionism, in the form of the U.S.-China trade war, presented as a solution to the trade imbalance and industrial protection, has shown that it is not as straightforward as it seems. Although tariffs were created to defend sensitive sectors, the impacts of tariffs suggest that efforts to enhance economic security may actually harm the economies they are intended to protect.

The most direct effect has been an increase in pressure on inflation. With tariffs imposed on Chinese goods, including electronics and textiles, U.S. businesses that depend on global supply chains have seen their costs rise, and these costs are often passed on to consumers. Tariffs serve as regressive taxes that disproportionately affect low-income

families as they spend a higher proportion of their earnings on essential goods (Autor, Dorn and Hanson, 2013). The same applied to industries such as automotive and construction which experienced a dramatic rise in steel and aluminium prices that put pressure on profit margins and resulted in cost cutting including workforce layoffs. This job market effect also shows this tension. Although tariffs were expected to revive U.S. manufacturing, those sectors that depended on Chinese inputs were destabilized. Technology sector, for example, has experienced job losses as companies that face increasing import costs have either cut back on production or shifted it to other countries to avoid tariffs. These unintended labor market distortions show how difficult it is to separate the gains from protectionism from its negative effects.

Furthermore, the trade war heightened the systemic risks. The extended uncertainty discouraged long-term business investments, which resulted in slowdown in innovation and productivity growth. IMF and World Bank cautioned that such volatility could lead to a global recession and this would be worst felt in the trade dependent economies (Abboushi, Proceedings 3rd ICEMCI 2021). Noteworthy is that rigid adherence to open markets without safeguards only increases inequality and political instability as is evident in the U.S.-China conflict (Rodrik, 2024).

Thus, the question arises whether protectionism can reach its goals and not harm the overall well-being of the economy. Further analysis will look at whether other strategies like industrial or global policies can help minimize these costs and still address the issues of unfair trade.

1.5 China's Reaction and Counter Measures

China's response to the U.S. tariffs reveals the dual goals of retaliation and resilience that define modern trade relations. In response to protectionist measures, China adopted a multi-lateral approach: on one hand, China countered tariffs on U.S. goods and on the other hand it actively sought new trade relationships and strengthened domestic sectors. This approach is both a practical one and a long-term one to decrease dependence on volatile geopolitical relationships.

At the heart of this strategy has been the extension of trade relations with Asian and European countries, using programs like Belt and Road (BRI) to find new markets for

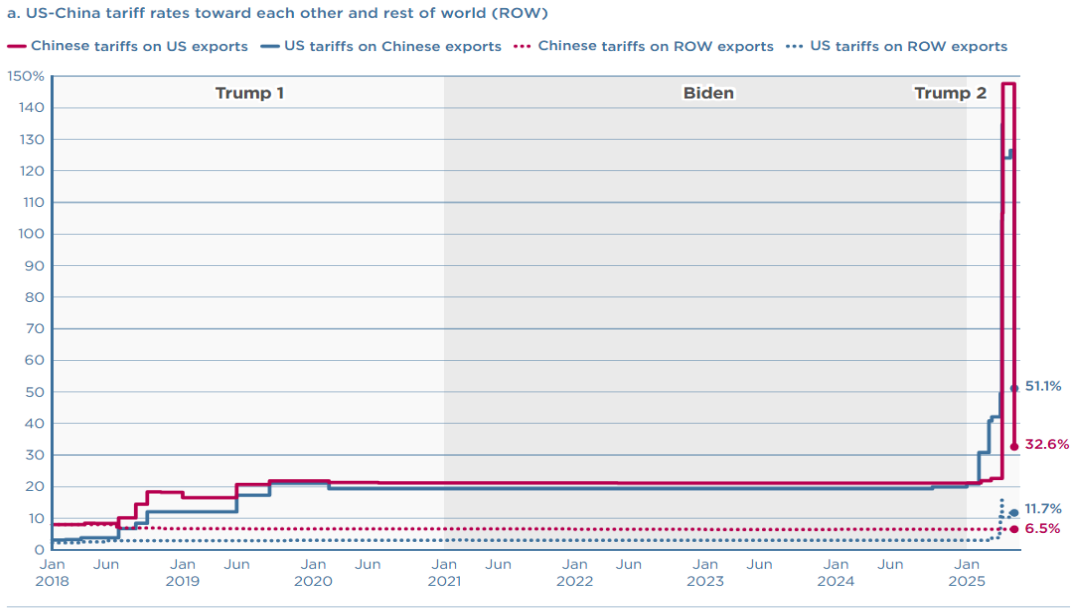
its exports. The BRI is a plan to connect China to the rest of the world through the construction of railways, ports, and highways. This initiative assists China in finding new markets for its exports especially in the developing countries that are not affected by the trade tensions with the U.S. (Abboushi, Proceedings 3rd ICEMCI 2021). At the same time, Beijing increased subsidies for strategic sectors like semiconductors and renewable energy with a view to making the country self-sufficient in the face of U.S. technological embargoes. These measures are in line with China's "dual circulation" policy that aims to develop a more robust and harmonious economy by promoting both domestic and international economic development, as well as coping with global uncertainties and minimizing dependence on foreign markets especially in high-tech industries.

The currency manipulation technique demonstrated China's planned approach to the situation. The yuan devaluation served as a policy tool for Chinese officials to counteract tariff effects through cheaper global export prices. The strategic move to improve competitiveness exposed the delicate position between short-term industrial advantages and long-term financial stability because it created inflation risks and capital drain (Abboushi, Proceedings 3rd ICEMCI 2021). The state-backed research and development investments under the "Made in China 2025" initiative worked to decrease dependence on U.S. technology by creating domestic giants such as Huawei and SMIC.

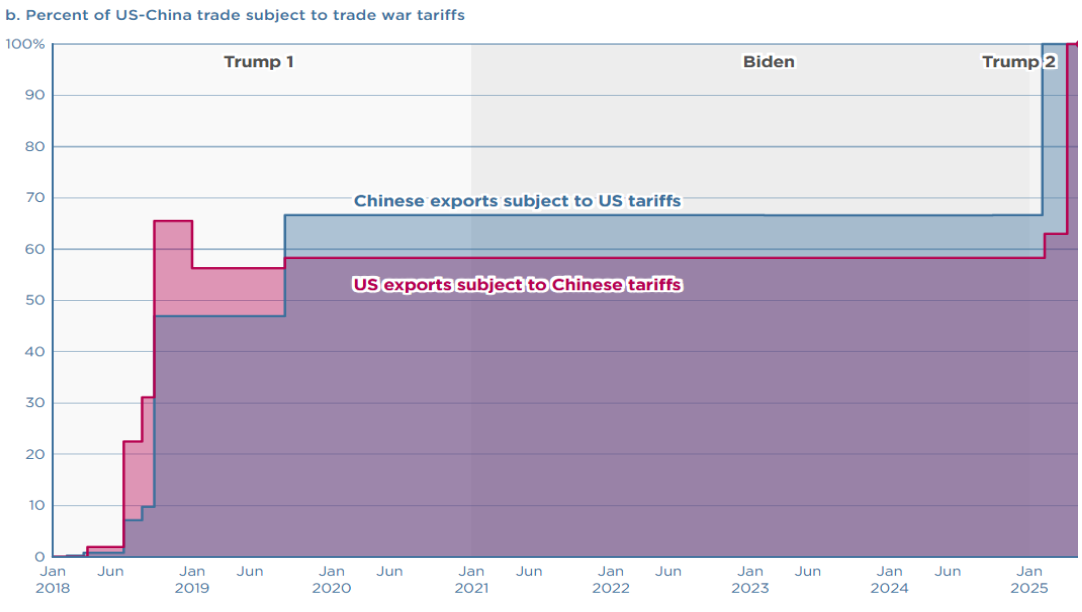
Despite Chinese efforts to address these issues, the trade war also created substantial problems. China experienced its worst economic growth rates in decades while foreign investment decreased because of rising risks and manufacturing industries suffered severe strain (Abboushi, Proceedings 3rd ICEMCI 2021). The extensive domestic market, combined with centralized economic management, allowed the nation to implement strategic stimulus programs and sectoral interventions that reduced economic losses. China adopted a dual strategy of industrial self-reliance and retaliatory tariff management to handle systemic tensions while defending its sovereignty against global fragmentation.

This framework provides a basis for assessing the ability of China's adaptive strategies to ensure its economic dominance in light of increasing divergences with the policies of the United States. The upcoming sections will regard the analysis of how state-led

industrial interventions work alongside geopolitical effects from decoupling and, providing deeper examines on the key aspects of the current paradigm, will assess the sustainability of China's dual circulation system in present-day re-globalization trends.



1. From Peterson Institute for International Economics. This chart illustrates the evolution of the tariff rates in the different administrations.



2. From Peterson Institute for International Economics. This chart illustrates the percentage of exports subject to the trade war.

2. THE BIDEN DOCTRINE: INDUSTRIAL POLICY, DE-RISKING AND THE NEW TRADE PARADIGM

2.1 THE FOUNDATION OF "BIDENOMICS"

When Joe Biden ran for presidency in 2020, he promised to fix what he saw as serious damage to America's foreign policy. He wanted to return to the traditional approach the United States followed after World War II, which was supporting allies, defending democracy, and leading through partnerships and international cooperation. Unlike Donald Trump, who often questioned America's alliances and pulled back from global commitments, Biden has tried to rebuild trust with other countries and show that the United States is a dependable partner again. "Bidenomics" is the name given to President Biden's economic approach, which is a mix of policies focused on strengthening the American middle class, enhancing national security through economic resilience, and accelerating the transition to a clean energy future. It's built on the following three main ideas.

1. U.S. foreign policy should benefit everyday Americans**.**
   A foundational pillar in Biden's economic doctrine is the idea that foreign and trade policy should prioritize the economic interests of American working and middle-class. This concept was influenced by a 2020 report from the Carnegie Endowment for International Peace, commissioned by Biden's transition team, titled "Making U.S. Foreign Policy Work Better for the Middle Class" (Carnegie Endowment for International Peace, 2020).
2. A strong economy is part of national security**.**
   "Bidenomics" places strategic emphasis on rebuilding key industrial sectors like semiconductors and green energy, to reduce reliance on global supply chains and to better compete with rivals like China. This is detailed in the "National Security Strategy", which explicitly links economic resilience with national defense (The White House, 2022).
3. Investing in clean energy and jobs**.**
   Biden supports large-scale investments in clean energy, infrastructure, and manufacturing through laws such as: The Inflation Reduction Act, which

provides over $369 billion in climate and energy investments (Congressional Research Service, 2022). The CHIPS and Science Act , aimed at revitalizing domestic semiconductor manufacturing. The Infrastructure Investment and Jobs Act, which allocates $1.2 trillion toward transportation, broadband, and energy infrastructure (The White House, 2021). These legislative efforts align with the goals of the Green New Deal, particularly in their focus on jobs, justice, and decarbonization.

This strategy marks a change from past decades, when the focus was mostly on free trade and letting markets decide. Biden's team believes that building a strong, secure economy at home is essential for the United States to be strong abroad. That's why they have passed laws to support American-made products, bring back manufacturing jobs, and invest in new technologies like electric vehicles and computer chips.

"Bidenomics" also aim to recalibrate America's international priorities. While Biden has reiterated commitments to climate diplomacy, his administration has emphasized strategic competition with China, especially in technology and manufacturing. Analysts have observed that global development and climate finance have sometimes taken a backseat to economic and strategic competition with Beijing (Alden, 2022).

2.2 From Confrontation to Strategic Competition, De-Risking Not Decoupling

Some top Biden administration officials suggested that cutting tariffs would help to lower inflation, which hit a 40-year high of over 8% in 2022; but most agreed the tariffs should stay. Indeed, these tariffs, first put in place under Trump administration, were seen as an important tool for the United States in talks with China, especially over problems like stealing intellectual property, forcing U.S. companies to hand over tech, and the big role of Chinese state-driven businesses in global trade. Officials warned that removing tariffs without getting something in return would hurt the U.S. push for deeper economic changes in China and efforts to fix trade imbalances and unfair industry practices.

When Joe Biden entered the White House in January 2021, he inherited a deeply strained relationship with China. The Trump administration had spent four years

launching a series of aggressive trade measures, including the trade war that imposed sweeping tariffs on Chinese goods. Under Biden, although the tone changed, the substance didn't. Early in his presidency, Biden signaled that China would remain America's most serious long-term challenger. In March 2021, Secretary of State Antony Blinken described China as the only country with the power and intent to reshape the global order in ways that undermine U.S. interests. He laid out the administration's intent to "compete" with China wherever necessary, "cooperate" where possible, and "confront" China when required (Blinken, 2021).

The three-lateral approach of competition, cooperation, and confrontation has become the foundation of President Biden's strategy towards China. Yet in practice, "competition" dominated. The administration focused heavily on preventing China from gaining control over critical supply chains and sensitive technologies. The concept of "de-risking", rather than decoupling, came to define this new era of economic strategy.

Unlike Trump's more unilateral "America First" approach, Biden positioned his policies within a global alliance framework. But he shared Trump's view that overreliance on China, especially in critical areas like semiconductors and clean energy, made the United States dangerously vulnerable. Then, instead of full decoupling, the Biden administration promoted "de-risking", a strategy meant to reduce economic dependence on China without cutting ties entirely. The goal was to move supply chains for crucial goods closer to United States, diversify sourcing and enhance domestic production in key industries.

2.3 Unresolved Grievances

At the start of the Biden administration, there were numerous unresolved disputes with China across multiple fronts, particularly in areas such as Intellectual Property Theft. Indeed, as anticipated, United States firms have long accused China of engaging in practices that compromise intellectual property rights. These include forced technology transfers, where foreign companies are required to share proprietary technologies as a condition for market access, and the supposed theft of proprietary information. Such practices have been a central concern in trade negotiations and have led to increased scrutiny and regulatory actions by U.S. authorities.

Another clue question is about State Subsidies and Market Distortion: China's government has been criticized for providing substantial subsidies to key industries, notably steel and solar panel manufacturing. These subsidies have enabled Chinese companies to produce goods at lower costs, leading to an oversupply in global markets and undercutting competitors. The World Trade Organization has highlighted concerns over the lack of transparency in China's subsidy programs, noting that such practices "distort global markets and promote overcapacity" (World Bank, 2023; European Commission, 2023). In the solar industry, China's dominance is particularly pronounced: the country controls approximately 80% of the global solar panel manufacturing capacity, a position achieved through significant state support and investment. This dominance has raised alarms in the United States and Europe, prompting investigations into potentially distortive subsidies and leading to increased tariffs on Chinese solar products (World Bank, 2023).

The third area of concern is Critical Supply Chains: The U.S. reliance on China for critical materials, especially rare earth elements, has been a growing concern. These minerals are essential for various high-tech applications, including electronics, electric vehicles, and defense systems. In this context, China controls about 70% of rare earth production and over 90% of processing capacity, making it a dominant player in this sector. In response to escalating trade tensions, China has imposed restrictions on the export of certain rare earth elements, exacerbating supply chain vulnerabilities for the U.S. (U.S. Courts, 2023). This has prompted the United States to seek alternative sources and invest in domestic production capabilities, though establishing a robust supply chain independent of China remains a long-term challenge. Biden's approach to these disputes was evident in several major legislative initiatives.

2.4 Tariff Policies and Their Impact

President Joe Biden kept most of the tariffs that former President Donald Trump had placed on Chinese goods under Section 301 of the Trade Act of 1974. These tariffs were originally meant to address China's unfair trade practices, like forcing U.S. companies to share technology and stealing intellectual property. Instead of rolling them back, Biden used these tariffs as part of a broader strategy to protect U.S. national security,

strengthen supply chains, and support American technology and manufacturing. Indeed, Biden didn't just keep Trump's tariffs, he implemented them. In 2022, his administration launched a formal review of the Section 301 tariffs through the Office of the United States Trade Representative, a process required every four years. Before the review even finished, the USTR said in September 2022 that the tariffs would stay in place, largely because many American businesses and industries wanted them to continue.

While the core tariffs stayed, Biden did allow some temporary breaks. In March 2022, 352 specific products were granted exclusions from tariffs. These included: consumer electronics like cell phones and laptops; machinery parts and certain industrial chemicals; medical equipment used during the COVID-19 pandemic. The exemptions, which were specific and subject to a limited duration, were designed to avoid hurting U.S. consumers and manufacturers too much while still keeping up economic pressure on China.

In early 2024, after completing its full review, the USTR and the Biden administration raised tariffs in key areas. The new tariff increases focus on multiple sectors.

A. Electric vehicles made in China, going from 25% to 100%.
   The goal is to protect American car companies from being undercut by cheaper Chinese models. Indeed, Chinese EVs are often heavily subsidized by their government, making them much cheaper than U.S. versions. For example, the BYD Seagull sells for about $10,000, while a Tesla Model 3 starts at around $30,000. There are two main reasons for the tariff hike. First, to protect American jobs, especially in states like Michigan and Ohio where many people work in car manufacturing. Second, to stop China from flooding the U.S. market with cheap EVs. The International Monetary Fund says China is making three times more EVs than it needs for its own market and that extra supply could overwhelm American companies and put them out of business. The new tariff applies to all Chinese-made EVs, even if they are assembled in countries like Mexico to get around trade rules. This is part of President Biden's "Invest in America" plan, which includes tax credits through the Inflation Reduction Act to boost EV production in the United States. So far, the tariff is having a big

impact. In 2024, Chinese EV imports to the U.S. dropped to almost zero, according to government data. In response, companies like Ford and General Motors have sped up their investment in U.S. battery plants, creating about 15,000 new jobs (Office of the United States Trade Representative, 2024).

B. Chinese-made solar cells, placing a tariff of 50% in an effort to bring back domestic solar manufacturing**.**

   Indeed, China makes about 80% of the world's solar panels, often selling them for 30-50% less than American-made versions thanks to government subsidies. These cheaper imports have made it hard for U.S. manufacturers to compete. The tariff is designed to do two things: support the growth of American solar companies and reduce the country's dependence on Chinese products as it moves toward more clean energy under the Inflation Reduction Act . The tariff applies not only to solar panels made in China, but also to those that are shipped through Southeast Asian countries to avoid trade rules. It's paired with about $30 billion in tax credits from the IRA to support U.S.-based solar producers, including major companies like First Solar. So far, the results are mixed: U.S. solar panel production went up by 40% in 2024, according to government data. But the cost of installing solar systems also rose by 15% (International Energy Agency, 2024), which has slowed the growth of rooftop solar for homes and small businesses (Office of the United States Trade Representative, 2024).

C. Advanced semiconductors, imposing a 25% tariff**.**

   Considering that these chips power AI, military systems, and key infrastructure, the aim of Biden's policies in this sector is to limit China's access to cutting-edge technology and protect national security. This move builds on earlier export restrictions and is part of a broader plan to boost U.S. chip production through the CHIPS Act. The effects and trade-offs of this strategy will be discussed in the next chapters in detail.

2.5 Industrial Policies and Their Relevance

The COVID-19 pandemic has shown major weaknesses in the global supply chains that the U.S. economy relies on. Shortages of essential goods, from face masks to semiconductors, highlighted how dependent the United States had become on foreign

manufacturing, especially from China. At the same time, the growing geopolitical tensions made it clear that economic security is closely tied to national security. In response, the Biden administration made strengthening supply chains a top priority and tied it directly to a broader industrial policy (U.S. Courts, 2023; White House Fact Sheet, 2022).

One of the administration's first major steps was Executive Order 14017, signed in February 2021, titled "America's Supply Chains". This order launched a 100-day review of vulnerabilities in four key areas critical to the U.S. economy and security, including semiconductors, large-capacity batteries, critical minerals and pharmaceutical ingredients.

These reviews helped the government figure out where supply chains were too weak or too dependent on just one country. After the first 100-day review, the Biden administration took a closer look at six more key areas over the next year: energy, transportation, public health, IT, defense, and food. The goal was to see where the United States needs to build more of its own capacity. Together, these efforts highlighted a major shift toward a more active and interventionist industrial policy, aligning with the Biden administration which made it clear that the government would play a central role in rebuilding key parts of the U.S. manufacturing base.

Indeed, one of the first policies enacted by Biden was the Infrastructure Investment and Jobs Act, in November 2021, which authorized $1.2 trillion in spending. Of that, $550 billion is new federal investment spread over five years. This law focuses on improving U.S. infrastructure, like roads, bridges, internet access and the power grid, helping the United States becoming more self-sufficient in technology and energy systems. Key funding in the IIJA includes $65 billion to expand broadband access in rural and underserved areas, $73 billion to modernize the electric grid, $7.5 billion for building electric vehicle charging stations, and $110 billion to upgrade roads, bridges, and freight systems.

Later, in August 2022, the United States passed the Inflation Reduction Act , marking the largest investment in climate and clean energy in the country's history, with over $369 billion. The main goal of the IRA is to build up clean energy production within the United States, reduce reliance on Chinese-made green technology and boost American

manufacturing. Some of the law's major features include a $7,500 tax credit for electric vehicles, but only if key materials are sourced from the United States or its allies. It also provides tax breaks for companies that produce batteries and solar components, and sets aside $60 billion to support clean energy manufacturing, including the production of wind turbines and solar panels (U.S. Courts, 2023; Joint Committee on Taxation, 2022).

The administration also issued Executive Orders 14017 and 14005, which took effect in October 2022, aiming to strengthen federal supply chains and tighten "Buy American" rules. Under the Buy American Act, a product qualifies as American-made if at least half of its production costs come from the U.S. President Biden updated this rule to gradually raise the required domestic content to 75%. For some items like iron and steel, the standards are even higher, often requiring full U.S.-based manufacturing. When it comes to construction projects, if a supplier includes foreign-made materials in their bid, those materials are assumed to be 20-30% more expensive than they really are. This rule gives American companies a better chance of winning government contracts (Executive Order No. 14017, 2021).

Another major shift came in 2023, when President Biden signed Executive Order 14105. For the first time, the United States put rules in place to control whether Americans can invest their money overseas. These rules stop U.S. investors from putting money into certain high-tech industries in China, like artificial intelligence, advanced computer chips, and quantum computing. The goal is to keep American money and know-how from favoring China build up technologies that could be used for military purposes or surveillance (Executive Order No. 14105, 2023). This move mirrored earlier efforts to screen inbound investments via CFIUS, but now added a new layer of protection, controlling the flow of capital leaving the U.S.

The U.S. government also made its sanctions tougher on Chinese companies linked to spying, human rights violations and military operations. This time, the Treasury Department, rather than the Pentagon, was put in charge of enforcing the rules, to make sure companies and investors were held more accountable.

2.6 China's Retaliation

Richard Baldwin coined the term "slowbalisation" to describe the recent deceleration of global trade. He believes Biden's policies, especially those aimed at separating U.S. technology and supply chains from China, are "speeding up this slowdown". Instead of building more resilient global networks, these actions could backfire, weakening productivity and growth worldwide. Baldwin also criticizes the use of trade policy as a geopolitical weapon, warning it undermines the very idea of global cooperation (Baldwin, 2019).

Indeed, in response to U.S. tech sanctions and tariffs, China retaliated, taking two major steps: tightening control over rare earth exports and raising tariffs on key U.S. agricultural products. In July 2023, China began requiring export permits for two critical minerals: gallium and germanium, which are essential for making semiconductors, fiber optics, and advanced defense systems. In 2023 China controlled around 80% of the world's gallium supply and 60% of germanium, giving it significant leverage.

The move was seen as retaliation against U.S. restrictions on Chinese tech. The consequences didn't take long to come. It directly impacted American defense companies like Lockheed Martin and semiconductor firms that rely on these materials (U.S. Courts, 2023). By slowing shipments and requiring extra paperwork, the new controls caused delays and price increases (Ministry of Commerce of the People's Republic of China, 2023). Gallium prices jumped 50% in the third quarter of 2023 and the impact was immediate and costly. For example, the cost of producing an F-35 fighter jet rose by $2 million due to gallium shortages. In response, countries like Japan and members of the E.U. began forming mining partnerships with Canada and Australia to secure more stable supply chains.

China also kept and expanded tariffs on U.S. farm products like soybeans, pork, and key exports from politically important States such as Iowa, Illinois, and Minnesota. These tariffs range from 25% to 35%, with pork being hit the hardest at 35%. China's goals were to hurt rural U.S. economies and put pressure on American policymakers, while also reducing its dependence on U.S. food by turning to countries like Brazil and Argentina. By 2024, Brazil supplied about 75% of China's soybean imports (U.S.

Courts, 2023). The impact on U.S. agriculture was severe: American soybean exports to China dropped from $12.2 billion in 2017 to just $3.1 billion in 2023 (U.S. Courts, 2023). As a result, farm bankruptcies in the Midwest rose by 20% that year, according to the American Farm Bureau.

The Chinese government has also doubled down on its industrial strategy known as "Made in China 2025", a plan aimed at making China a global leader in high-tech industries like semiconductors, artificial intelligence, and electric vehicles. After the United States placed restrictions on selling advanced chips and manufacturing tools to Chinese companies, China responded by investing heavily in its own chipmakers and finding local alternatives to foreign technology, encouraging the development of homegrown alternatives to foreign suppliers.

This includes giving billions of dollars in government funding to Chinese tech firms, offering tax breaks, and supporting new research and development. For example, companies like SMIC have received major support to reduce China's dependence on American-made technology.

At the same time, global businesses are stuck in the middle of this growing fight between the United States and China. As both countries increase tariffs and put more rules on high-tech trade, companies now face more uncertainty about whether they can manufacture, sell, or buy the parts they need. Some firms are even rethinking their supply chains to avoid getting caught in the middle of these political tensions.

2.7 Parallel Economies: The U.S.-China Divide in Trade and Tech

As tensions between the United States and China have grown, businesses around the world are rethinking how and where they operate. Many major companies are shifting parts of their supply chains out of China, a strategy known as "China+1". Instead of pulling out completely, they're spreading production to other countries like India, Vietnam, and Mexico to reduce their risk. For example, Apple has started making more iPhones in India and plans to move up to 25% of its production there. Moreover, Tesla is securing lithium deals in places like Australia and Chile to avoid depending on Chinese battery materials. This shift isn't just about government policy; it is also being driven by business decisions. Many companies now see heavy reliance on China as too risky due

to rising trade tensions, export controls, and sanctions. Even without direct pressure from governments, businesses are acting on their own to protect themselves from sudden disruptions.

At the same time, the tech world is splitting into two separate ecosystems. The term "tech bifurcation" refers to the splitting of the global technology ecosystem into two largely separate and incompatible spheres, usually along geopolitical or ideological lines. This is creating a digital divide, where U.S. and Chinese technologies are no longer compatible or connected in the same way. This kind of "back and forth", where each side answers the other's move with its own new rule or investment without make a step back, has created an ongoing cycle of retaliation. Moreover, currency is another front in this growing rivalry. At the beginning of 2024, China's yuan constituted 6% of global foreign exchange reserves, up from just 2% in 2020. While the U.S. dollar still dominated, the yuan's rise showed that China is trying to increase its influence in global finance.

These changes point toward a broader trend: the global economy is slowly dividing into two blocks. China is working to create its own system, replacing American software with Huawei's HarmonyOS, promoting yuan-based oil trades, and expanding its Belt and Road Initiative to build influence across Asia, Africa, and Europe (World Bank, 2023). Meanwhile, the United States begin to build an economic alliance with democracies and strategic partners like Japan, South Korea, the E.U., and India, who share concerns about Chinese state capitalism.

The World Bank warned that such economic fragmentation, especially between the U.S. and China, could cost the global economy 1.5% of GDP by 2030. Yet Washington seemed willing to accept those costs, viewing the alternative as more dangerous (World Bank, 2023). Moreover, it is relevant experts' opinion at Goldman Sachs, which argued that Biden's policies slowed China's GDP growth by 2.4% but also cost the U.S. 0.8% in GDP due to supply chain disruptions.

In the end, the United States increased its influence in essential areas but faced challenges in completely separating from China's supply chains. As a result, both economies remain connected yet engage in competitive interactions. During the last year of Biden's presidency, many economists and experts started to realize that the

world is entering a long-term period where technology and economics are closely tied to national security, and where cooperation between the United States and China is being replaced by growing competition. President Biden's approach shows a belief that, with smart investments, strong alliances and key protections, the United States can still come out ahead. Anyway, economists like the President of Peterson Institute for International Economics, Adam Posen, pointed out the "high cost of economic warfare" without clear wins: Posen advocated for a policy shift towards transparency in defining national security interests, eliminating unnecessary tariffs, and encouraging collaboration and skill exchange between the United States and China.

The growing rivalry between China's state-led capitalism and the U.S.'s market-driven system is changing global trade, technology and politics, regarding more than just an economic competition; it is a battle over which model will shape the future. These escalating tensions, considering the magnitude of influence of these two countries, are shifting global dynamics in huge ways. Even after the policies adopted by Biden, which aimed to recalibrate the situation, the full impact is still unfolding. Despite that, he laid the groundwork for an unprecedented escalation during the current Trump administration.

3. From Peterson Institute for International Economics, Deutsche Bank. This chart illustrates the value of U.S. goods imports from China and the rest of the world from August 2016 to August 2022 during the Biden administration.

3. SEMICONDUCTORS AND THE GEOPOLITICS OF TECHNOLOGICAL SOVEREIGNTY

3.1 The Field of Semiconductors

The semiconductor exists at the heart of the digital revolution as it operates unnoticed throughout every aspect of modern life. The technology functions as an essential component which controls electrical current precision in all electronic devices from computers to smartphones as well as satellites and cars. Semiconductors have evolved beyond simple components to become fundamental technological foundations which support both national security and economic growth and innovative development according to the Semiconductor Industry Association (SIA) in 2024.

The term “semiconductor” describes materials like silicon which exhibit electrical properties between conductors and insulators thus being used to make transistors and integrated circuits for precise electrical control although industrial terminology refers to such components as chips which perform specific tasks through detailed programming instructions (World Semiconductor Council, 2023).

The different categories of chips demonstrate unique characteristics because each category has particular operational roles and defined usage areas. The computational core of any device consists of logic chips including the CPU and GPU because they process complex information. The American microelectronics leader Intel and GPU market leader NVIDIA develop advanced chips which serve both data center operations and autonomous vehicle applications. Apple has initiated internal processor development through the M-one and M-two series which serve MacBooks and iPads according to Intel Corporation and NVIDIA and Bloomberg Technology (2024).

Memory chips represent an essential category since they provide temporary storage through RAM and permanent storage through flash memory. The type of chip functions as an essential component for every computer system including cloud servers and regular devices such as smartphones. The memory chip market is controlled by South Korean leader Samsung Electronics while SK Hyninx and Micron Technology from the United States supply essential components to both Dell and HP as well as Tesla (TrendForce, 2024).

Integrated circuits for power control serve as essential components which enable devices to manage electrical energy and thus enhance the energy efficiency of electric cars and industrial infrastructures and photovoltaic systems. Infineon Technologies from Germany and ROHM Semiconductor from Japan lead this sector by supplying their products to major brands including Volkswagen, BYD, and General Electric (Infineon Technologies, 2024).

The strategic importance of semiconductors extends beyond everyday electronic devices to serve as a vital resource for leading industrial and military operations. Modern cars require approximately three thousand essential chips for engine operation, braking system, sensors and driver assistance functions according to McKinsey & Company (2021). Bosch along with Continental and Tesla depend on a worldwide value chain that spans from design to nanoscale manufacturing (McKinsey & Company, 2022). The telecommunications companies Ericsson and Huawei and Qualcomm use high-frequency chips to establish 5G infrastructure which supports both simultaneous connections and fast connection speeds according to GSMA (2022). The GPUs developed by NVIDIA have become the primary drivers of both large language models and visual recognition systems (NSCAI, 2021). Semiconductors serve as the foundation for defense technology while drones with innovative features alongside multi-frequency radar systems and quantum cryptography platforms and smart missiles demand specialized components that DARPA (Defense Advanced Research Projects Agency) in the United States typically creates (DARPA, 2023).

Modern geopolitics recognize semiconductors as a fundamental technology issue due to their central importance in technology today. The United States and China engage in an escalating struggle for global supply chain control of vital technological assets. This industry sector now functions beyond scientific innovation and productivity to determine both national security strength and global strategic power (RAND Corporation, 2023).

3.2 The Globalization of Production Processes

Modern economic production supply chains featuring semiconductors have become one of the most complex worldwide networks. A microchip travels through various manufacturing steps which cross national borders until it reaches its final application

within a product (OECD, 2023). A chip designed in the United States would travel to Taiwan for manufacturing before moving to Malaysia for testing and then China for assembly until it reached European or North American markets (SIA, 2021). The interconnected system achieved both technological progress and cost reduction but exposed fundamental system vulnerabilities through production chain interruptions that blocked entire industrial sectors as shown during the 2020-2022 chip crisis (McKinsey & Company, 2021). The situation becomes more complicated because the process requires exceptional specialization across all stages starting from nanometric design through extreme lithography to materials purification and supply chain management (OECD, 2023).

The essential first step of chip development occurs through design in the United States where Apple and NVIDIA together with the UK-based Arm utilize EDA (Electronic Design Automation) sophisticated software (NSCAI, 2021). The manufacturing process depends on scientific expertise combined with computer hardware expertise. The design world operates primarily through Synopsys, Cadence Design Systems and Mentor Graphics which Siemens acquired. The Western companies maintain control over EDA software which creates substantial barriers for China and other countries to build advanced semiconductors (Gartner, 2023). The initial phase shapes all performance characteristics along with power consumption and application compatibility reaching from artificial intelligence to fifth-generation wireless networks.

The production of semiconductors through foundry manufacturing remains under the control of a few large companies that operate in specific geographical locations. TSMC (Taiwan Semiconductor Manufacturing Company) operates as the worldwide leader by producing 60% of all contract chip production (SIA, 2023). Samsung ranks as the second largest manufacturer followed by GlobalFoundries and UMC and SMIC which is a Chinese company. The Taiwan Semiconductor Manufacturing Company (TSMC) produces chips with 5, 3 and 2 nanometer dimensions at a scale that surpasses all other foundries (Taiwan Ministry of Economic Affairs, 2024). Building these facilities demands investments exceeding $15 billion and demands sterile facilities and precise machinery along with skilled professionals. The strategic value of Taiwan exists because of its technological leadership in advanced nodes but the nation also presents a

security risk to the worldwide system because of its location near the geopolitical tensions in the Strait (RAND Corporation, 2023).

Machinery and equipment represent the critical reference points in the supply chain. Production functions as the core element of industrial operations but machinery serves as the necessary component for achieving maximum system efficiency. Production of every component demands specialized advanced equipment that mainly comes from limited industry suppliers. ASML in the Netherlands operates as the worldwide leader for producing extreme ultraviolet (EUV) lithography machinery which enables the fabrication of innovative chips. A single EUV instrument exceeds $150 million in price and consists of over 100,000 individual components. The EUV instrument production field includes three major companies: ASML in the Netherlands and the U.S.-based Applied Materials and Lam Research alongside Japanese firm Tokyo Electron (ASML, 2023). The United States along with European and Japanese allies maintain control of essential technological nodes that they use as geopolitical instruments against China (RAND Corporation, 2023).

The industrial production requires finished product testing alongside assembly testing for quality and reliability verification. The production chain culminates through two stages which combine final product testing with precise assembly operations and packaging procedures. These assembly and testing procedures need great precision to maintain high quality outcomes even though they lack the complexity of product design and manufacturing. Most of these procedures take place in Southeast Asian regions such as Malaysia, Vietnam, the Philippines and China, which are attracted by low labor costs and incentives in the industrial sector. This sector is led by ASE Group (Taiwan), Amkor Technology (U.S.A./Philippines) and JCET Group (China) (IC Insights, 2023). The evolution of chips now requires some assembly steps to be relocated to technologically advanced nations including South Korea and the United States although this could create problems with concentration which would delay the manufacturing of millions of subsequent devices (OECD, 2023).

3.3 United States: Guidance in Technology and Dependences

Since the 1950s the United States has remained the forefront of semiconductor industry innovation. The Silicon Valley witnessed the emergence of Fairchild Semiconductor and

Intel as major companies that launched modern microprocessor development during the mid-twentieth century (Computer History Museum, 2020). The United States maintains control of more than 40% of semiconductor market revenue worldwide (SIA 2024). The U.S. benefits from its valuable position through superior design capabilities together with EDA software, intellectual property and technological advancement. The United States maintains its leadership in research and development because Stanford and MIT produce new talents and patents constantly from their academic institutions (NSCAI, 2021).

Major U.S. companies include Intel, NVIDIA and Qualcomm. The companies which drive technological progress through their fundamental role in developing global technology continue to exert substantial influence on its development. Intel started operations in 1968 to become the dominant producer of custom computer chips during many years. Despite facing production transition challenges the company maintains its position as a leading designer and research developer in advanced competition against TSMC and Samsung (SIA, 2024). The company transitioned from videogame graphics specialization to artificial intelligence leadership through its high-performance GPUs which serve as fundamental tools for training complex language models (NSCAI, 2021). Qualcomm operates as a major player by concentrating on telecommunications chip development (especially for 5Gen) while maintaining an innovation-driven technology licensing business model. The semiconductor industry includes major players such as Broadcom (which produces RF semiconductors and connectivity devices) and Texas Instruments (which specializes in analog and power) and Micron (which leads in DRAM and NAND memory) (SIA, 2024).

The United States maintained dominance in design and technology but steadily lost its manufacturing capabilities throughout time. The U.S. accounted for only 10-12% of global semiconductor production in 2023 whereas it represented 37% in 1990 (SIA 2023). American companies have been using external foundries to produce high-performance logic chips for Apple, AMD and NVIDIA designs which mostly originate from Taiwan thus exposing the country to strategic risk in case of a conflict or Strait blockade (RAND Corporation, 2023). The relationship between U.S. innovation leadership and physical resource control has created a fascinating paradox.

3.3.1 The CHIPS and Science Act

When Biden became President in July 2022 the U.S Congress passed the CHIPS and Science Act to handle these problems. The United States used 280 billion dollars in legislative funds to support 52 billion dollars directly to the semiconductor sector for domestic production enhancement and reduced vulnerability in U.S semiconductor manufacturing while pushing the creation of American-based fabrication facilities as the central goal. The federal government allocated $39 billion from its $52 billion funding toward building and enhancing semiconductor production facilities. The majority of these funds totaled $28 billion which focused on producing state-of-the-art high-tech chips. The remaining $10 billion of funding will support the development of older chip production which remains crucial for industrial and defense applications. The additional $11 billion will fund research activities and develop new technologies and enhance science and engineering education (Congressional Research Service, 2022).

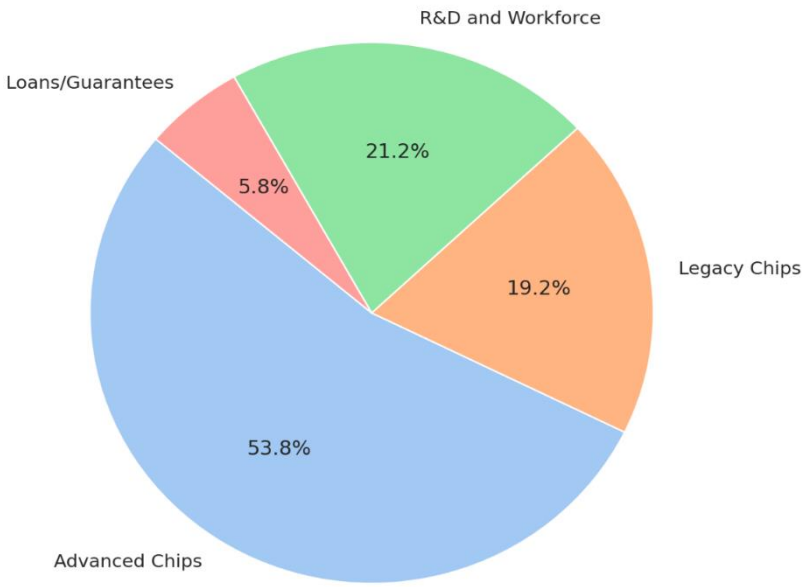
The law contains dual objectives since it aims to increase American chip production while simultaneously decreasing the country's dependence on Chinese suppliers for all types of semiconductor products. Some of that production is being moved to U.S. allies so that the entire supply chain is more secure (U.S. Department of Commerce, 2023).

Private companies can participate in the law through its financial incentives for involvement. Companies can access up to $6 billion in loans and loan guarantees to support private investments which amount to $75 billion. Through tax credits until 2027 the government will provide up to $24 billion to support companies building new chip plants by covering 25% of their construction costs. The incentives proved effective because private companies announced more than $200 billion worth of new chip-related projects throughout 20 states during the first year following the law's passage (U.S. Department of Commerce, 2023). The companies Intel, TSMC and Samsung have initiated factory construction projects in Arizona, Ohio and Texas. A complete return to operational production will take numerous years while technical workforce shortages create a major

extra challenge. The CHIPS Act establishes semiconductors as a strategic national policy priority because they have evolved beyond their role as economic tools (SIA, 2024).

The connection between semiconductors exists as a fundamental element for national defense systems. The current Washington strategy toward semiconductors has shifted toward increased security measures. The manufacturing of advanced chips serves as a dual economic and military advantage for technological leadership. Advanced semiconductors remain essential for the United States to maintain its leadership position in artificial intelligence and defense according to the National Security Commission on Artificial Intelligence (NSCAI, 2021).

Figure 4: CHIPS Act – Funding Breakdown ($52B Total)



4. From Visual Capitalist. The CHIPS and Science Act allocates substantial funding to bolster the U.S. semiconductor industry including $39B in subsidies for manufacturing, $13.2B for R&D, and $24B in tax credits for chip production.

3.3.2 Further Export Restrictions

Biden's administration established multiple export restrictions for vital technologies destined for China by banning high-end GPUs and EDA software together with advanced lithography machinery sales.

The U.S. Department of Commerce's Bureau of Industry and Security (BIS) imposed export controls on October 7th, 2022, to restrict China's access to advanced computing and semiconductor manufacturing items. The Commerce Control List (CCL) received additional high-performance computing chips through these controls while new license requirements applied to items supporting supercomputer or semiconductor development or production in China. The measures blocked China from obtaining sophisticated semiconductors because they could boost its military capabilities and surveillance operations (U.S. Department of Commerce, 2022a).

The U.S. imposed export restrictions on EDA software used for designing advanced semiconductors during August 2022. The software restriction specifically focused on developmental tools needed for making chips at the 3-nanometer node or beyond. The purpose of this measure was to block China from creating state-of-the-art integrated circuits (U.S. Department of Commerce, 2022b).

October 2022 export controls imposed restrictions on semiconductor manufacturing equipment including advanced lithography tools needed to produce modern chips. The controls extended certain semiconductor manufacturing equipment and related items to the CCL while requiring new licenses for semiconductor fabrication facility exports to China. The U.S. Department of Commerce implemented these restrictions to hinder China from producing advanced semiconductors within its domestic territory (U.S. Department of Commerce, 2022a).

The actions implemented by the U.S. government for national security protection also restricted Chinese access to military modernization technologies while they sought to limit Chinese development. Yet these measures may create greater fragmentation within the global value chain according to the RAND

Corporation (2023).

3.4 China: Strategic Challenges and Structural Boundaries

China has designated semiconductors as an essential strategic foundation for establishing itself as a global technological leader (OECD, 2023). The Chinese government launched the "Made in China 2025" industrial program in 2015 to establish domestic production independence in high-tech sectors including microchips alongside robotics telecommunications and artificial intelligence (State Council of China, 2015). The program set a target to meet at least 70% of domestic semiconductor requirements through national products by 2025. Recent statistics show that China produces only 13-14% of its total semiconductor needs domestically in 2024 (TrendForce, 2025; CSIS, 2024), but domestic semiconductor consumption represents more than one-third of the worldwide market (BCG,2020).

The Chinese government supports IC sector technological autonomy through a massive public investment campaign which uses funds from the China Integrated Circuit Industry Investment Fund, also known as the "Big Fund" (OECD, 2023). The campaign collected large yuan amounts to support the creation of new startups alongside IC sector production facilities and research facilities. Private enterprises alongside entities and academic institutions collaborate through government initiatives to speed up innovation while expanding the international global supply chain (OECD, 2023).

SMIC (Semiconductor Manufacturing International Corporation) operates as China's leading manufacturing supplier for semiconductors through its mission to build an independent domestic factory against TSMC and Samsung. The advanced manufacturing nodules of SMIC operate at 7 nanometers without EUV lithography and fall behind market leaders in yield production and volume (TrendForce, 2024).

The national NAND flash memory leader YMTC (Yangtze Memory Technologies Co.) faces U.S. restrictions that block its access to high-quality EDA software and advanced materials required for critical chip production (CSIS, 2024).

Huawei serves as a telecommunications leader that built an independent supply chain after becoming blacklisted by the United States in 2019. The HI Silicon division of

Huawei operated as a production facility that manufactured Kirin series smartphones from internal chip designs. The company faces reduced competitiveness because of their inability to obtain the latest Western foundries and software (BCG, 2020).

Advanced GPUs and tools of higher tech 14nm chip manufacturing became harder to access for China after the October 2022 limitations took effect. The technology modernization delays in the country forced Chinese companies to either choose less efficient technologies or search for domestic solutions that remain under development (U.S. Department of Commerce, 2022). The sanctions exposed critical dependencies China has in its supply chain which extend from design (EDA) to lithography and advanced packages (RAND Corporation, 2023).

The international sanctions against China prompted the launch of regional development plans to create local electronic chip design and manufacturing systems in Guangdong, Jiangsu and Anhui provinces. The substantial economic investments have not addressed essential structural problems because of brain drain, technological limitations, component manufacturing instability and foreign technical expertise dependence (OECD, 2023).

China views rare earths as an essential strategic tool to counter Western nations through their geopolitical perspective. The Taiwanese concerns and TSMC control represent fundamental aspects because any unanticipated events in the strict would create substantial effects on worldwide production (CSIS, 2024).

3.5 Geopolitical Tensions and the Taiwan Issue

The chip dispute between United States and China exists as official tensions and escalations from individual unilateral actions and reciprocal reactions. The Trump administration created the critical point in 2019 through its decision to place Huawei on the “blacklist” which banned U.S. companies from supplying software and technological components to the Chinese giant. The decision followed concerns about industrial espionage and 5G network national security risks. Access to advanced technology was utilized for the first time as a strategic tool in this critical precedent (RAND Corporation, 2023). The global semiconductor supply chain ended its collaboration model when this event took place.

The broader export restrictions for critical technologies forced TSMC to stop Huawei supply and ASML to abandon EUV lithography system exports because of Washington and European Union joint pressure (Reuters, 2023).

China has responded through three strategic levels of action: the nation has expanded its technological independence initiatives started by Made In China 2025 while investing more in production facilities and research facilities and engineering education programs; it restarted using commercial leverage by controlling 60% of global rare earth production which enables electronic and magnetic component manufacturing; these critical materials are subject to customs restrictions and China continues to threaten export limitations to countries it considers hostile (CSIS, 2024).

Beijing has speeded up the development of an independent economic structure by promoting the digital yuan as a tool to reduce dollar and Western payment system dependencies (Brookings Institution, 2021; CSIS, 2023). This method operates indirectly to establish a future-oriented “parallel technology block” with competitive capabilities.

The main point of tension, however, remains Taiwan: a democratically autonomous island but claimed by Beijing as an integral part of China (Council on Foreign Relations, 2023). The world’s most advanced semiconductor supplier TSMC functions as Taiwan’s vital asset because it fulfills critical production needs for the United States through its 5nm, 3nm and 2nm logic chip manufacturing capabilities (Foreign Affairs, 2022; TSMC Annual Report, 2024). A Chinese invasion poses a significant threat to global stability. The United States has established that Chinese attempts to force TSMC nationalization would cross an unacceptable boundary since technology security maintains a direct link with military security and regional stability (U.S. Department of Defense, 2023; CSIS, 2024).

Washington tackles the issue through two methods which include boosting military capabilities in the Indo-Pacific area and supporting industrial change through funding Arizona and other U.S. states (Congressional Research Service, 2022; U.S. Department of Commerce, 2023). A conflict or naval obstruction would trigger immediate worldwide economic destruction. The semiconductor industry serves as the perfect

example to demonstrate both the operational excellence and the structural weakness of current economic systems (McKinsey & Company, 2022).

Three future scenarios regarding present global tensions require thorough examination. The first realistic situation involves technological separation that would result in a worldwide division into two separate blocks where one would adopt Western standards and technology while the other would adopt Chinese standards and technology (European Council on Foreign Relations, 2023). The competitive resilience scenario presents a situation where the blocks establish minimal but strategic ties with each other through focused investments to enhance security and supply chain diversification (World Economic Forum, 2024). The third possible situation involves maintaining a fabricated equilibrium through which both parties need to preserve their unstable equilibrium (RAND Corporation, 2023).

3.6 Conclusions and Perspectives

Semiconductors serve as the essential technological and industrial component that also functions as a strategic power center for political control and economic development worldwide. The United States has become more dependent on external actors through relocation progressions especially TSMC in Taiwan while China faces structural barriers to technological independence alongside Western competitor-controlled supply chains and external sanctions (SIA, 2024; CSIS, 2024).

The chip sector competition between the United States and China displays two different strategies which contrast between open Western approaches and state-led Eastern approaches. The danger extends beyond slowing innovation to threaten the breakdown of a worldwide system that previously operated through advanced interconnected relationships. An independent technological split into two blocks would create operational challenges which would raise costs for businesses consumers and governments (OECD, 2023).

Several important scenarios may appear in the medium and long-term perspective including a challenging relationship between the United States and China which involves domestic involvement in their respective sectors through minimal communication channels with rising nationalistic protection measures. The world now

exists as two separate technological domains which maintain their own unique standards while operating through distinct supply networks. The creation of international structures for multilateral governance receives positive assessment from stakeholders who view them as tools for common resilience enhancement and systemic risk reduction through WTO and G20 and regional association regulations (World Economic Forum, 2024).

Semiconductors function as essential strategic resources which maintain their importance in control systems for energy and information management and industrial-political domains. The development of semiconductors through technical, industrial and political perspectives will serve as a crucial factor in predicting global equilibrium patterns in the twenty-first century (OECD, 2023).

4. THE 2025 ESCALATION: TRUMP TRADE DOCTRINE AND GLOBAL ECONOMIC FRAGMENTATION

4.1 The Return of Tariffs and a New Trade Doctrine

4.1.1 Trump's Approach: from Engagement to Confrontation

The basic idea behind Donald Trump's current Chinese trade policy is simply to charge other countries when they impose charges against America: "If they charge us, we charge them". His statement expresses his main strategy in handling China relations during his presidency. Joe Biden's first statement in office resembled this idea but stronger than his own at the beginning of his presidency when he stated the United States has endured decades of foreign exploitation especially from Beijing.

The Trump administration holds three essential characteristics: a zero-sum mindset, economic nationalism and the core principle of "America First". Trump uses a competitive approach to describe American relations with China while using trade and technological dominance as his main objectives in this framework. The administration utilizes tariffs as their initial strategy for reducing perceived Chinese economic advantages. The Trump administration views tariffs as a main strategy for economic adjustment rather than a defensive measure.

The approach created fresh tensions between the superpowers while establishing a new path away from previous interdependent policies. During his first term Trump adopted a completely different China strategy compared to the policies of his predecessors. All U.S. presidents from the Clinton era through Bush and Obama adopted a strategy to integrate China into global economic systems because they believed this would lead China toward domestic political liberalization and rule compliance with international standards. The diplomatic approach and global institutions together with economic interdependence served as stabilizing forces.

The assumptions of previous administrations find no support in Trump's policies. The former president views multiple decades of diplomacy as a failed experiment because he now treats China as an immediate rival instead of a cooperative partner. Under his leadership, trade has become a geopolitical weapon, and tariffs are wielded as leverage rather than punishment. Trump transformed U.S.-China relations into a complete economic confrontation by abandoning his engagement strategy which represents a fundamental change in bilateral relations.

4.1.2 The First Wave of Tariffs and Its Justification

The second Trump presidency began with a comprehensive tariff strategy launched by Donald Trump in February 2025. The U.S. president imposed a 25% duty on Canadian and Mexican as well as Brazilian and South Korean oil and steel and aluminium imports while applying a 10% duty to Chinese imports. Trump explained his decision by pointing out that the U.S. should not bear higher foreign tariffs without taking equivalent action. The U.S. Department of Commerce published a warning in January 2025 that practical implementation of reciprocity faced significant challenges (U.S. Department of Commerce, January 2025).

The administration introduced tariffs using three main reasons: revenue collection and economic limitations and reciprocal policy measures. The External Revenue Service announcement by Trump would use tariffs to extract funds from foreign nations which he described as money transfer to American citizens (Trump Inaugural Speech). The theoretical revenue potential from tariffs stood in the billions according to Paul Krugman yet his analysis demonstrated that import volume reduction would decrease taxable revenue (Krugman, 2024). The historical data from the Council of Economic Advisers (2024) shows that trade taxes have brought in about 2% of U.S. government revenue even after the increase in tariffs. The restriction rationale focused on bringing production back home, especially for steel and aluminium. Trump maintained that these businesses maintained crucial importance for national security. The first mandate of Trump received warnings from economists who predicted price increases for

all products especially those containing foreign parts even though the measure would support some domestic producers (Bouchet & Parilla, 2018). Intermediate inputs consisting of capital goods and fuel comprised 76% of all U.S. imports during 2023 (U.S. Census Bureau, 2024). The supply chain disruptions occurred when the administration targeted China Canada and Mexico because these three countries supplied most of the United States industrial materials.

The third justification, reciprocity, was more confrontational. Trump believed that trade deficits represented unfair losses for the United States which prompted him to demand equal tariff levels from other nations. The economic explanation behind trade imbalances received little consideration in his view which also simplified the complex nature of global trade. The strategy received criticism because it functioned as a negotiating tool and operated as a weapon. Under emergency immigration and drug enforcement powers Trump threatened Canada and Mexico with tariffs although these measures failed to connect to trade activities thus creating legal controversy (Anil, 2025).

The U.S. economy maintained its strength despite existing economic imbalances at that period. In 2024 the United States recorded its highest-ever trade deficit for goods which reached $1.2 trillion. Imports reached $4.1 trillion because American customers purchased substantial quantities of auto parts as well as electronics and pharmaceuticals. The record-breaking $3.2 trillion exports (U.S. Bureau of Economic Analysis, 2024) failed to resolve the trade deficit. An evaluation of this economic scenario demonstrates the basic Exchange Rate-Trade Balance Relationship because a robust U.S. dollar made domestic exports less competitive in foreign markets yet imported goods remained affordable for purchase.

Inflation was another pressing concern. The January 2025 data showed a 3% annual increase in consumer prices mainly affecting people with lower incomes. The Federal Reserve kept interest rates high because the central bank did not want to risk igniting inflation by lowering monetary policy (U.S. Bureau of Labor Statistics, February 2025).

4.2 Global Response, Economic Consequences and Early Escalation

4.2.1 China Strikes Back

China started by imposing 15% tariffs on U.S. oil and LNG imports and 10% tariffs on essential exports including coal and cars. The Chinese government also established new regulations to control the export of essential minerals needed for technology production (China Ministry of Commerce, February 2025). The implemented measures went beyond mere retaliation because they served strategic purposes. The restrictions placed on U.S. mineral imports by China caused significant pain, according to Philip Luck, because of America's dependence on these resources (Luck, 2025).

Trump's answer came swiftly. Trump reinstated the 25% import tariffs on Canadian and Mexican products during his February 24th announcement despite previous suspension. Trump imposed a 10% energy tax on Canadian imports (U.S. Department of Commerce, 2025) which intensified the conflict. In his second mandate, the favorite tool of the President is through media communications, where Donald Trump chooses to express himself freely while using threats to obtain subsequent agreements. On March 3rd Trump announced that China would face additional tariffs unless it showed restraint. The Chinese government declared readiness for economic conflict on March 5th while announcing tariff increases on vital U.S. agricultural products (China Ministry of Finance, March 2025).

Markets showed panic in their reaction to this situation. The Dow stock market index declined by more than 500 points and economic experts notified investors that inflation could rise again during this period of panic. The retaliatory actions started spreading at that time. China imposed heavy tariffs on Canadian rapeseed oil and pork products (China Ministry of Finance, 2025). The Canadian government labelled China's economic actions as coercive measures (Mary Ng, 2025). The first retaliatory steps established an aggressive foundation for an intense trade war.

The process of retaliating against trade measures showed signs of strategic revaluation despite its ongoing development. The Standard Trade Model

indicates that exporting countries will decrease their prices to fight against tariff costs and sustain their market position. It is relevant to remember that U.S. consumers absorbed price increases during the 2018 Trump tariff period (Amiti, 2019).

4.2.2 First Signs of Inflation, Consumers and Supply Chain Shifts

The immediate economic effects from the trade war tariff escalation went past diplomatic statements. The beginning effects of the trade war included rising prices for consumers and diminished investor confidence along with negative business attitudes. U.S. household expenses continued to increase during February (U.S. Bureau of Labor Statistics, March 2025) especially for food and housing and transportation.

The Canadian and Mexican governments responded promptly to the situation. Mexico chose to implement agricultural countermeasures as its main strategy (Verza, 2025) and Canada selected industrial goods for its retaliatory measures (Government of Canada, 2025). The E.U. assembled its list of critical items and threatened to eliminate its 10% car tariff for all member countries as a multilateral peace measure (ProFarmer, 2025) yet exposed itself to U.S. commercial pressure.

The March 26th announcement by Trump about a 25% permanent tariff on foreign cars (White House, 2025) caused additional apprehension. This announcement was accompanied by an incentive program that provided buyers of American-made vehicles with a tax break to increase domestic manufacturing. The experts predicted that car prices could increase by as much as $12,500. The middle-class families were particularly affected by this decision (Lovely, 2025). For instance, the components for pick-ups, one of the most sold vehicles in the U.S., comes with majority form Mexico and Canada. The U.S. International Trade Administration data shows that Mexico supplied 42% of U.S. automotive parts imports during January to September 2024 while Canada supplied 10% of U.S. automotive parts imports during the same period.

By combining these percentages, it emerges that around 52% of U.S. automotive parts imports come from Mexico and Canada (U.S. International Trade Administration, 2024).

Businesses were already feeling the pinch. The manufacturers expressed their concern about the increasing cost of imported components while the farmers expressed their disappointment about the decline of exports and the retailers like Walmart warned about the impending price increases. Meanwhile, the financial institutions noted the increasing rates of default on consumer loans because people resorted to credit to survive. The Goldman Sachs forecasted a 3.5% inflation rate and reduced its GDP growth projection to 1% while the recession probability increased to 35% (Goldman Sachs, 2025). The Trade Policy Uncertainty Index hit its highest point ever while experts explained that the mere threat of imposing tariffs as well as announcing them and then pausing them produced unpredictable damage (Bloomberg News, 2025). The main concern was the decoupling effect: companies together with countries started to rearrange their trade relationships. Supply chains that were originally based in the United States are now being redirected to more stable partners. Japan decided to wait while Brazil and India used this opportunity to obtain better trade agreements. Companies are currently deciding whether to move their operations to new locations or establish additional operations in different parts of the world. The uncertainty alone was altering the global economy's architecture.

4.2.3 The Rise of Economic Weaponization

At the same time, economic tools themselves were becoming more overtly strategic. Tariffs were no longer just a fiscal instrument; they had become a weapon in a broader geopolitical playbook. China's restrictions on rare earth exports and the U.S.'s targeted tariffs on semiconductors and medical devices signaled a shift from market logic to national security concern. Trade weaponization raised tensions both between the United States and China and among their allies who got caught in the middle.

These developments echo themes already visible in earlier rounds of tariff escalation but now take clearer form: companies began mapping geopolitical

risk as part of supply chain audits, and governments openly linked trade to strategic power (United Nations Conference on Trade and Development, 2025). Insurance premiums for global shipping rose (Reuters, 2025). The economic pressure mounted on non-aligned nations to make choices between Washington and Beijing although they did not have to take political sides.

By March's end, the economic landscape had begun to fracture into blocks. Trade corridors shifted, investment strategies paused, and a silent race was underway to secure critical materials and forge resilient supply lines. Real-time developments showed how weaponized interdependence had moved beyond theory. The initial months of 2025 established the foundation for the largest escalation of tariffs that trade history has ever seen.

4.3 April Showdown: Days of Back-n-Forth

4.3.1 First Stage of Escalation

On April 2nd, Trump declared "Economic Liberation Day", introducing a framework of automatic reciprocal and escalating tariffs that occurred in few days later. If another country imposed a higher duty on a U.S. product, the U.S. would match or exceed it. He began with a minimum 10% across-the-board tariff and a new 25% duty on all foreign-made cars followed. Trump claimed this policy would attract trillions in investments and create new American jobs (White House Press Office, April 2025). Just a day after, on April 3rd, Trump announced a 10% universal tariff on all U.S. imports, with significantly higher levies on key trading partners with China facing an overall U.S. tariff rate of 54% (China Briefing, 2025). He justified the move as retaliation for foreign trade barriers, declaring: "For decades our country has been looted, pillaged, raped and plundered by nations near and far" and he ended with a clear message to foreign companies: "If you want zero tariffs, build in America". China strongly opposed the move, accusing the U.S. of violating international trade rules and causing severe damage to supply chains and the global economy. Beijing called for the immediate reversal of the measures, urging a return to dialogue and reaffirming that "there are no winners in a trade war", while firmly

rejecting protectionism (Ministry of Foreign Affairs of the People's Republic of China, 2025). On April 4th, Beijing went further. Perhaps most critically, China played one of its strongest cards: imposed tight controls on rare earth exports, materials vital to U.S. high-tech and defense industries (Ministry of Commerce of the People's Republic of China, 2025). New regulations required Chinese firms to report final users, volume, and purpose of shipments, with harsh penalties for violations. The defense sector, already exposed due to decades of supply chain offshoring, panicked. With 70% of U.S. rare earth imports coming from China (U.S. Geological Survey, 2024), the White House faced a strategic vulnerability it could not ignore. Trump declared 34% tariffs on all Chinese products three days afterward (White House, 2025). On April 10th China implemented identical 34% tariffs against all American imports while labeling U.S. actions as "trade bullying" and charging that Washington broke international trade rules (Reuters, 2025).

The result? A market meltdown. Stock exchanges lost $2.5 trillion when markets closed on that day (Reuters, 2025) and European markets also tumbled. The Chinese trade restrictions targeted essential U.S. economic sectors that include agriculture (soybeans, corn, wheat) and energy (oil, gas, LNG) and pharmaceuticals.

The same day President Trump threatened to increase China tariffs by 50% if the Government fails to withdraw its retaliatory duties by April 8th (Politico, 2025). Beijing responded by calling the move "a mistake on top of a mistake" while vowing to "fight till the end" (The Guardian, 2025) All of these statements proved to be in line with what happened in the following days.

4.3.2 Second Stage of Escalation

President Trump initiated a complete 104% tariff on all Chinese imports starting at midnight on April 8th. The White House Press Secretary Karoline Leavitt stated that "Countries like China that retaliate by increasing their mistreatment of American workers are making a critical error" (CBS News, 2025).

China introduced new economic sanctions against the United States on April 9th as reported by CBS News (2025). Starting on April 10th the tariff rate on U.S.

goods would increase from its current level of 34% to 84%. The major rate increase targeted major business sections of the American economy directly. The Chinese Ministry of Commerce disclosed its decision to add 12 U.S. entities to export control restrictions which would limit their partnership activities with Chinese businesses. Six U.S. companies received placement on the "unreliable entities" list by Reuters (2025) which imposed significant operating restrictions across China.

Donald Trump made a temporary announcement through Truth Social about removing trade tariffs for more than 75 nations and lowering them to 10% for countries that did not retaliate against America. However, this opening does not apply to China. Trump chose an unmatched escalation by raising Chinese tariffs to 125% effective immediately (AP News, 2025). The United States cannot endure China's disrespectful handling of international markets and unfair exploitation of global trade according to Trump. Many governments contacted the U.S. administration to establish trade agreements and resolve customs barriers and currency manipulation issues which led Trump to suspend trade tariffs. Trump made his position clear when he stated that cooperation will result in rewards but China and others who exploit systems will face penalties.

The White House issued a statement on April 10th to clarify that all Chinese imports now face a total tariff level of 145%. The increased duties concentrate on vital sectors including steel, aluminum, semiconductors and electric vehicles (China Briefing, 2025). Beijing announced on April 11th that it will increase tariffs on U.S. goods by raising the average rate from 84% to 125% because Washington's tariffs have lost all economic basis. China issued an official statement through which it described these measures as "joke" that would enter the historical records of global economics while stating that American goods would cease to exist in the market under the present tariffs (Reuters, 2025). The United States continues to impose restrictions so Beijing plans to ignore them entirely.

Donald Trump exempted smartphones together with computers from tariffs according to Bloomberg on April 12th (Bloomberg News, 2025). Multiple

technology businesses have shown concern about the ongoing tariff regulations: Apple sent five entire planes carrying devices from India and China to the United States before the changes became effective (Times of India, 2025); Logitech removed its 2026 projections because of Trump's trade policies which created uncertainty for the company (Reuters, 2025). The U.S. president implemented a tariff freeze that extends beyond consumer devices because he also suspended levies on hard drives along with processors and chips and semiconductor manufacturing equipment.

The economic consequences of the trade conflict become visible between the two nations. Goldman Sachs cut its China GDP growth projection to 4% because trade conflicts combined with worldwide economic deceleration (Goldman Sachs, 2025). The trade relations between China and the U.S. market affect directly between 10 to 20 million Chinese workers who work in export sectors. People in America experienced the results of these events through rising inflation rates and reduced investment levels (Reuters, 2025) while Americans started asking whether this aggressive approach brought forth industrial dominance or exposed weaknesses in the global system that America once controlled.

4.3.3 Consequences and Realignments: The Post-April Trade Landscape

The Washington lawmakers together with economists worked quickly to develop responses to the situation. The implementation of tariffs as a weapon led to criticism that it breached international trade standards while causing damage to institutions which included the WTO (Jones, 2025). The economic targeting of allies caused them to start reevaluating their economic relationships with the United States (CGTN, 2025). The combination of rising product costs with declining export revenue affected both retailers and farmers while supply chain problems hit technology companies including Nvidia and Intel (American Farm Bureau Federation, 2025). The NASDAQ index decreased by 7% during the initial weeks of April (NASDAQ, 2025).

The European Union conducted diplomatic efforts through tariff reform proposals yet received negative feedback as a result. The WTO received legal

complaints but its inability to enforce penalties failed to stop U.S. actions. France along with Italy planned to implement retaliatory measures against American digital and alcoholic products as Japan and South Korea and India worked on obtaining exemptions and new trade agreements (European Commission, 2025).

The President had to face an internal problem on April 16th which received widespread attention. California brought a federal lawsuit against the administration because Trump's tariffs exceeded constitutional boundaries and damaged California's economic state (State of California v. Trump, 2025). The legal battle coincided with the rising domestic American resistance toward the U.S. government as Congress became more divided and industry representatives became more vocal.

Structural changes became more pronounced throughout this period. Apple and Tesla joined other U.S. firms by expanding their operations in India and Vietnam (Apple Inc, 2025, Assembly Magazine, 2025) as Intel began construction of its major semiconductor facility in Arizona (Intel Corporation, 2024). The same strategic approaches spread throughout different regions. The E.U. created a quick-trade agreement with Australia and established stronger connections with ASEAN (Reuters, 2025; Eurasia Review, 2024). China strengthened its Belt and Road investments throughout African nations (South China Morning Post, 2025) as India negotiated a provisional trade agreement with the U.S. to cover digital products and pharmaceuticals (Reuters, 2025).

The realignment of economic alliances demonstrated the decline of global multilateral systems as predicted before. Political resilience started to influence supply chain optimization practices more than efficiency did. The political movement of economic nationalism emerged as the dominant force in both Eastern and Western regions.

Domestically, volatility persisted. Goldman Sachs together with Morgan Stanley decreased their S&P 500 forecast predictions because earnings declined in both tech and retail sectors (Bloomberg, 2025). The American Bankers Association (2025) reported consumer sentiment dropped while Federal Reserve Bank of

New York (2025) documented an increase in credit card debt while U.S. Bureau of Labor Statistics (2025) showed unemployment stability (2025) which produced conflicting signs of economic vulnerability.

The Vice President JD Vance along with Indian Prime Minister Modi declared a new trade agreement which protects Indian exporters from future U.S. tariffs on April 21st (Reuters, 2025). Other Asian nations were currently holding talks about trade agreements. Trump praised the agreements as evidence of his diplomatic approach yet opponents saw them as a reorganization of existing trade frameworks.

The World Bank together with the International Monetary Fund expressed concern that emerging markets would experience slower growth because of the ongoing fragmentation (International Monetary Fund, 2025; World Bank, 2025). A previously unified global system has now transitioned into an arrangement of regional agreements and strategic market positioning.

4.4 The 90-Days Truce

4.4.1 A Temporary Pause in Hostilities

By the beginning of May 2025, the landscape remained unsettled. The United States had not removed its 145% tariffs from Chinese exports. China had already responded with 125% tariffs of its own. Mutual trust had eroded, talks had stalled and both sides continued public posturing, but backchannel diplomacy had resumed, mostly through European intermediaries.

On May 3rd, a leaked E.U. memo revealed that Brussels was attempting to break a temporary ceasefire by encouraging both nations to freeze tariff levels while engaging in structured negotiations. Though neither side confirmed involvement, stock markets responded positively to the news. The S&P 500 rebounded 2.1% in a day (Pacific Private Money, 2025) and Chinese indexes also saw gains.

By early May 2025, the trade war had reached a point of exhaustion. After months of mutual escalation, financial volatility, and tightening supply chains, the United States and China agreed to a temporary suspension of hostilities (The

White House, 2025). Announced after tense weekend negotiations in Geneva, the 90-day ceasefire was less a resolution than a mutual pause, a breathing space carved out amid growing economic and political pressure.

The terms of the deal were symbolically lopsided, yet pragmatically balanced. Washington agreed to lower its tariffs on Chinese goods from 145% to 30%, though it maintained a 20% surcharge tied to ongoing fentanyl-related concerns, a sticking point Beijing continued to reject (Gibson, Dunn & Crutcher LLP, 2025). In return, China cut its retaliatory duties from 125% to 10% and lifted its ban on the delivery of U.S. aircraft, including pending Boeing contracts (Bloomberg, 2025).

President Trump hailed the agreement as a "total reset," (The Guardian, 2025) a vindication of his pressure strategy. His administration framed the outcome as proof that hardline economic nationalism could deliver results without relying on conventional diplomacy. But in Beijing, the tone was more circumspect. Xi Jinping, meeting with Latin American leaders the following day, remarked that "there are no winners in a trade war" (South China Morning Post, 2025).

4.4.2 A Deal of Uneasy Balance

Despite the pause, resentment lingered on both sides. Chinese state media walked a careful line, describing the agreement as "constructive" while warning that the road ahead would be "complex and arduous". Government officials expressed cautious approval but made clear that they remained wary of what they viewed as erratic U.S. behavior (Reuters, 2025). The foreign ministry dismissed the fentanyl-linked tariffs as a distraction and urged Washington to stop shifting blame for its domestic crises onto Beijing (China Ministry of Foreign Affairs, 2025).

Markets responded with predictable relief. The Dow Jones recovered nearly 1,000 points following the truce and export-heavy sectors like consumer goods and logistics saw modest gains. But investors remained jittery (Wall Street Journal, 2025), viewing the truce as a pause rather than a pivot.

Inside China, the human and economic toll of the trade war had become increasingly visible. Exporters in industrial cities like Ningbo reported sharp declines in shipments. Analysts suggested that as many as 16 million jobs were at risk, particularly in low-margin manufacturing sectors (Reuters, 2025). While some firms began rerouting exports to Southeast Asian markets or bolstering domestic sales, most saw the truce as a window of uncertain opportunity.

A manager at a mid-sized trading company in Ningbo put it plainly: “We don’t know what happens after 90 days. Maybe we rush to export now, or maybe we wait. But nobody feels safe” (The Guardian, 2025).

In online discussions across Chinese platforms like Weibo and Xiaohongshu, public sentiment was divided. Some users praised Beijing’s resilience and framed the agreement as a moral victory for “mutual respect.” Others were more cynical, comparing the deal to “putting a ventilator on a dying patient”. The metaphor reflected a broader anxiety: the belief that even if the patient can breathe again, it is far from recovery. Meanwhile, voices within China’s political apparatus emphasized the strategic nature of the pause. Commentaries in People’s Daily and Xinhua highlighted China’s long-term resolve and framed the truce as a tactical intermission, not a concession. The truce allowed Washington to adjust its approach strategically. Financial uncertainty within the United States alongside market instability from across the globe forced domestic businesses to demand intervention. Several major multinational corporations together with agricultural lobbies and tech giants petitioned for relief because they believed economic instability threatened both consumer confidence and corporate planning (U.S. Chamber of Commerce, 2025).

This truce functioned as an acknowledgment of each side’s restrictions beyond its commercial nature. China needed to avoid export collapse since it would have created domestic instability. The United States faced an unacceptable risk to its technological capabilities and military capabilities when supply shocks persisted.

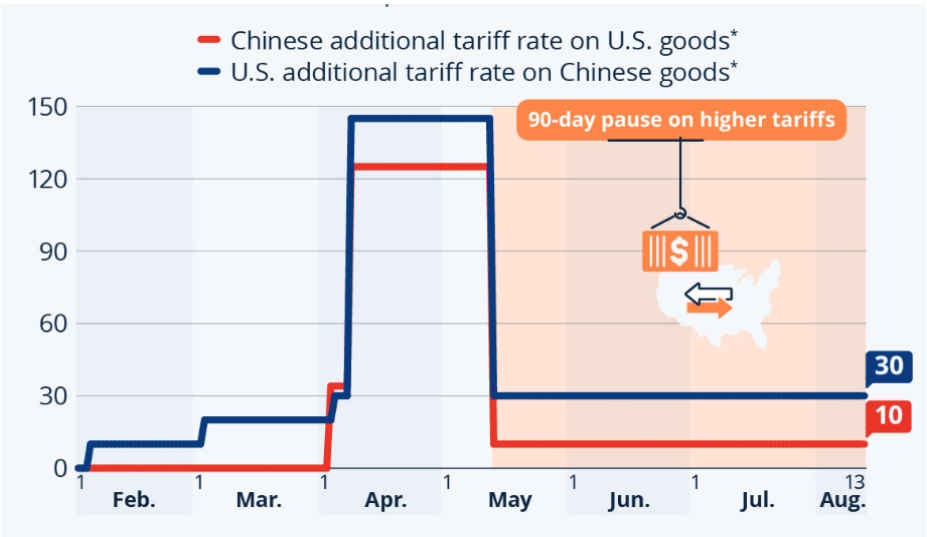
Still, the future remains uncertain. The limited ninety-day period serves as a political compromise but represents a short diplomatic timeframe that makes structural progress improbable. The agreement provided enough time for both

powers to adjust their positions while preventing an all-out separation of their economies.

The international community observed with interest as E.U., Japan, Mexico and other allies considered if this temporary pause indicated a permanent change or just a brief postponement. Social media users displayed different views about Trump's international trade methods since they questioned whether his negotiation approach worked in foreign trade negotiations. Some analysts believed the United States had obtained China's participation in negotiations.

Both accounts presented accurate aspects of the situation. The truce emerged as a combination of external pressure and international dependencies. The global trade system showed its vulnerability while economic nationalism reached its boundaries through this agreement which created a temporary end to the long-standing conflict.

The 90-day period is remaining in effect; anyway, the outcomes of this trade confrontation are still pending.



5. From The Tax Foundation CNN, Statista. This chart shows additional tariffs imposed by the U.S. and China on each other's goods in 2025.

CONCLUSION

The escalation of the U.S.-China trade conflict represents more than a transient disruption in bilateral relations: it reflects a paradigmatic shift in the global economic order. What began as a targeted tariff campaign has since evolved into a wide-ranging confrontation that spans trade, technology, and security. The conflict underscores the erosion of traditional assumptions underpinning globalization: that economic interdependence fosters stability, and that open markets inevitably lead to convergence in political and economic norms.

As demonstrated throughout this thesis, the reemergence of protectionism, especially in the form of strategic tariffs and industrial subsidies, has produced mixed outcomes. While some sectors in the United States have benefited from renewed investment and policy support, the broader effects include increased costs for consumers, inflationary pressures, retaliatory actions, and heightened uncertainty in global supply chains. China, in turn, has pursued a dual strategy of retaliation and self-reliance, accelerating efforts to restructure its economy around domestic innovation and regional partnerships. Despite these adjustments, both nations remain deeply embedded in global networks that are difficult to untangle without significant economic and political costs.

The case of the semiconductor industry offers a particularly vivid illustration of the tensions between globalization and strategic autonomy. As the critical infrastructure of the digital age, semiconductors reveal the depth of mutual dependencies even amid fierce competition. The United States retains its dominance in design and intellectual property, while relying on foreign manufacturing; China continues to invest heavily in domestic capacity yet faces enduring barriers in accessing high-end technologies.

In sum, the economic rivalry between United States and China encapsulates the broader dilemmas of our time: the interplay between openness and sovereignty, innovation and security, interdependence and fragmentation. As the global system moves toward greater bifurcation, the imperative for effective governance, pragmatic diplomacy and resilient economic architecture becomes more urgent. The future will likely be shaped not by a full decoupling, but by selective disengagement and strategic competition where rules,

alliances and technologies play an increasingly central role in defining global leadership.

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