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From Silk Roads to Silicon Wars: The Enduring Geoeconomics of Conflicts: The Enduring Nexus of Commodities and Conflict: A Historical-Economic Analysis

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Abstract

The relationship between commodities and conflict has persistently shaped geopolitical landscapes and economic strategies across millennia. While specific resources and contexts evolve, the fundamental drivers linking valuable resources to violent conflict remain remarkably consistent. The 21st century intensifies this nexus, with the global energy transition elevating critical minerals like lithium, cobalt, and rare earths to the forefront of geopolitical competition. Concurrently, traditional resources such as oil, gas, and water continue to fuel tensions. This paper argues that the core interrelationship between commodities, trade, and geopolitical conflict endures. Through historical analysis from the Silk Road to the contemporary era, applying economic and political theories, this study assesses the sustainability of this hypothesis, emphasizing modern manifestations of resource control, supply chain security, and conflict financing.

I. Introduction: The Enduring Nexus of Commodities and Conflict

The relationship between commodities and conflict has been a persistent feature of human history, shaping geopolitical landscapes and driving economic strategies across millennia. While the specific resources and geopolitical contexts have evolved, the fundamental drivers linking valuable resources to violent conflict have remained remarkably consistent. In the 21st century, this nexus has intensified and diversified, with the global energy transition elevating critical minerals like lithium, cobalt, and rare earths to the forefront of geopolitical competition, alongside persistent tensions over traditional resources such as oil, gas, and increasingly, water. This paper asserts that the underlying dynamics of resource control, supply chain security, and the use of resource wealth to finance conflict continue to define international relations, demonstrating that the core interrelationship between commodities, trade, and geopolitical conflict remains profoundly unchanged across historical epochs. This analysis will critically assess the sustainability of this hypothesis by exploring diverse historical periods, from the ancient Silk Road to the contemporary era, through the lens of established economic and political theories, with a particular emphasis on the complex and multifaceted manifestations in the current global landscape.

In economic terms, a commodity is an economic good, typically a natural resource, that possesses full or substantial fungibility, meaning that market instances of the good are treated as equivalent regardless of their producer (Commodity). These physical goods, derived from natural resources, are tradable and supplied without significant differentiation to the general public ("Introduction to Commodities").

Commodities are traded in both physical (spot) markets, which reflect immediate supply and demand conditions, and in futures and forward markets, which establish prices for future delivery. Unlike financial assets, the valuation of commodities is not based on future profitability or cash flows but rather on discounted forecasts of future physical supply and demand dynamics ("Introduction to Commodities"). This inherent fungibility and tradability make commodities inherently susceptible to conflict. Because a unit of a commodity from one source is interchangeable with a unit from another, and it can be readily converted into liquid wealth or other goods on a global market, these resources represent concentrated, transferable value. This directly incentivizes competition and conflict over their acquisition or the routes through which they are transported. This fundamental economic characteristic transforms commodities from mere goods into strategic assets that can directly finance military operations, sustain state power, or become the direct object of violent contention, underscoring why commodities have consistently been intertwined with conflict throughout history.

Economic conflict, in this context, refers to disputes or tensions arising between groups, nations, or individuals due to competition over resources, wealth, or broader economic interests ("Economic Conflict"; "Economic Conflict"). Such conflicts frequently stem from unequal wealth distribution, trade disputes, or divergent economic policies, often leading to significant social and political consequences ("Economic Conflict").

This paper posits the hypothesis that the fundamental interrelationship between commodities and conflict has remained remarkably consistent across historical epochs. To evaluate this proposition, the analysis will employ key theoretical frameworks from international political economy, including the Resource Curse, the Rentier State model, and the Greed vs. Grievance debate. These theories provide a robust analytical lens for understanding the underlying mechanisms and drivers of resource-driven conflict across various historical periods, from ancient trade routes to modern geopolitical struggles.

The paper proceeds as follows: Section II outlines the theoretical foundations of resource-driven conflict. Section III delves into ancient precedents, focusing on the Silk Road era. Section IV analyzes the role of commodities in the Age of Imperialism and the World Wars. Section V examines the dynamics of resource competition during the Cold War. Section VI discusses contemporary resource conflicts. Finally, Section VII presents the conclusions, assessing the sustainability of the central hypothesis.

II.Theoretical Foundations Understanding Resource-Driven Conflict

Understanding the persistent link between commodities and conflict necessitates an examination of the theoretical frameworks that explain these dynamics. Three prominent theories—the Resource Curse, the Rentier State Model, and the Greed vs. Grievance argument—offer distinct yet often complementary explanations for how natural resource wealth can paradoxically lead to instability and violence.

The Resource Curse: Mechanisms of Economic Underperformance and Conflict Incidence

The Resource Curse posits that countries abundant in natural resources often experience worse economic performance and increased vulnerability to conflict, rather than benefiting from their natural wealth ("Resource curse"; "The Natural Resource Curse"; "The Resource Curse: Fact or Myth?"). This phenomenon is often attributed to a specific set of undesirable side effects ("The Natural Resource Curse"). The intuitive expectation that natural resource abundance should foster economic and political development is challenged by this theory, which demonstrates that resource wealth can lead to negative outcomes such as poor growth and increased conflict ("Mineral Resource Abundance"; "The Natural Resource Curse").

Several key channels of causation are identified:

Price Volatility: Commodity prices are inherently susceptible to significant fluctuations, leading to volatile boom-and-bust cycles that can destabilize national economies and create periods of acute economic stress ("The Natural Resource Curse"; "The Resource Curse: Fact or Myth?").

Permanent Crowding Out of Manufacturing (Dutch Disease): A sudden influx of resource wealth can lead to an appreciation of the national currency, making other sectors, particularly manufacturing and agriculture, less competitive on international markets. This can hinder economic diversification and long-term sustainable development ("The Natural Resource Curse"; "Mineral Resource Abundance").

Autocratic/Oligarchic Institutions: Governments that derive a substantial portion of their revenue from taxing resource-extractive industries, rather than from a broad tax base on their citizens, tend to be less accountable to their populace ("The Resource Curse: Fact or Myth?"). This reduced accountability can foster authoritarian rule, as leaders have less incentive to respond to citizen demands, and can lead to misallocation of public funds into government salaries, inefficient subsidies, large monuments, or graft, often at the expense of critical public services like health and education ("The Resource Curse: Fact or Myth?").

Anarchic Institutions and Lack of Enforceable Property Rights: The presence of valuable and easily extractable resources, such as oil or diamonds, can create strong incentives for various factions to fight over their control, especially when their production requires minimal labor and capital investment (Sachs and Warner). This can lead to institutional failure, manifesting as "anarchy" or a "tragedy of the commons" where resources are depleted unsustainably due to the inability to enforce ownership (Sachs and Warner; "The Natural Resource Curse"). This problem is particularly acute for dispersed resources like timberland or shared underground deposits (Sachs and Warner).

A specific variant, "petro-aggression," posits that petroleum-dependent economies are significantly more likely (50-100%) to experience both international conflict and civil war ("The Resource Curse: Fact or Myth?"). The Iraq invasion of Kuwait in 1990, driven by competition over natural resources, is cited as an example ("The Resource Curse: Fact or Myth?").

It is important to acknowledge that the direct causal link between resource abundance and conflict remains a subject of academic debate. Proving definitive causation is challenging, as many factors are often at play ("The Resource Curse: Fact or Myth?"). Studies suggest that dependence on a single natural resource, rather than mere abundance within a diversified economy, is a more significant factor in a country experiencing the negative consequences of the resource curse, particularly boom-and-bust cycles ("The Resource Curse: Fact or Myth?"). The Resource Curse highlights a critical transformation where the very presence of wealth can be a catalyst for conflict rather than development. This occurs because the economic structure created by resource wealth can directly undermine the foundations of peace and stability. The ease of acquiring wealth without broad taxation can weaken state-society linkages and incentivize predatory behavior by ruling elites, making the state itself a prize to be fought over. This implies that resource management is not merely an economic policy challenge but a fundamental governance and security imperative. It suggests that the type of resource (e.g., "point" resources like oil and minerals versus "diffuse" resources like agricultural land) and the strength of institutions (e.g., rule of law, property rights) are crucial determinants of whether a resource endowment becomes a source of prosperity or a driver of conflict.

The Rentier State Model: How Unearned Income Fuels Predatory Behavior and Instability

The Rentier State model proposes that large levels of natural resource rents, particularly from "point"

resources like minerals and oil, relative to a nation's income, generate disproportionate levels of rent-seeking behavior ("Mineral Resource Abundance"). This, in turn, is theorized to increase distributive conflicts, the incidence of civil war, and levels of corruption ("Mineral Resource Abundance").

The model identifies several key mechanisms:

Lack of Reciprocal Obligations: A central premise is that when states derive a large proportion of their revenues from external sources like resource rents or international aid, they have a reduced need to levy domestic taxes ("Mineral Resource Abundance"). This weakens the reciprocal obligations between the state and its citizens that typically foster accountability and state-society links, unlike the historical development of European states where taxation involved political bargains ("Mineral Resource Abundance").

Increased State Independence and Predation: This increased autonomy from citizens can empower state leaders to act in more predatory ways, or at the very least, reduces their incentive to develop long-term political bargains and inclusive institutions with various interest groups. This can lead to arbitrary confiscation of wealth, especially when resource rents decline ("Mineral Resource Abundance").

Decline in Bureaucratic Capacity: Reliance on "unearned income" can retard the development of robust bureaucratic capacity, particularly in areas like tax collection. A limited state presence at the grassroots level makes the state vulnerable to organized predatory actors, such as rebel groups or private armies ("Mineral Resource Abundance").

Ease of Purchasing Coercion: Mineral rents provide readily available financing for arms and security forces. This facilitates the purchase of coercion, reducing the need for leaders to engage in broader societal bargaining and increasing the risk of predation and the militarization of politics ("Mineral Resource Abundance").

The Rentier State model reveals how the source of state revenue fundamentally shapes governance, accountability, and the propensity for internal conflict. While states require revenue to function and provide public services, historical reliance on broad taxation has fostered a reciprocal relationship where citizens demand accountability for their contributions. When a significant portion of state revenue comes from "unearned" sources like resource rents, the state's financial dependence on its citizens diminishes ("Mineral Resource Abundance"). This weakens the implicit social contract, reducing the incentive for leaders to engage in inclusive governance, develop robust bureaucracies, or provide public goods. Instead, it can enable predatory behavior and the direct purchase of loyalty or coercion, fueling internal power struggles. This structural economic dynamic directly contributes to internal instability and conflict by making the state a lucrative prize for capture, as control over resource rents offers immense power and wealth without the need for broad societal consensus or development. It also suggests that external aid, if not carefully managed, can inadvertently exacerbate these issues by acting as another form of "unearned income" that reduces state accountability ("Mineral Resource Abundance").

However, the Rentier State model faces several critiques. It implicitly assumes leaders "own" natural resources and have predatory aims, often neglecting the complex dynamics of how rulers appropriate and maintain power, and the potential for collective actors to impose domestic conditionality. It also does not fully explain why predatory behavior would consistently dominate developmental behavior in mineral-dominant economies ("Mineral Resource Abundance"). A significant methodological challenge is the issue of correlation versus causality; civil wars themselves might produce or sustain resource dependence, or both could be the result of a missing third variable, such as weak rule of law or pervasive corruption ("Mineral Resource Abundance"). The model often overlooks the impact of prior wars as a cause of

conflict and the importance of regional conflict complexes, where instability can easily spill over into neighboring countries ("Mineral Resource Abundance"). Furthermore, there can be selection bias, as many countries lacking diversified agricultural and manufacturing bases naturally become mineral-dependent. The critical question should be why resource revenues are used to sustain growth and diversification in some countries but not others ("Mineral Resource Abundance"). Empirical evidence can be mixed; some data suggests that non-mineral dominant economies have experienced more casualties and generated more refugees than mineral-dominant economies, challenging the direct causal link between mineral abundance and greater conflict intensity ("Mineral Resource Abundance").

Greed vs. Grievance: Economic Opportunity and Financing of Rebellion

The "Greed vs. Grievance" theory offers two primary, often intertwined, arguments for the causes of civil war and violent conflict. The "greed" argument posits that combatants in armed conflicts are primarily motivated by a desire to improve their economic situation ("Greed and Grievance"; "Greed versus grievance"). They engage in an informal cost-benefit analysis, weighing the potential rewards of joining a rebellion against the benefits of not joining. This perspective is often associated with "vertical inequality," where economic deprivation is the driving factor ("Greed and Grievance"; "Greed versus grievance").

Paul Collier and Anke Hoeffler's seminal work, the Collier-Hoeffler Model, strongly advocates for the greed argument, finding that factors increasing the military or financial viability of rebellion correlate with a higher incidence of conflict than factors related to grievances ("Greed and Grievance"). They argue that specific natural resources, such as oil, are linked to an increased likelihood of conflict onset, while others, like diamonds, are tied to increases in conflict duration ("Greed and Grievance"; "Greed versus grievance"). These resources can significantly reduce the initial costs of war and provide rebels with an accessible means to finance prolonged conflicts ("Greed and Grievance"). The presence of valuable natural resources can make the state itself a more appealing target for capture, further decreasing the opportunity cost of insurgency ("Greed and Grievance"). Additionally, states with low per capita GDP are more prone to civil war because the prospect of earning wages through conflict becomes a more attractive option due to limited alternative economic opportunities ("Greed and Grievance"). The extortion of primary commodity resources is particularly well-suited to the operations of rebel groups, as they often consist of unskilled labor and utilize readily available weapons ("Greed and Grievance"). Historical examples include diamonds in Sierra Leone and Angola, timber in Cambodia, coca in Colombia, and poppy in Afghanistan ("Greed and Grievance"). A state's higher dependence on primary commodities often indicates a weak governmental structure, which increases the risk of conflict as the state struggles to protect its resources from looting ("Greed and Grievance").

In contrast, the "grievance" argument suggests that people rebel over issues of identity, such as ethnicity, religion, or social class, rather than purely economic factors ("Greed and Grievance"; "Greed versus grievance"). This is associated with "horizontal inequality," where deprivation is based on group characteristics ("Greed and Grievance"; "Greed versus grievance").

While even proponents of strong versions of these arguments admit some influence from the opposing side ("Greed and Grievance"; "Greed versus grievance"), David Keen offers a significant critique, emphasizing the dynamic interaction between greed and grievance ("Greed and Grievance"). Keen argues that war is not simply about "winning" but can be beneficial for certain parties to prolong, especially if they control economic resources or power positions in states with weak rule of law where violence becomes privatized ("Greed and Grievance"). Keen identifies several economic functions of violence,

including pillaging resources, extortion (demanding protection money), monopolistic control of illicit trade (e.g., weapons, drugs), exploitation of labor (even leading to slavery), claiming land and resources, and the appropriation of humanitarian aid ("Greed and Grievance"). Crucially, Keen illustrates how an initial desire for power or profit (greed) can lead to the deliberate creation or manipulation of grievances among a population to gain popular support, which then enables further economic and political gain ("Greed and Grievance"). A notable example is Milosevic's manipulation of media to create grievances among the Serbian population, rallying them to support policies that warranted international sanctions, which in turn facilitated profitable black market transactions for his inner circle ("Greed and Grievance"). The "Greed vs. Grievance" debate, particularly Keen's synthesis, reveals that commodities are not merely objects of conflict but can also serve as tools for its perpetuation, blurring the lines between economic and identity-based motivations. The Collier-Hoeffler model emphasizes the economic viability of rebellion, highlighting how natural resources directly finance and enable conflict ("Greed and Grievance"). This suggests resources are a direct incentive for conflict onset and duration. Keen's more nuanced perspective moves beyond this, showing that commodities can be actively used to sustain and profit from ongoing conflict. This means that actors might not just fight over resources, but actively engage in violence to create opportunities for resource extraction and illicit trade (e.g., pillaging, extortion, aid appropriation). Furthermore, the economic benefits derived from conflict can create perverse incentives to prolong it, even manufacturing grievances to justify continued violence. This complex interplay demonstrates a self-reinforcing cycle where economic gain fuels conflict, and conflict, in turn, creates new avenues for economic gain. It implies that addressing resource-driven conflicts requires understanding not just initial motivations but also the ongoing economic functions of violence and how they can perpetuate instability, making such conflicts particularly intractable.

Table 1: Key Economic Theories of Resource-Conflict Linkages

Theory Name	Core Argument	Primary Mechanisms	Key Commodities Often Associated	Main Criticisms/Nuances
Resource Curse	Abundance of natural resources paradoxically leads to poor economic performance and increased conflict.	Price volatility; Dutch Disease (crowding out manufacturing); autocratic/oligarchic institutions (reduced accountability); anarchic institutions (unenforceable property rights, direct contestation).	Oil, minerals, diamonds, "point" resources.	Correlation vs. causation; dependence vs. abundance; institutional quality as a mediator.
Rentier State Model	States deriving revenue primarily from external resource rents (unearned income) become less accountable to citizens, fostering rent-seeking and internal conflict.	Lack of reciprocal obligations with citizens, increased state independence and predation, decline in bureaucratic capacity, ease of purchasing coercion.	Minerals, oil, "point" resources (and even foreign aid).	Implicit assumptions about predatory aims; correlation vs. causation; overlooks prior wars/regional dynamics; selection bias.
Greed vs. Grievance (Collier-Hoeffler)	Conflict is primarily driven by economic opportunities for rebellion, rather than deep-seated grievances.	Resources lower war "startup costs" and finance rebellion; state becomes a lucrative prize; low per capita	Oil (onset), diamonds (duration), timber, coca, poppy.	Insufficiency of grievance alone; overlooks interaction with grievances; focus on viability over underlying causes.

III. Ancient Precedents: The Silk Road and Early Trade Wars

The ancient world, particularly the era of the Silk Road, offers compelling historical evidence for the

enduring interrelationship between commodities and conflict. This period demonstrates that even in early globalized systems, control over high-value, geographically concentrated commodities and the routes to transport them were primary drivers of geopolitical strategy and conflict.

Key Commodities and Trade Dynamics

The Silk Roads constituted a vast and intricate network of both overland and maritime trade routes that spanned Eurasia for centuries, connecting the economic interests of East and West ("About Silk Roads"; "The First Silk Roads Era"; "The Silk Road spanned the Asian continent"). These routes were not static but evolved over time, adapting to shifting geopolitical contexts and environmental factors ("About Silk Roads"; "Historical trends").

While silk was the eponymous commodity, the routes facilitated the exchange of a diverse array of high-value goods. This included spices such as cinnamon from Sri Lanka, cassia from China, black pepper, nutmeg, and mace, which generated immense wealth for those who controlled them ("Did You Know?"; "The Spice Trade Information Sheet"; "Spice Trade Wars"). Other precious goods included coral, pearls, glass, jade, gems, perfumes, incense, gold, silver, salt, tea, herbal medicines, foods, fruits, flowers, horses, musical instruments, and even weapons and armaments, particularly during later periods when Mongol power facilitated a flourishing "third" Silk Road ("The Silk Road spanned the Asian continent"; "Role of commodities in conflicts"). This extensive trade network was a significant driver of urban growth and prosperity, forming a crucial cross-regional economy that played a connecting role in an emerging "world system" ("Historical trends"; "Political fragmentation significantly impacted trade"). Beyond purely commercial transactions, the Silk Roads were equally vital conduits for the exchange of intellectual, social, artistic, and religious ideas, underscoring the deep interconnectedness of ancient civilizations ("About Silk Roads"; "The First Silk Roads Era"; "The Silk Road spanned the Asian continent"; "Trade and Commerce").

The immense wealth generated by these commodities created strong economic incentives for control. The desire to control the namesake commodity, silk, was so strong that it directly led to wars, such as between the Ottoman Turks and Persians ("Role of commodities in conflicts"; "The Silk Road spanned the Asian continent"). Similarly, the spice trade, which generated "immense wealth," led to "countless groups battl[ing] for control" ("The Spice Trade Information Sheet"). This establishes a direct and clear causal link between the inherent economic value of specific commodities and the outbreak of conflict. This historical precedent demonstrates the early manifestation of the "greed" motive, as theorized by Collier-Hoeffler, and the "control of resources" aspect of the Resource Curse. It highlights that commodities with limited geographic origins and high market value inherently create competition and potential for conflict, a fundamental pattern that persists across millennia.

Political Fragmentation and Control over Trade Routes

Political stability was a critical prerequisite for flourishing trade along the Silk Roads ("Controlling the Silk Route"). The collapse of major empires, such as the Chinese Han Empire in the 3rd century AD and the Roman Empire in the 4th and 5th centuries, severely disrupted trade by rendering these regions unsafe for travel ("Controlling the Silk Route"; "Major conflicts driven by commodities"). This political fragmentation significantly increased the costs and insecurity associated with trade ("Historical trends"; "Political fragmentation significantly impacted trade"). Fragmented authority created opportunities for various state actors, such as medieval "robber barons" or local princes and tribal leaders, to impose multiple tolls and taxes on merchants, and for brigands to predate on travelers, thereby substantially raising the overall cost of exchange and making trade treacherous, costly, and unreliable ("Historical trends";

"Political fragmentation significantly impacted trade"). This phenomenon is specifically described as "intra-route fragmentation," where a split in governing authority along a single route leads to over-taxation ("Political fragmentation significantly impacted trade").

Periods of political instability and insecurity on overland routes often encouraged a strategic shift towards maritime trade, as observed with the decline of the Mongol Empire and the subsequent internecine conflict among rival khanates ("Historical trends"; "Political fragmentation significantly impacted trade"). This shift reflected a general pattern where political instability in Central Asia led merchants to turn to sea routes instead of overland trade ("Political fragmentation significantly impacted trade").

Control over key trade routes was a vital strategic objective. The Roman Empire, for instance, established a powerful trading center in Alexandria, Egypt, to command all spices entering the Greco-Roman world ("The Spice Trade Information Sheet"). Later, Portuguese explorations to find a sea route to India were explicitly motivated by the desire to secure safer and cheaper passage for trade goods, bypassing the exorbitant protection fees or raiding prevalent on land caravans ("Role of commodities in conflicts"; "Spice trade"). The Silk Road era demonstrates that the security and control of transport infrastructure for commodities are as critical a source of conflict as the commodities themselves, a theme that re-emerges with modern supply chains. This indicates that the pathways for trade, and the stability of governance along them, were as crucial as the goods themselves. Fragmented authority led to increased "tolls and taxes" and "brigands" ("Historical trends"; "Political fragmentation significantly impacted trade"), directly increasing the cost and risk of trade. This made the physical routes and their security a primary object of strategic competition and conflict, as states and other actors vied for control to extract rents or ensure safe passage. The historical shift from land to sea routes ("Historical trends"; "Political fragmentation significantly impacted trade") further underscores that the viability of trade routes directly influenced geopolitical strategy and led to new forms of competition. This establishes a deep historical pattern where the means of transport and the stability of trade corridors are fundamental geopolitical objectives. This directly foreshadows modern concerns over maritime choke points, pipelines, and the security of global supply chains, reinforcing the idea that fundamental dynamics persist.

Case Studies: Conflicts over Silk, Spice Wars, and the Battle of Talas

Specific historical events further illustrate the direct link between commodities and conflict during this ancient period.

Silk Conflicts: The ancient Chinese meticulously guarded the secret of silk production for centuries, recognizing its immense value and strategic importance ("Role of commodities in conflicts"; "The Silk Road spanned the Asian continent"). The desire to control this commodity directly led to conflicts. For example, the Ottoman Turks and the Persians fought a war over silk, and the English and French competed to restrict its markets ("Role of commodities in conflicts"; "The Silk Road spanned the Asian continent"). This highlights how the control over production secrets and market access for highly valued goods could escalate into military confrontation.

Spice Wars: This refers to a series of bloody conflicts, primarily involving major European powers—the Portuguese, Spanish, English, and Dutch—who aggressively competed for control over the immensely lucrative spice trade ("Spice Trade Wars"; "The Spice Trade Information Sheet"). This period represents one of the first truly global conflicts, with its reach extending across continents ("Spice Trade Wars"). The successful circumnavigation of Africa by Portuguese explorer Vasco da Gama in 1498 opened new direct sea routes to India, bypassing the traditional Arab and Ottoman middlemen and fundamentally altering global trade dynamics ("Spice Trade Wars"; "Spice trade").

Dutch aggression was particularly pronounced during the Spice Wars. Figures like Jan Pieterszoon Coen, the Dutch Governor-General of the Dutch East India Company (VOC), resorted to extreme violence, nearly annihilating the native population of the Banda Islands (a primary source of nutmeg) and replacing them with captured slaves to maintain a brutal monopoly over the spice trade ("Spice Trade Wars"). The Dutch also forcibly seized numerous 15th-century Portuguese settlements in India to establish a monopoly on the pepper trade ("Spice Trade Wars"). The establishment of African colonies (e.g., Angola, Mozambique, South Africa) by the Portuguese and Dutch was strategically vital to support the spice trade, serving as crucial ports for trade, crew replenishment, and supply stocking, and often relying on slave labor ("Spice Trade Wars").

Battle of Talas (751 CE): This pivotal battle, fought between the Tang Dynasty of China and the Abbasid Caliphate, was significantly influenced by the strategic importance of the Silk Road as a trade route ("Silk Road Warfare"). Both empires sought to control the lucrative trade flowing through the Tarim Basin, a critical region for Silk Road commerce. The decisive Abbasid victory marked a turning point, weakening the Tang Dynasty's territorial control in Central Asia and allowing the Abbasids to gain a stronger foothold, expanding their influence and control over key trade routes ("Silk Road Warfare"). This demonstrates how direct military confrontation could alter the balance of power over crucial trade arteries, impacting economic prosperity and regional dominance for centuries.

IV. The Age of Imperialism and World Wars

The late 19th and early 20th centuries, marked by "New Imperialism" and two devastating World Wars, further underscore the profound and evolving interrelationship between commodities and conflict. This era highlights how industrialization intensified the demand for raw materials, transforming resource competition into a central driver of colonial expansion and global warfare.

New Imperialism and the Scramble for Africa (Late 19th - Early 20th Century)

The late 19th and early 20th centuries witnessed an unprecedented pursuit of overseas territorial acquisitions by European powers, the United States, and Japan, a period known as New Imperialism ("New Imperialism"; "Scramble for Africa"). This "scramble" for colonies was primarily driven by two factors: the economic desire to secure natural resources and markets, and the ambition to demonstrate a country's power on the world stage ("Impact of resource competition"; "New Imperialism"; "Scramble for Africa").

The Industrial Revolution fueled a rapid increase in industrial output and consumption in Western Europe and the United States, leading to a growing demand for industrial fuel and raw materials such as coal, oil, wood, ore, cotton, wool, and leather (Chancerel). European nations, facing depletion of their own natural resources, sought new territories to exploit ("Impact of resource competition"). This economic pressure was intensified by the Long Depression of 1873–1896, prompting governments to promote home industries and leading to a widespread abandonment of free trade among European powers ("New Imperialism"). Britain, though initially technologically dominant, faced challenges from rising industrial powers like Germany and the United States, fueling its efforts to maintain overseas trade and investment ("New Imperialism").

Africa, largely unexplored by Europeans until the mid-19th century, became the primary target for this expansion, in what became known as the Scramble for Africa ("New Imperialism"; "Scramble for Africa"). By 1914, only Ethiopia and Liberia remained outside European control ("Scramble for Africa"). The Berlin Conference of 1884–85, while presenting a veneer of legality, served as a cover for blatant profiteering and imperial ambitions ("Scramble for Africa").

Specific raw materials sought during this period included:

Ivory, Rubber, Diamonds, and Metals: King Leopold II of Belgium's brutal exploitation of the Congo Free State exemplifies the direct link between resource acquisition and conflict. His primary focus was to extract immense profits from ivory and rubber, forcing natives to supply these resources without payment, leading to a 700% profit ratio for rubber ("New Imperialism"). The Congo's vast mineral wealth, including cobalt, copper, and uranium, would continue to fuel conflict for decades ("Resource Wars").

Agricultural Products: In India, Britain directed farmers to grow cash crops like cotton and tea for export, displacing food crops and transforming India into a captive market for British textiles ("New Imperialism"). The Maji Maji rebellion in German East Africa was a direct response to German exploitation of cotton plantations ("Resource Wars").

Gold and Diamonds: South Africa became a battleground for colonial powers due to its massive gold and diamond reserves, leading to conflicts like the Anglo-Zulu War and the Anglo-Boer Wars ("Resource Wars").

The competition for resources and global dominance, often masked by a "civilizing mission" rhetoric, became one of the underlying root causes of World War I ("Impact of resource competition"; "New Imperialism"; "Resource Wars"). The Great Game, a 19th-century rivalry between the British and Russian empires over influence in Central Asia, particularly Afghanistan, Persia, and Tibet, illustrates the geopolitical tensions driven by the desire to protect India and key British sea trade routes from Russian expansion ("Great Game"). Similarly, the First and Second Moroccan Crises, stemming from German attempts to exert influence over French-controlled Morocco, cemented ties between Britain and France while engendering hostility with Germany, setting the stage for the global conflict ("Scramble for Africa").

World War I: The Industrial War of Raw Materials

The First World War was fundamentally an industrial war, demanding unprecedented quantities of weapons and ammunition (Chancerel). This intensified the need for raw materials such as coal, oil, wood, ore, cotton, wool, and leather, which Western industrial nations had increasingly imported from around the world prior to the conflict (Chancerel; Straumann).

The war quickly evolved into an economic struggle, with a primary objective being to deprive enemy countries of essential raw materials (Chancerel). European war economies were heavily dependent on overseas trade, with over 80% of main imports for industrial Western countries consisting of raw materials and foodstuffs (Chancerel).

Allied Blockade: The Allies progressively tightened their blockade of the Central Powers, aiming to cut off all maritime transport of military goods and raw materials (Chancerel). They pressured neutral countries to prevent re-exporting goods to Germany and leveraged British supremacy over European coal resources to increase Allied power (Chancerel).

German Submarine Warfare: Germany retaliated with unrestricted submarine warfare, sinking vast amounts of Allied shipping and causing severe shortages of imports (Chancerel).

The scarcity of raw materials elevated their control to a significant war aim. Oil shortages, crucial for military and merchant fleets, led belligerent countries to secure supply routes (Chancerel). Great Britain sought to control Mesopotamia's oilfields, securing rights through the Sykes-Picot Agreement. Germany invaded Ukraine in 1918 to seize raw materials, including coal from the Donetsk Basin, and later secured Azeri oil from Russia (Chancerel; "Resource Wars"). The war also spurred significant state intervention, with countries like Germany establishing War Raw Materials Departments to control, requisition, and distribute resources to the armament industry, prioritizing military needs over civilian ones (Chancerel).

This period clearly demonstrates how the industrial scale of warfare directly translated into a global competition for, and weaponization of, raw material supply chains.

World War II: Oil as the Decisive Commodity

Access to oil and energy supplies largely determined the course of World War II ("Energy's Vital Role"; "Oil and War"). The conflict was not merely fought over territory but fundamentally driven by the need to secure vital energy resources.

Japan's Expansion: The U.S. oil embargo against Japan contributed to the attack on Pearl Harbor and directly spurred Japan's expansion into oil-rich territories like Burma and Indonesia ("Energy's Vital Role"; "Resource Wars"). Japan's invasion of Manchuria was also compelled by the need for coal and iron ore ("Resource Wars").

Germany's Eastern Front: Hitler's invasion of the Soviet Union took a decisive turn when he diverted his panzer forces away from Moscow towards the oil-rich Caucuses and the approaches to Stalingrad, in a desperate attempt to seize Baku's oil fields ("Energy's Vital Role"; "Resource Wars"). The lack of adequate fuel later halted Hitler's 1944 Ardennes offensive, and the Allied bombing of Germany's synthetic fuel facilities in 1944-45 played a role in the collapse of the Nazi war machine ("Energy's Vital Role"). Germany's early invasion of Norway was driven by the need to secure Swedish iron ore, transported via Norwegian ports ("Resource Wars").

Allied Strategy: The British safeguarded oil fields in Iran and Iraq, which were essential for maintaining Allied fuel supplies ("Resource Wars"). The United States, to ensure oil access for the Allies, established the Petroleum Administration for War (PAW), which collaborated with private companies to boost production. Approximately 85% of total Allied oil and gasoline consumption was supplied by U.S. domestic sources ("Energy's Vital Role"). Transporting this oil was a massive undertaking, leading to the construction of major pipelines like Big Inch and Little Big Inch across the continental United States, demonstrating the critical link between resource logistics and military capability ("Energy's Vital Role"). Beyond fuel, petroleum was also crucial for synthetic rubber plants, a major wartime industry ("Energy's Vital Role").

World War II vividly illustrates how the strategic importance of a single commodity, oil, could dictate military campaigns, trigger major attacks, and ultimately determine the outcome of a global conflict. This period demonstrates that the direct control and secure supply of vital resources are paramount in large-scale warfare.

V. The Cold War and Beyond

The Cold War, characterized by intense geopolitical rivalry between the United States and the Soviet Union, continued to highlight the critical role of commodities, albeit with new dimensions such as the competition for strategic minerals and the use of proxy wars.

Resource Competition in a Bipolar World

During the Cold War, the global economy's increasing dependence on oil heightened the stakes of resource scarcity, making control over oil resources a crucial aspect of national security and global power dynamics ("Resource Scarcity"; Painter). The Middle East, with its vast oil reserves, became a focal point of superpower rivalry, as its oil was vital for the economic and military might of both the US and USSR, as well as their allies ("Resource Scarcity"; Painter). Both superpowers fiercely competed for influence in the region, employing diplomatic engagement, economic aid, and military intervention to secure resources and expand their geopolitical footprint ("Resource Scarcity").

This rivalry often exacerbated regional conflicts, as both superpowers supported opposing sides in various wars and insurgencies, prolonging conflicts and drawing in external actors ("Resource Scarcity"). Oil was the lifeblood of the Cold War, with both superpowers seeking to secure oil reserves, particularly in the Middle East ("Resource Wars"). The 1973 Arab-Israeli War and the subsequent oil embargo, imposed by Arab oil-producing countries on nations supporting Israel, demonstrated the ability of oil-producing countries to wield considerable economic and political power, leading to high inflation and economic stagnation globally ("Oil Embargo").

Beyond oil, other strategic resources gained prominence. The Democratic Republic of Congo (DRC) was thrown into chaos due to its massive reserves of cobalt, copper, and uranium—all crucial for Cold War industries ("Resource Wars").

Proxy Wars and Strategic Minerals

The Cold War saw the rise of proxy wars, where major powers used third parties to fight on their behalf, avoiding direct confrontation while expanding their spheres of influence ("Proxy Wars"; "Proxy Wars During the Cold War"). These conflicts were often driven by ideological, strategic, and economic motivations, including the desire to control or exploit valuable resources ("Proxy Wars").

A key example is the Congo Crisis in the early 1960s. The main concern for both the United States and the Soviet Union was not the well-being of the Congolese people but rather the rich uranium mines in the southern areas of the Congo ("Proxy Wars During the Cold War"). A majority of the uranium used in the "Little Boy" atomic bomb came from Congolese mines ("Proxy Wars During the Cold War"). The prospect of Congo's enormous mineral treasures, including uranium and cobalt, flowing towards the Soviet Union rather than continuing to Europe and the West, sent "shivers down the spines of the neocolonial powers" ("The Fight for Congo's Cobalt"). When Prime Minister Lumumba sought Soviet aid after being denied Western assistance, the US and Belgium allegedly supported his overthrow and assassination, installing a dictator, Joseph Mobutu, who ruled with an iron fist ("The Fight for Congo's Cobalt"; "Cobalt Mining is Ruining"). This conflict vividly illustrates how the control of strategic minerals, vital for nuclear weapons and industrial power, directly fueled superpower intervention and destabilized nations.

The Angolan Civil War (1975-2002) was another significant proxy conflict, which was not just an ideological struggle but also a fight over oil and diamonds ("Resource Wars"; "Proxy Wars"). This demonstrates how resource wealth could prolong and intensify conflicts by providing financing for various factions.

Uranium mining in the United States, particularly on the Colorado Plateau and Navajo Reservation, also surged during the Cold War, driven by the US Atomic Energy Commission's guaranteed price and purchase of all mined uranium ore for nuclear weapons production ("History of U.S. Uranium Industry"; "Uranium Mining"). This highlights how domestic resource extraction was directly tied to national security objectives and the arms race.

The Cold War era reinforced the pattern of resource-driven conflict, showing how the strategic value of commodities, particularly those essential for military and technological superiority (like oil and uranium), could trigger proxy wars and shape geopolitical alignments, even in the absence of direct superpower confrontation.

VI. Contemporary Resource Conflicts and Geopolitical Trade Wars

In the 21st century, the interrelationship between commodities and conflict continues to manifest with heightened complexity, driven by the global energy transition, rapid technological advancements, and

increasing resource scarcity. The underlying dynamics of competition over valuable resources, control of supply chains, and the use of resources to finance conflict remain strikingly similar to historical patterns, now deeply intertwined with broader geopolitical and trade strategies.

New Critical Minerals: The Geopolitical Battleground of the 21st Century

While oil defined economic and global power in the 20th century, a profound shift is underway, with critical minerals becoming the new lifeblood of modern life and a defining lever of global power ("Critical Minerals"; "The Elemental Shift"). Elements like lithium, cobalt, rare-earth metals (e.g., neodymium, dysprosium), nickel, graphite, and titanium have become indispensable for progress, innovation, and military power ("Critical Minerals"; "Rare Earth Minerals"; "Strategic Minerals").

The demand for these minerals is surging due to two major simultaneous shifts: the global energy transition and the rapid expansion of digital infrastructure ("The Elemental Shift"). The energy transition, a move from fossil fuels to cleaner electric alternatives, is extremely resource-intensive, with global lithium demand expected to triple by 2030 and cobalt projected to reach 270,000 tonnes annually by the end of this decade ("The Elemental Shift"). To meet global climate goals, mineral demand must rise by up to 500% for certain materials ("The Elemental Shift"). This includes electric vehicles, wind turbines, and solar panels ("Rare Earth Minerals"; "The Elemental Shift"). Concurrently, the rapid expansion of digital infrastructure, including smartphones, 5G towers, and AI tools, along with defense applications like precision-guided weapons, radar systems, and electronic warfare equipment, further elevates their importance ("Rare Earth Minerals"; "Strategic Minerals"; "The Elemental Shift"). This convergence is creating a supply strain that the world is still unprepared for, leading to price spikes and countries treating mining and processing capacity as strategic national assets ("The Elemental Shift").

This burgeoning demand has transformed critical minerals into tools of influence, leverage, and conflict, echoing the early days of the oil era ("Rare Earth Minerals"; "The Elemental Shift"). Geopolitical competition for control over these resources and their supply chains is intense. China, through decades of state-backed investment in mining, refining, and strategic stockpiling, holds a near-monopoly on global rare earth element processing, commanding roughly 80% of the world's capacity for refining REEs, along with dominant positions in lithium and cobalt production ("Critical Minerals"; "Deterrence Runs"; "Rare Earth Minerals"; "Strategic Minerals"). This dominance allows Beijing to shape market outcomes and geopolitical behavior ("Critical Minerals"; "Rare Earth Minerals"). China's willingness to weaponize its control, as demonstrated by its rare earth export restrictions in 2010 and recent blocking of gallium and germanium exports to the U.S. and Europe, has sent shockwaves through global markets, highlighting how access to these minerals can be used as leverage in international disputes ("Critical Minerals"; "Rare Earth Minerals"; "The Elemental Shift").

In response, the United States and its allies are racing to diversify their supply chains and reduce reliance on China ("Critical Minerals"; "Rare Earth Minerals"; "The Elemental Shift"). Initiatives like the Minerals Security Partnership bring together like-minded countries to secure critical mineral supply chains against disruption ("Rare Earth Minerals"). The U.S.–Ukraine Mineral Resources Agreement, signed in early 2025, aims to develop Ukraine's vast untapped reserves of critical minerals (lithium, titanium, REEs), granting the U.S. preferred access in exchange for investment and technical support, directly challenging Beijing's dominance ("Critical Minerals"; "Strategic Minerals"). Canada is also emerging as a central hub for processing rare earth elements ("Rare Earth Minerals"; "Strategic Minerals"). The alliance between Russia, holding significant reserves of rare earths, platinum-group elements, titanium, and nickel, and China further complicates this geopolitical landscape ("Strategic Minerals").

The Democratic Republic of Congo (DRC) continues to be a focal point of resource-driven conflict, providing over 70% of the world's cobalt supply ("Cobalt Mining is Ruining"; "The Fight for Congo's Cobalt"; "Resource Wars"). Despite its immense mineral wealth (estimated at USD 24 trillion in cobalt, diamonds, copper, gold), the DRC is plagued by environmental degradation, poverty, armed conflict, and human rights abuses, with mining often linked to exploitative labor practices and child labor ("Cobalt Mining is Ruining"; "The Fight for Congo's Cobalt"; "Resource Wars"). This situation exemplifies how the global demand for critical minerals can perpetuate internal conflict and human suffering in resource-rich nations, echoing the Resource Curse and Greed vs. Grievance dynamics where economic gain fuels conflict, and conflict creates opportunities for further exploitation ("Cobalt Mining is Ruining"; "The Fight for Congo's Cobalt"; "Resource Wars").

Water Scarcity and Persistent Traditional Resource Conflicts

Beyond critical minerals, traditional resources continue to be significant drivers of conflict, now often exacerbated by climate change and global economic shifts. Experts anticipate that climate change will intensify resource-driven conflicts, with water scarcity being a major concern ("Resource Conflicts"; "Water conflict"). Tensions over shared river basins are escalating globally:

Nile River: Conflict between Egypt and Ethiopia over the Grand Ethiopian Renaissance Dam on the Blue Nile escalated in 2020 due to concerns that the dam could reduce water flows to Egypt, which is highly dependent on Nile River water. Both countries face the threat of water shortage, and their differing beliefs over water rights (historical vs. geographical) exacerbate tensions (Raffio; "Resource Wars"; "Water conflict").

Mekong Basin: China's construction of numerous dams on the Mekong's headwaters has altered flow volumes and timing for downstream countries (Vietnam, Laos, Cambodia, Thailand), raising fears that China's control over the river's flow gives it leverage over nations reliant on its goodwill ("Water conflict").

Colorado River: Seven U.S. states, including California, are fighting over the dwindling waters of the Colorado River due to decades of drought and overuse, with major reservoirs drying up and historical injustices denying Native American tribes access to water rights (Raffio).

Helmand River: Tensions over the Helmand River, shared by Iran and Afghanistan, have flared in 2022 and 2023 ("Water conflict").

Oil and gas continue to be sources of geopolitical tension and trade disruption. Russia's invasion of Ukraine in 2022 underscored the role of resource control in modern warfare, leading to a surge in oil and LNG prices and prompting European nations to fast-track LNG development to reduce reliance on Russian gas ("Oil and Gas Half-Yearly Results"; "Resource Wars"). This conflict also highlighted how companies and governments prioritize energy security, even accelerating approvals and downgrading environmental safeguards for fossil fuel projects ("Oil and Gas Half-Yearly Results"). Fears of disruptions in key maritime choke points, such as the Strait of Hormuz, continue to impact oil prices and strategic planning, as it is a chokepoint for a quarter of all oil trade and 20% of global LNG ("Oil and Gas Half-Yearly Results"). The South China Sea remains a hotbed of territorial disputes, driven by overlapping claims over marine biodiversity and significant hydrocarbon deposits (oil and natural gas), as well as its critical role in global trade routes ("The South China Sea"; "Resource Wars"). The Arctic Circle has also become a focal point of geopolitical competition due to climate change, resource exploitation (oil, gas, minerals), and emerging strategic interests, with Arctic and non-Arctic nations vying for regional claims and economic opportunities ("Geopolitical Tensions").

Beyond traditional state-level conflicts, various lucrative resources continue to finance militant groups and prolong conflicts, demonstrating the enduring relevance of the "greed" argument in perpetuating violence ("Greed and Grievance"; "Resource Conflicts"). Examples include coca cultivation and cocaine trafficking by the Revolutionary Armed Forces of Colombia (FARC) ("Resource Conflicts"), illicit diamond mining and smuggling by the Revolutionary United Front (RUF) in Sierra Leone ("Resource Conflicts"), and the illegal timber industry financing criminal and insurgent groups in places like Cambodia ("Resource Conflicts").

The 21st century demonstrates that the competition for resources, whether traditional fossil fuels, emerging critical minerals, or increasingly scarce water, remains a potent driver of geopolitical alignments, economic strategies, and military doctrines ("Oil, War, and Geopolitics"; "Resource Wars"). The patterns observed in ancient times, where control over valuable commodities and their supply routes led to conflict, are consistently replayed in the modern era, albeit with new actors, technologies, and a deeper integration with global trade and geopolitical strategies.

VII. Conclusions

The analysis of historical periods, from the ancient Silk Road to the contemporary era, provides compelling evidence that the fundamental interrelationship between commodities and conflict has remained remarkably consistent. The hypothesis that "nothing really has changed" regarding this nexus is largely sustainable, though the specific commodities, scale of conflict, and geopolitical actors have evolved.

Across all examined periods, the inherent economic value and strategic importance of commodities have served as powerful incentives for competition and violent confrontation. In the Silk Road era, the immense wealth generated by silk and spices directly fueled wars between empires and led to brutal conflicts over trade routes and production monopolies, such as the Ottoman-Persian wars over silk and the European Spice Wars ("Role of commodities in conflicts"; "The Silk Road spanned the Asian continent"; "The Spice Trade Information Sheet"; "Spice Trade Wars"). The security and control of transport infrastructure, whether ancient land routes or maritime passages, were as critical a source of conflict as the commodities themselves, with political fragmentation leading to increased costs and insecurity ("Historical trends"; "Political fragmentation significantly impacted trade").

The Age of Imperialism and the World Wars further solidified this pattern. The industrial revolution intensified the demand for raw materials, driving colonial expansion and the "Scramble for Africa" as European powers competed for resources like ivory, rubber, diamonds, and strategic minerals ("Impact of resource competition"; "New Imperialism"; "Resource Wars"; "Scramble for Africa"). World War I transformed into an economic war of attrition, with blockades and submarine warfare aimed at depriving enemies of vital raw materials (Chancerel). World War II vividly demonstrated how oil, in particular, dictated military campaigns and strategic objectives, from Japan's expansion into Southeast Asia to Germany's drive for the Caucasus oilfields ("Energy's Vital Role"; "Oil and War"; "Resource Wars").

During the Cold War, the competition for oil in the Middle East fueled superpower rivalry and proxy wars, while strategic minerals like uranium and cobalt in the Democratic Republic of Congo became direct objects of geopolitical manipulation and intervention due to their criticality for nuclear weapons and industrial power ("The Fight for Congo's Cobalt"; Painter; "Proxy Wars During the Cold War"; "Resource Scarcity"; "Resource Wars").

In the current period, the shift towards a green energy transition and the expansion of digital infrastructure

have elevated a new class of critical minerals—lithium, cobalt, and rare earths—to paramount strategic importance, leading to intense geopolitical competition for their control, particularly with China's dominance in processing ("Critical Minerals"; "Deterrence Runs"; "Rare Earth Minerals"; "Strategic Minerals"; "The Elemental Shift"). Simultaneously, traditional resources like oil and gas continue to drive conflicts, as seen in the Russia-Ukraine war and disputes over the South China Sea ("Oil and Gas Half-Yearly Results"; "Resource Wars"; "The South China Sea"). Water scarcity, intensified by climate change, has also emerged as a significant and growing source of conflict across major river basins globally (Raffio; "Resource Conflicts"; "Resource Wars"; "Water conflict"). Furthermore, the role of illicit commodities like coca, diamonds, and timber in financing and prolonging conflicts by non-state actors remains a persistent feature of contemporary violence ("Resource Conflicts").

The theoretical frameworks—Resource Curse, Rentier State, and Greed vs. Grievance—provide robust explanations for these enduring patterns. The Resource Curse explains how the very presence of wealth can undermine governance and create incentives for direct contestation (Sachs and Warner; "Resource curse"). The Rentier State model illustrates how reliance on "unearned income" from resources can weaken state-society accountability, fostering predatory behavior and internal instability ("Mineral Resource Abundance"). The Greed vs. Grievance theory, particularly Keen's synthesis, reveals that commodities are not just objects of conflict but can be actively utilized as tools to finance and perpetuate violence, often by manufacturing grievances to justify continued exploitation ("Greed and Grievance").

While the specific commodities and technologies involved have changed, the underlying economic logic of conflict over resources remains remarkably constant. The desire for control over valuable, often geographically concentrated, resources; the strategic imperative to secure supply chains; and the capacity of resource wealth to finance military endeavors have consistently driven and shaped conflicts throughout history. The hypothesis is indeed sustainable: the fundamental interrelationship between commodities and wars and conflict is an enduring feature of human civilization.

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