

The Rise and Decline of U.S. Hegemony In Evolutionary Perspective¹



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Abstract: This article examines and discusses the growth/decline curves of the hegemony of the United States in comparative, evolutionary perspective and in a world-historical context with a focus on recent decades. All complex and hierarchical world-systems experienced sequences in which a single polity rose to power over other polities with which it was systemically interacting and attained a peak level of power for a while and then declined. The modern global system is no exception. The rise and decline of the United States in the 19th, 20th and 21st centuries has been studied extensively by sociologists, political scientists, historians and policy analysts but usually not in the context of the evolution of polities, interpolity systems and modes of accumulation. Much can be gained by comparing growth-decline curves quantitatively and by examining recent changes in relative shares of economic and military power and discussions of political and ideological power. In this article we update several quantitative measures that were examined in Chase-Dunn, Reifer, Jorgenson and Lio (2005) and in Chase-Dunn, Kwon, Lawrence and Inoue (2011) and we add other indicators to track the slow decline of U.S. hegemony and discuss probable middle-run and long-run structural futures.

¹ Thanks to William R. Thompson and Mark Souva for providing updated estimates of military power shares and to Collin Meisel for providing access to the Pardee Institute's Global Power Index.

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The world-system perspective has delineated a structural interpretation of the cycles and trends that have constituted the expansion and evolution of global capitalism (Amin 1980a; Arrighi 2010; Wallerstein 2011; Chase-Dunn and Grell-Brisk 2019). It focused on the history of the core/periphery hierarchy and of system-wide class relations (Amin 1980b) since the rise of predominant capitalism in Europe during the early and middle centuries of the second millennium CE.²

Chase-Dunn and Hall (1997) developed a comparative evolutionary world-systems theoretical research program that conceptualized world-systems as interpolity systemic interaction networks and studies these comparatively since the Paleolithic Age. The spatial scale of these networks expanded with changes in transportation and communication technologies. Early world-systems were composed of small relatively egalitarian polities linked together in spatially small interaction networks. The comparative study of whole world-systems understood as systemic interaction networks is best done by bounding their systemic interaction networks in space and over time (Chase-Dunn and Inoue 2025).³ World-systems as systemic networks are a crucial unit of analysis for studying and explaining the rise and fall of powerful polities because important causes stem from demographic, economic and military forces that operate both within polities and in interpolity and transpolity interactions.⁴ Core/periphery hierarchies (stratified power relations) emerged along with the rise of hierarchies within polities (Chase-Dunn and Inoue 2024) and when these interpolity hierarchies became institutionalized structures of world-systems the processes of the rise and fall of “great powers” began. Paramount chiefdoms rose and fell (Anderson 1994), as did early states, empires and modern hegemons. This comparative evolutionary perspective⁵ is useful for prehending both the similarities and the differences between these trajectories and for seeing the evolutionary aspects of the hegemony of the United States.

Core/Periphery Relations

² The SetPol project (see Footnote 2) uses Common Era (CE) and Before Common Era (BCE) to indicate calendar years.

³ The Settlements and Polities (SetPol) research working group is a project of the Institute for Research on World-Systems at the University of California-Riverside. It studies the growth/decline sequences of settlements and polities to test propositions about the causes of the rise of complexity and hierarchy. It is affiliated with the Political Economy of the World-System Interuniversity Consortium (PEWS-IC) <https://irows.ucr.edu/pewsic/pewsic.htm> and participates in the International Big History Association.

⁴ We use the term “polity” to generally denote a spatially bounded autonomous realm of sovereign authority such as a band, tribe, chiefdom, state, or empire. We use this term instead of “societies” because autonomous realms of authority are usually easier to bound spatially than are societies, as persuasively argued by Charles Tilly (1984) and Michael Mann (1986). Tilly (1984) pointed out that societies (defined as communities that share a common language and culture) are messy entities when we consider interaction networks.

⁵ Use of the word “evolution” still requires explanation. We mean long-term patterned change in social structures and institutions, especially the development of complex divisions of labor and of hierarchies. We do not mean biological evolution, which is a very different topic, and neither do we mean “progress.” Sociocultural complexity and hierarchy can be studied empirically regardless of whether they are seen as either progress or regress. Most historians and some sociologists (e.g. Mann 2016) reject the idea that human polities have evolved (but see Morris, 2013). Sociocultural evolution is both like and different from the evolution of biological and physical complexity. These comparisons are made by some of the scholars who study Big History.

Studies of small world-systems composed of foraging (hunter-gatherer) polities⁶ have shown that many of them do not have core/periphery hierarchies in which some polities exploit and/or dominate other polities (e.g. Chase-Dunn and Mann 1998). Core/Periphery hierarchies, one of the main structural characteristics of larger world-systems, emerged and evolved in conjunction with the rise of socially structured inequalities within human polities and with the invention of what Michael Mann (1986) called “technologies of power”⁷ that enabled some polities to dominate and extract resources from other polities.

The observation that core/periphery hierarchies emerged and evolved along with the processes of expansion and waves of the rise and fall of powerful core polities shines new light on historical and comparative studies of the rise of paramount chiefdoms, states, and empires and on the sequence of hegemonic rise and fall in the modern system.

Chase-Dunn and Hall (1996) made some changes in the conceptual tools that had emerged from the studies of the modern world-system. To be able to use archaeological evidence, which is necessary for studying preliterate systems, they introduced a distinction between core/periphery differentiation (CPD) and core/periphery hierarchy (CPH). CPD means that polities with different degrees of population density (population per land area) are systemically interacting with one another. CPH means that some polities are exploiting and/or dominating other polities. World-systems are systemically interacting networks of polities and settlements.⁸ The extent to which interpolity exploitation and/or domination was occurring needs to be examined, not assumed.⁹

Core, periphery and semiperiphery are relational concepts that depend for their meanings on the nature of interpolity relations. What semiperipherality is depends on the larger context in which it occurs, the nature of the polities that are interacting with one another, and the nature of their interactions. The nature and structure of core/periphery relations evolved as new kinds of institutions were invented and diffused. The most general definition of the semiperiphery is: “an intermediate location in an interpolity core/periphery structure” This general definition is useful because it allows us to see similarities across very different kinds of systems. Interpolity domination and exploitation are important because they strengthen the selection pressures that operate within sets of cooperating, competing and conflicting polities. To survive and be successful a polity must be able to withstand the efforts of other polities to exploit or conquer it. This selection pressure explains much about why innovations in hierarchy and complexity spread from polity to polity in systemic networks.

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⁷ Michel Foucault used this term in his analysis of discipline and prisons in European polities, but Mann was discussing how empires invented institutions of control over conquered peoples in the Bronze Age.

⁸ The term “settlement” includes camps, hamlets, villages, towns, and cities. Settlements are spatially bounded for comparative purposes as the contiguous built-up area.

⁹ Our studies of marcher polities and research on Central Asian steppe nomadic confederation suggest that a clarification of the definitions of CPD and CPH is needed. There have been many instances in which non-core polities, Hsiung-Nu, Mongols) successfully extracted tribute from more population-dense polities (China). These steppe nomad confederacies repeatedly emerged in Central Asia (Barfield 1989, 2023). Which was the core and which was the non-core? In addition to population density, it is important to consider the quantities and relative magnitudes of social surpluses that are generated and accumulated in a system. The amounts of surplus extracted by Central Asian steppe nomads from China were not a large proportion of the total surplus produced and accumulated in the East Asian world-system. China was still the core even when it was paying tribute to steppe nomads.

Semiperipheral Development

Immanuel Wallerstein (1974) was the original proponent of the concept of the semiperiphery. He saw the main role of the semiperiphery in the modern system as depolarizing the core/periphery hierarchy in ways that confused and undercut struggles for a more egalitarian global system by making interpolity hierarchy more complicated and supporting the belief that poor countries could catch up with core countries. Chase-Dunn (1988) developed what he called a theory of semiperipheral development that portrayed some semiperipheral polities as having played transformative roles in the evolution of the modern system. Chase-Dunn noted that all the national states that had risen to system-wide hegemony in the Western-centered system (the United Kingdom of the Netherlands, the United Kingdom of Great Britain, and the United States of America) had formerly been in semiperipheral locations in the system. This approach was inspired by ideas from Leon Trotsky and Alexander Gershenkron. The idea of uneven and combined development was first proposed by Leon Trotsky (1932) to explain how less developed countries in the modern world-system could catch up with more developed ones by importing and adapting new technologies without having to go through the laborious and slow processes of inventing something completely new. Alexander Gershenkron (1962) proposed a similar idea that he termed “the advantages of backwardness.” Chase-Dunn and Hall (1997) extended the idea of semiperipheral development to the comparative study of world-systems since the Stone Age. They identified two different types of semiperipheral polities whose actions had caused major changes in world-systems:

1. Semiperipheral marcher polities (chiefdoms and states) out on the edge of old core regions that conquered older core states to form larger polities, and
2. Semiperipheral capitalist city-states specializing in interpolity trade that encouraged the formation of larger and denser market networks and developed institutions that facilitated local and long-distance commerce.¹⁰

Growth/Decline Curves in Comparative Perspective

Human individuals, families, institutions, social movements, organizations, dynasties, regimes and polities are born, they live, and they die. Rein Taagepera (Taagepera 1978a, 1978b, 1979 and Taagepera and Nemcok 2024) coded the changing territorial sizes of largest empires in world regions since the Bronze Age using maps from historical atlases. Their main measure of polity size is square megameters of territory over which a polity exerts an important degree of control. Taagepera and Nemcok’s (2024) quantitative analysis of growth/decline curves allows them to make several useful comparisons regarding differences between these curves.¹¹

¹⁰Phillipe Beaujard’s (2005, 2019) studies of world-systems in the Indian Ocean used and further developed the idea of semiperipheral development.

¹¹Inoue *et al* 2012 presented an inventory of cycles, upward sweeps and collapses of polity sizes in five separate world-systems: Mesopotamia, Egypt, South Asia, East Asia and the expanding Central System (Wilkinson 1991) that eventually became the contemporary global system. See also Friedman and Chase-Dunn’s (2005) *Hegemonic Decline: Past and Present* that contains several studies of instances of decline in earlier world-systems as well as comparative studies of declines and Inoue *et al* 2016.

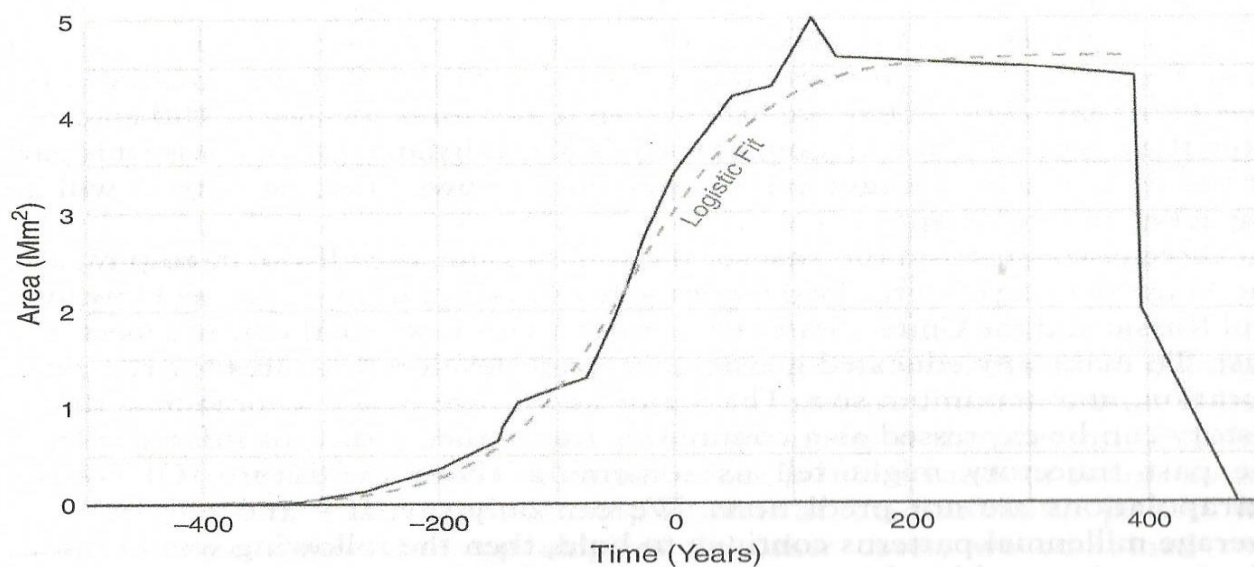


Figure 1: Growth-decline curve of the Roman Empire, square megameters; Source: Taagepera and Nemcok 2024:68

Figure 1 Shows Taagepera and Nemcok's growth/decline curve of territorial size for the Western Roman Empire. The growth phase is close to a logistic S-curve except for the bump in first century CE. The longevity near the peak size declined slowly for four centuries and then plummeted.

Empires got bigger and fewer over time. They varied in terms of size and longevity. Those that came up quickly did not usually stay up long. Thomas Barfield's (2023) comparative study of thirty AfroEurasian empires since the Iron Age compares patterns of rise and demise, strategies and organizational structures with strong attention to interactions in world regions. Barfield developed a useful distinction between Endogenous and Shadow empires and a typology of seven kinds of Shadow empires. Endogenous empires mainly extracted resources (labor, crops, manufactured goods and taxes) from their own populations, whereas large polities that extracted resources and Endogenous Empires. Barfield also noted that those exogenous empires that emerged from the non-core and were able to transition into endogenous empires had advantages over those that emerged only in the core because they knew more about the world from two very different angles, and this allowed them to become larger and to last longer.

The Evolution of Imperialism, Capitalism and Interpolity Governance in World-Systems

The modern system came into being when, after the demise of the Western Roman empire Western Europe became a peripheral and then semiperipheral region of the West Asian/North African systemic network. But trade, city-states and larger polities reemerged and developed an internal core of capitalist states that were eventually able to dominate the polities of all the other regions of the Earth. This Europe-centered system was the first one in which capitalism became the predominant mode of accumulation, though semiperipheral capitalist city-states had emerged in the Bronze Age in the spaces between the tributary empires. And maritime empires that used military conquest, trade and colonization emerged in the Iron Age (Barfield 2023). The Europe-centered system expanded in five waves of colonization (the blue upsurges in Figure 2 below) and experienced two waves of decolonization (red spikes in Figure 2). The first decolonization spike was kicked off when thirteen British colonies in North America sent their colonial governors home in 1776 -that first small red bump in Figure 2).

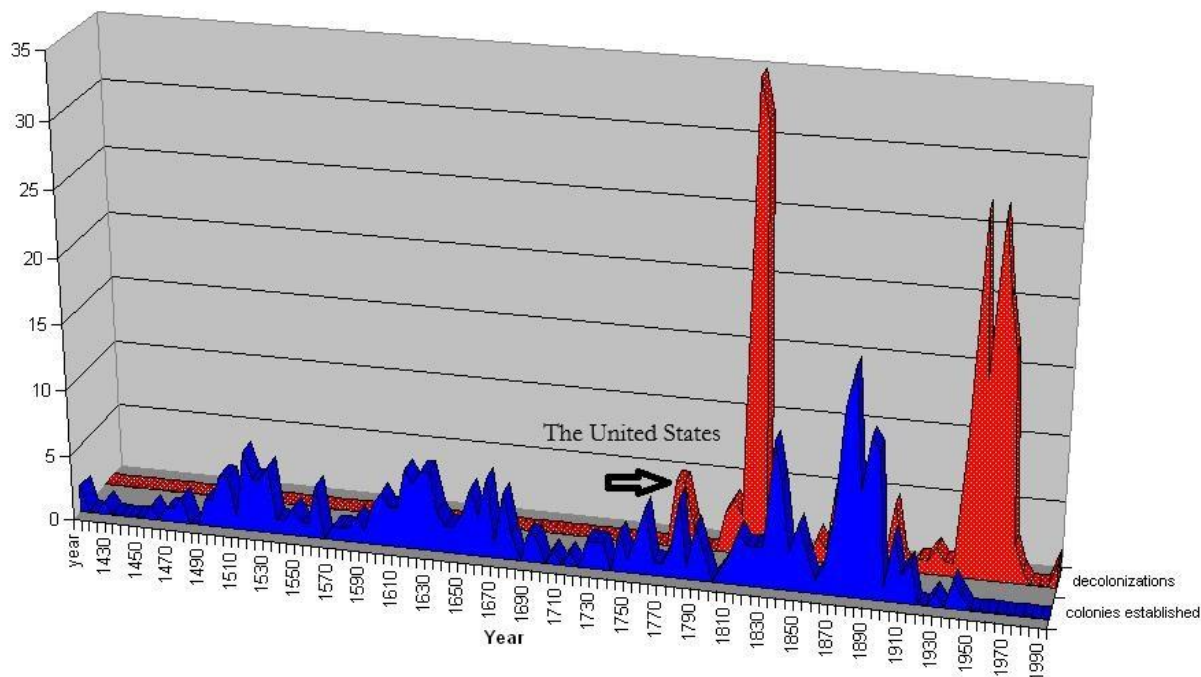


Figure 2: Waves of European Colonization and Decolonization 1400 -2000 CE Number of colonies established and number of decolonizations {Source: Henige (1970) updated to 2000}

Commodification in Europe expanded, evolved and deepened in waves since the thirteenth century, which is why historians disagree about when capitalism became the predominant mode of accumulation. Since the fifteenth century the modern system has seen four periods of hegemony¹² in which leadership in the development of capitalism was taken to new levels. The first such period was led by a coalition between Genoese finance capitalists and the Portuguese crown (Arrighi 2010). After that the hegemon has been single nation-states -- the Dutch in the seventeenth century, the British in the nineteenth century and the United States in the twentieth century (Wallerstein, 1984). The hegemon specified by Wallerstein and Arrighi were not just “Great Powers.” They were the leading edges in developing the capitalist state as an instrument of state power and advanced forms capitalist organization and regulation. All four of the modern hegemonies, were former semiperipheries that first rose to core status and then to hegemony.

In between these periods of hegemony were periods of interimperial rivalry (interregnums) in which several contenders strove for global power. The core of the modern system has remained multicentric, meaning that several sovereign states ally and compete with one another within the core. Earlier regional world-systems sometimes experienced periods of core-wide empire in which a single empire became so large that there were no serious contenders for predominance. This did not

¹² Perry Anderson’s (2017) historical philology of the hegemony concept traces its evolution and applications both within polities and in interpolity systems. Lorenzo Fusaro (2010; 2020) contends that Antonio Gramsci already had a discussion of international hegemony that he finds in the critical edition of the Prison Notebooks (Gramsci 2001) and Fusaro compares and reformulates the usages of Gramscian hegemony developed by Giovanni Arrighi (2010[1994]) and Robert Cox (1983).

happen in the modern world-system until the United States became the single super-power following the demise of the Soviet Union in 1989. It is in these periods of rivalry that major wars among powerful states are most likely to occur (Bornschiefer and Chase-Dunn 1999; Denmark 2018).

Interpolity Multidimensional Social Stratification

Hierarchies in complex systems within polities and in interpolity and transpolity systems are multidimensional as suggested by Max Weber's analysis of social stratification in terms of the separate dimensions of class, status and political power and Michael Mann's IEMP (Ideological, Economic, Military and Political) model of interpolity power (Mann 2006).¹³ We initially wanted to combine Mann's ideological and political categories together because they are so intertwined in practice. But we decided that communications technologies, the convergence of civilizational cultures and the rise of the noosphere support Mann's claim that separating the political and ideological/cultural dimensions of power in interpolity systems is a good idea. The main dimensions of power we will operationalize quantitatively in this article are economic and military. We will briefly mention ways to study trends in ideological and political power and will focus on measuring trends in these in a future article. Our use of Mann's IEMP scheme is a heuristic simplification that does not preclude attention to overlaps and interactions and that allows attention to subdimensions of the main dimensions.

The core/periphery hierarchies studied by world-systems scholars are composed of these several dimensions but usually focusses mainly on the emergence and evolution of hierarchical divisions of labor in which high wage skilled labor is concentrated in the core and the periphery mainly contains low wage labor use in the extraction of natural resources and agriculture. This kind of hierarchy constitutes a mechanism for the extraction of surplus from the periphery through the unequal exchange of labor value (Emmanuel 1972; Chase-Dunn 1998: Part 3).¹⁴ The categories core, semiperiphery and periphery are heuristically useful for examining how global inequalities are organized and for examining the "stickiness" of world-system stratification. Stickiness means that most countries do not move up or down as the whole hierarchy evolves. But there are some exceptions to stickiness and the United States is probably the most important of these (see below). The evolving multidimensional global hierarchy is really a set of continuous and interconnected dimensions that can be analyzed separately and compared with one another, and so it is not a sensible use of intellectual energy to argue about where the cutting points should be between the heuristic categories core/semiperiphery/periphery. The main point is that global inequalities are structural, and that these structures evolve. The rise and fall of empires and hegemonies is often core-centric, focusing only on the top layer of "great powers" but this is always just a segment of a larger core/periphery hierarchy in which non-polities and regions are important because they contain resources needed by the powerful and because they are often the places where new religions and resistance movements emerge.

The sequence of hegemonies can be understood as the evolution of interpolity governance in the modern system – a process of political and economic globalization in which the hegemons have provided "global order." The European interstate system institutionalized at the Treaty of Westphalia in 1644 is still a fundamental structure of the polity of the modern system. This system

¹³ Though we find Mann's depiction of multidimensional global power useful and informative we depart from his argument that social change is not evolutionary (Mann 2016) and that these trajectories of power dimensions are largely independent of one another. We see them as connected, combinatorial and additive with one another such that it is possible to examine how they combine to form systemic wholes.

¹⁴ There is also an important and more recent world-system tradition that focusses on ecologically unequal exchange (Givens, Huang and Jorgenson 2019).

of theoretically sovereign states was expanded to include the peripheral regions of the system in two large waves of decolonization (see Figure 2 above) and eventually resulted in a configuration in which the whole interpolity network became mainly composed of theoretically sovereign national states. East Asia was incorporated into this system in the nineteenth century, though aspects of the earlier China-centered tribute-trade state system were not completely obliterated by that incorporation (Hamashita, 2003).

Each of the hegemonies was larger as a proportion of the whole system than the earlier one had been. And each restructured the institutions of economic and political-military control by which it became hegemonic in the larger system such that capitalism increasingly deepened its penetration of all the areas of the Earth. After the Napoleonic Wars in which Britain finally defeated its main competitor, France, supra-national political institutions began to emerge over the tops of the international system of national states. The first proto-world-government was the Concert of Europe, a fragile flower that wilted when its main proponents, Britain and the Austro-Hungarian Empire, fell out about how to handle the World Revolution of 1848 (see below), especially the issue of Italian nationalism. The Concert was followed by the League of Nations and then by the United Nations and the Bretton Woods international financial institutions (The World Bank, the International Monetary Fund and eventually the World Trade Organization).

The political globalization evident in the trajectory of global governance evolved because the powers that be were in heavy contention with one another for geopolitical power and for economic resources, but also because resistance emerged within the polities of the core and in the regions of the non-core. The series of hegemonies, waves of colonial expansion and decolonization and the emergence of supranational institutions occurred as global elites and their states contended with one another and tried to contain resistance from below (Chase-Dunn and Almeida 2020; Karatasli 2023). We have already mentioned the two large waves of decolonization in which the colonial empires of the European core states were disassembled. Other important forces of resistance were slave revolts, the extension of citizenship to men of no property, the women's movement, the labor movement, the socialist parties and communist states, fascist movements and regimes, political Islam and other associated antisystemic and counter-hegemonic rebellions, social movements and regimes.

These interacting movements had consequences for the evolution of global governance in part because the rebellions often clustered together in time, forming what have been called “**World Revolutions**” (Arrighi *et al.*, 1989; Silver and Slater 1999). The Protestant Reformation in Europe was an early instance that played a huge role in the rise of the Dutch hegemony. The French Revolution of 1789 was connected by the diffusion of ideas and co-participants to the U.S. and Haitian revolts and with the Latin American decolonizations in the early decades of the 19th century.¹⁵ The 1848 rebellion in Europe was both synchronous with the Taiping Rebellion in China and was linked with it by the diffusion of ideas, as it was also linked with emergent new Christian Sects in the United States.¹⁶ 1917 was the year of the Bolsheviks in Russia, but also the same decade saw the Chinese Nationalist revolt, the Mexican Revolution, the Arab Revolt and the General Strike in Seattle, Washington led by the syndicalist Industrial Workers of the World. 1968 was a revolt of students in the U.S., Europe, Latin America and Red Guards in China. 1989 was mainly in the Soviet Union and Eastern Europe but also spurred the turn toward capitalism in China. Global civil society (those who consciously oriented their politics to the whole world-system) had originally been the

¹⁵ Toussaint Louverture, the early leader of the Haitian revolution, had served in the French army in Savannah helping the United States throw the British out. And the Haitians later provided asylum to Simon Bolivar.

¹⁶ A preacher from Tennessee had the story of Jesus translated into Cantonese and this triggered the Taiping rebellion. This was a link, albeit indirect, of the East Asian cycle of antisystemic rebellions and social movements with the West. This is important because of the later more direct connections between the Chinese, Mexican and Russian revolutions.

realm of statesmen, religious leaders, scientists and the “world republic of letters” (Casanova 2007) but expanded to include non-elites as new technologies of communication and transportation reduced the costs of communications and collaboration and allowed transnational social movements to rise from below. The big point here is that the political histories within polities have been connected in interpolity systems¹⁷ by both interactions among states and by transnational interactions (migrations, technological diffusion, cross-border flows and interactions) for centuries, and that this was also true for smaller regional world-systems of the more distant past.

The global capitalism school [Sklair (2001); Robinson (2004) and Harris (2023)] contends that a global stage of capitalism based on transnational corporations and a transnational capitalist class arose as a predominant characteristic of the world-system only in the 1960s and that before that there existed a stage in which national states had relatively separate economies and polities. Transnational relations and a global class structure (Amin 1980b) have been important in the modern world-system (Quigley 1981; Van der Pijl 2012) and in earlier smaller systems, but transnational interactions did become more important in the wave of structural economic globalization that occurred in the years since World War II. States and international relations did not stop being important actors with the rising importance of transnational corporations and a more integrated transnational capitalist class. The networks of linkages among transnational corporations continue to reflect the importance of where their headquarters are located and these are linked to the power of states (Carroll 2010), but the prehension that capitalists do not always have the same interests as their home states is an important insight that predates by centuries the alleged recent rise of global capitalism. Our main justification for using states as the unit of analysis in this study of U.S. hegemony is that data that allow quantitative comparisons are mainly based on that unit of analysis, but we agree with the global capitalism school that transnational connections are an important part of what has occurred, and is occurring, in the world-system.

The Rise of the USA

The humans in North America before the arrival of the Europeans were developing sociocultural complexity and hierarchy in a network of only weakly connected world-systems that were becoming more connected. Tenochtitlan, the capital of the Aztec empire, had more than 200,000 inhabitants, making it the largest city in the Americas and as large as most of the biggest cities in Europe at the time. But most areas outside of Mesoamerica had small-scale polities and small settlements. The biggest city in the area that became the United States, was Cahokia located in what is now East St. Louis. Cahokia, an important center of the Mississippian culture, had a residential population of between 15,000 and 20,000 at its peak in 1100 CE. The largest villages in indigenous California had about 2000 residents.

North America was colonized by Spain, France, Britain, the Netherlands and Sweden. Britain, France became the main contenders and the American revolution against British rule that began in 1776 was substantially supported by the French monarchy, but the expense of this support was one of the main causes of the French revolution of 1789. At the time of its formation out of thirteen British colonies the United States was in a periphery of the Europe-centered system on the East Coast of North America. This “first new nation” survived a strong attack from the British in

¹⁷ By “interpolity systems” we mean approximately what International Relations Political Scientists mean by “international systems” except that before systemic networks became global, there were three types of systemic interaction that had different spatial scales (Chase-Dunn and Lerro 2016:20-21) and we include bands, tribes and chiefdoms and empires as well as states. The word “nation” refers to a group of people with a shared collective identity. Polity refers to an organization that claims and tries to exercise authority over a territory or a group of people (nomadic polities). Global governance in the modern system has mainly been provided by the world orders produced by the rise of hegemonies, the expansion and deepening of capitalism and since the early and middle decades of the 19th century by the rise of supranational organizations.

the War of 1812 and its decolonization was an important spur to the Haitian revolution and the subsequent decolonization of the Spanish colonies in the Americas, the bulk of the first large wave of decolonizations shown in Figure 2 above.

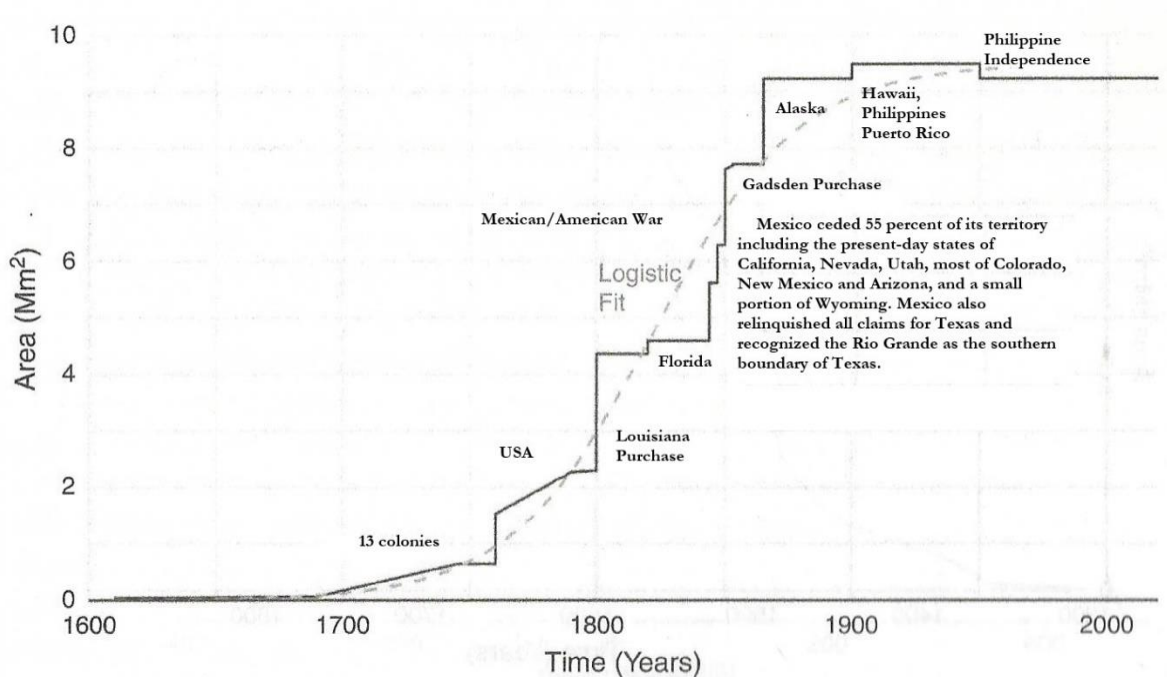


Figure 3: U.S. territorial size (square megameters) growth curve. Source: Modified from Taagepera and Nencok 2024:70; pp.216-217, Table 13.2.

The growth in the territorial size of the thirteen British colonies and then of the United States is shown in Figure 3. The rise is close to a logistic S-curve and there is a little bump in the peak that corresponds with the holding of the Philippines before it gained its formal independence in 1946. The United States began the process of westward expansion by purchasing Louisiana from France and military conquest of indigenous peoples in the early 19th century with internal north/south contradictory development projects made obvious by Alexander Hamilton's (2017 [1827]) *Report on the Subject of Manufactures* and the Nullification Crisis of 1832-33 in which South Carolina declared the federal tariffs of 1828 and 1832 unconstitutional (Chase-Dunn 1980). These contradictions came to a head in the Civil War.

The new nations in Latin America each had their own civil wars after decolonization, but in most of them it was the internal "South" – latifundistas who wanted to continue to export raw materials in exchange for manufactured goods from the core, -- that won. The Northern victory in the U.S. put it on the path to upward mobility in the core/periphery hierarchy laid out by Hamilton. By the 1880s the U.S. had risen to the semiperiphery and after the Spanish American war of 1898 it had joined the other core states of the now-global world-system. Alfred McCoy (2022:195) gives the credit for building the federal institutional framework and promoting a version of international law that eventually allowed the U.S. to govern the globe without colonies to Elihu Root, a New York attorney who served as Secretary of War, Secretary of State and was elected to the Senate from New York. Root was a major force behind the establishment of the International Court of Justice and an advocate of institutions that could resolve international conflicts legally.

World War I confirmed the arrival of the U.S. to the core of the world-system. The U.S. Gross Domestic Product (GDP) had already been a greater share of the global GDP than that of

Britain since the middle of the 19th century (see Figure 4 below). But after World War I the America Firstists in the Senate prevented the United States from moving into the role of political hegemon by refusing to join the League of Nations, despite (or because) President Wilson had been one of the main organizers of the League. After World War II the U.S. strongly supported the founding of the United Nations and took up the role of political hegemon, but with serious resistance from the Soviet Union, a product of the World Revolution of 1917. The demise of the Soviet Union in 1989 left the U.S. as the only superpower, with a huge share of global military power but its share of global GDP had been declining since its peak in 1945 when it was the only industrial economy not devastated by World War II. By 1970 Germany and Japan had caught up in manufacturing and the U.S. began its move toward financialization with the rise of Reaganism/Thatcherism and the neoliberal globalization project (Brenner 2002).

One similarity between the British and U.S. periods of hegemonic decline is what has been termed “imperial overreach.” Some of the leaders of the declining hegemon feared that financialization would be a bubble that could not continue to provide a stable basis for global hegemony and so they choose to play the other card in the hegemon’s hand --preponderant military superiority (Kennedy 1980; Modelski 2005). The neoconservative plan to restore global order by using U.S. military superpower to control the global supply of oil (Stokes and Raphael 2010) has not succeeded. The British tried a similar gambit at the end of the 19th century spurred on by an elite group of Round Table journalists and politicians (Quigley 1981). The Boer Wars were part of a plan to control the African continent and to organize an alliance of English-speaking peoples to replace the British Empire. But the Boers, like the Vietnamese and the Taliban, refused to go along with the program.

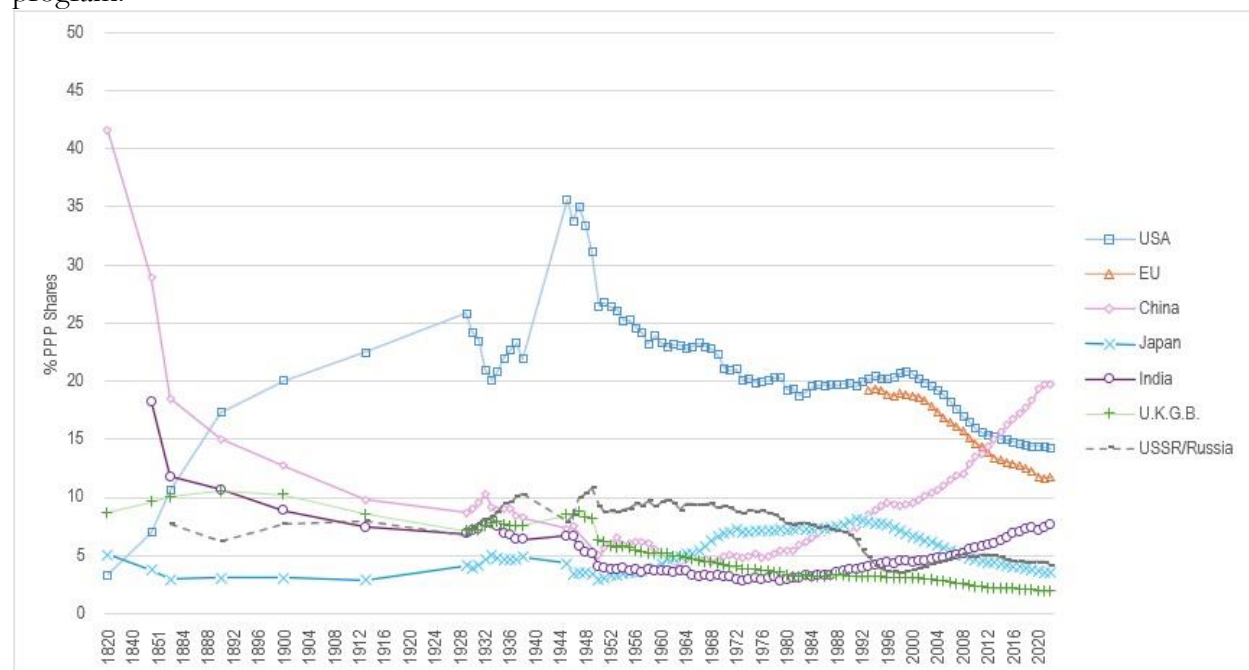


Figure 4: Shares of global GDP, PPP estimates 1820–2022. Source: Maddison Project 2023¹⁸

¹⁸ The Maddison Project data set provides GDP per capita and the population sizes of countries. To get GDP shares we use those to compute total GDPs for each country and then compute the shares. Estimates for China and Russia were missing in the Maddison data for 1945 and for China in 1946 so we estimated these from the closest years in order to compute shares.

Gross Domestic Product (GDP) is an estimate of the monetary value of all the monetized transactions for goods and services that occur within a country in a single year. It is the sum of consumption, investment, government spending, and net exports, which are imports minus exports. GDP is a measure of economic size that is strongly influenced by territorial and population size as well as by the level of economic development.¹⁹ Angus Maddison (2001:171-175) explained his use of PPP (purchasing power parity) estimates rather than currency exchange rates to convert country currency data into constant dollars. Purchasing power parity estimates convert GDP estimates denominated in country currencies into U.S. dollars by estimating comparable purchasing power for a basket of consumer goods. Maddison worked for years to produce comparable PPP estimates for very different kinds of accounting systems (e.g. the Net Material Product of centrally planned economies) and for different kinds of economies (e.g. highly monetized vs. the partially monetized economies in the periphery of the world-system). (See the discussion of PPP and exchange rate (FX) measures of GDP below).

Figure 4 shows how the economic sizes of countries have changed as shares of global GDP (in PPP terms) since 1820. China and India declined as “the West” rose and the European powers neo-colonized China, incorporating the East Asian world-system into Europe-centered, now global, system. The U.S. became larger in GDP terms than the United Kingdom of Great Britain²⁰ in 1850 and larger than China and India in 1888. The U.S. peaked in 1929 and then declined until World War II but peaked again after the war as the last man standing after the desolation of that war. Then it declined to a plateau in 1980 and then a steeper decline in 2000 that continued to 2022. The European Union, founded in 1993, also shows a steady decline since 2000 in terms of relative shares of PPP GDP.²¹ The declines of the U.S. and the E.U. are co-terminus with the post-2000 rise of China and India.

Evolutionary Aspects of the Hegemony of the United States

In this study we mainly operationalize our measures of power trajectories in terms of relative shares of the distributions of economic, political and military capabilities, but the evolutionary significance of the U.S. trajectory is about both shares and scale. Though the Akkadian empire was the biggest polity on Earth in terms of territorial size at the time of its peak, by comparison with those that emerged later – the Mongol and British empires -- it was very small [(8 vs. 24 and 35.5 square megameters (Taagepera and Nemcok 2024:320,328,332)]. The United States in the 20th century became the first truly global (Earth-wide) power and this is one of its most significant evolutionary features. When the United Kingdom of Great Britain rose to hegemony after the defeat of France there was still a relatively autonomous East Asian World-System in which China was the hegemon. China got incorporated into the Europe-centered system during the 19th century, producing a truly Earth-wide system for the first time. The U.S. rise to political hegemony was sealed after the defeat of both Japan and Germany in World War II. That was an upsweep in scale in the long rise of empires and hegemons to the Earth-wide level. The United States has also been a main purveyor of the neoliberal globalization project since the 1970s that eventuated in the global economy reaching a new and very high level of connectedness regarding trade and investment networks. **Structural**

¹⁹ Figure 3 in Chase-Dunn, Kwon, Lawrence and Inoue (2011) showed the relative position of these same entities from 1820 to 2006 in terms of the ratio of their GDPs **per capita** to the average global GDP per capita. GDP per capita is an indicator of labor productivity and level of economic development. That showed that British economic development was not passed by the U.S. until 1900 and that the U.S. relative level of economic development continued to grow from 1980 to 2000 and then declined. See Figure A1 in the Appendix

²⁰ The Maddison Project does not include the British Empire as part of its estimates for the United Kingdom.

²¹ The European Union countries we used to calculate these shares are Austria, Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Sweden, Portugal, Spain and the UK.

globalization is growing interconnectedness of interpolity and transpolity interaction networks (Chase-Dunn, Kawano and Brewer 2000).²²

Empirical studies have shown that increases in connectedness have occurred in waves -- an upward spiral -- that are periodically interrupted by plateaus or decreases in connectedness -- deglobalization. Ian Morris's (2022) study of 10,000 years of the history of the British Isles shows repeated waves of cosmopolitan expansion and nativist contraction -- "firstism" -- that occurred before Brexit. After the financial crisis of 2007 the global trade and foreign investment networks experienced another plateau in the trend toward greater connectedness since 2008. This could be a temporary stall or the beginning of another period of economic deglobalization of the kind that occurred in three earlier periods since 1830 (Chase-Dunn, Álvarez and Liao 2023: Figure 5, Table 1). But the leading role of the United States in producing the great upsurge of global economic connectedness since World War II is another important evolutionary feature of the trajectory of U.S. hegemon, though the U.S. now seems to be entering another of its waves of Firstism (the U.S. Brexit).

The rise the United States has been a continuation and transformation of the long-term evolution of empires. The Akkadian empire was followed by larger conquest empires that conquered adjacent polities and used enslavement, confiscation, taxation and tribute-taking to extract resources from adjacent regions. The growth of markets and commercial production led to the rise of maritime empires and capitalist city-states that combined coercion with the accumulation of profits from trade and commodity production. The evolution of empires is not just about changes in geopolitics and innovations in the technologies of coercive extraction and governance -- what Michael Mann (1986) called "technologies of power." It is also about changes in the relationships between coercive, financial and economic power within states -- that "shadowy realm" discussed by Fernand Braudel (1984) and Giovanni Arrighi (2010). Most of the older land-based empires were finally extinguished in the World Wars of the 20th century. Capitalist city-states emerged in the Bronze Age in the interstices between the tributary empires, and maritime colonial empires that used conquest of distant colonies to serve the purposes of profit-making emerged with the Athenian and Carthaginian Empires in the Iron Age (Barfield 2023), but then became the new normal with the rise of the European colonial empires (Henige 1970).

One reason why there is still a battle among politicians and academics about whether the U.S. has an empire is because its predominant form of domination has mainly not included formal colonial sovereignty over its non-core "allies." Its own history in making a revolution against the British colonial empire inspired and required a clientalist form of imperial domination that did not rely on formal colonial subordination (Go 2011).²³ The U.S. continental expansion was carried out by military conquest and purchase of territories, but then it allowed the new territories to become equal states with powerful representation in the federal government (except for Puerto Rico).²⁴ Its powers over more distant conquered or dependent peoples have been mainly constituted as clientalistic economic relations based on foreign investment and covert operations to see that client states stay in line (McCoy 2017). U.S. global military power was built by supporting the "independence" of the colonies of European powers in exchange for trade openness and treaties for

²²Structural globalization is increasing connectedness. Structural deglobalization is decreasing connectedness. These are distinct from, but may be outcomes of, developmentalist ideologies like the neoliberal capitalist globalization project that emerged in the 1980s as Reaganism/Thatcherism and the Washington Consensus.

²³ The critique of the political ideologies regarding American exceptionalism as nationalistic rhetoric and the justification for the exercise of global power is germane but should not prevent efforts to specify how the U.S. global power has been both similar and different from earlier empires.

²⁴ The conquest of the Philippines was eventually converted into clientelism with the coming of formal independence in 1946.

establishing U.S. military bases (Go 2011). This clientelist form of empire is evolutionary because it allows formal sovereignty to dominated peoples, and it maintains control by using “soft power” (Nye 2011) ideology about cooperation and foreign aid combined with covert operations and occasional temporary military invasions. One problem with an empire built on clientelism, as noted by Giovanni Arrighi when he compared the British and U.S. empires, is that it is more difficult to conscript soldiers and to extract taxes for supporting the home state. Control is expensive and the neo-empire state must raise revenues and mobilize soldiers to meet these costs, and so other solutions must be found. Clientelist neo-colonial empire is still empire, but in comparison with the old colonial empires it involves less exploitation, less domination, more reliance on consent than on coercion compared with earlier empires and constitutes evolution in the direction of a global welfare state. Besides costs, there is another problem. The legitimating ideology is democracy, but the people of the world do not elect the commander in chief.

The decolonization of the European colonial empires occurred in two great waves (Figure 2 above). The first wave began with the American revolution in 1776, and the second wave was carried out after World War II with U.S. support. The U.S. also contributed to the evolution of global governance by supporting the establishment of international political and financial organizations after World War II -- the United Nations, the World Bank and the International Monetary Fund, and eventually the World Trade Organization. Thus, “global governance” evolved because of the rise of a nearly global hegemon that was absolutely and relatively much larger than the earlier hegemons had been and by further shifting the nature of imperialism from colonial empires to neocolonial forms of control. Britain's formal colonial empire was just its colonies (which was the biggest formal empire that ever existed) but its hegemonic influence was much wider but not truly Earth-wide. The US. hegemony does not fit the very high bar for hegemony used by David Wilkinson (1999) because there have always been countries that did not do what the U.S. wanted them to do if they did not want to do it. If global means the whole earth no single sovereignty has done that (yet).

The trend toward global state formation began with an alliance between Britain and the Austro-Hungarian empire to prevent future Napoleonic episodes (the Concert of Europe), and then morphed into the League of Nations (championed by Woodrow Wilson but then rejected in an earlier wave of America Firstism) and then the United Nations and the other international organizations most of which have their headquarters in the United States²⁵.

Capitalist success is not only about the logic of profit-taking. It combines profit-taking with innovative approaches to the territorial logic of states that provide protection and carry out jobs that private capitalists cannot do for themselves – legitimation, access to profitable opportunities, and fixes for the contradictions that are inherent in capital, etc. (Chase-Dunn 1998, Chapter 7; Arrighi 2006a; Harvey 2014). The power of the big capitalists and financiers must be balanced by a political apparatus that is strongly enough supported and capable enough to carry out these functions (Arrighi 2006b). When geopolitics and capitalism work together they produce what Arrighi called “systemic cycles of capitalist accumulation” in which the nature of historical capitalism evolves by expanding and deepening.

²⁵ Franklin Delano Roosevelt wanted to locate the headquarters of the United Nations on Niihau, a small privately owned island near Kauai in the Hawaiian archipelago (Bemis 1949).

Leading Governmental Organization	Regime type/cycle		Costs internalized			
	Extensive	Intensive	Protection	Production	Transaction	Reproduction
World-state		U.S.	Yes	Yes	Yes	No
Nation-state	British		Yes	Yes	No	No
		Dutch	Yes	No	No	No
	Genoese		No	No	No	No
City-state						

Figure 5: Arrighi's Evolutionary Patterns of Historical Capitalism (Arrighi 2006a:206)

Figure 5 displays Arrighi's depiction of the evolution of capitalist systemic cycles from Genoa to an eventual "world-state." The choice of hegemon from the larger list of core states (Great Powers in international relations theory) is influenced by the idea of capitalist innovator--states that enable more adaptive forms of capitalist accumulation. This is what accounts for Arrighi's inclusion of Genoa/Portugal and the United Provinces of the Netherlands in the list of hegemon and the absence of Spain. Arrighi also saw an alternation in hegemonic style between corporate intensive organization and cosmopolitan-imperial extensive regimes. He says:

This recurrent revival of previously superseded strategies and structures of accumulation generates a pendulum-like movement back and forth between "cosmopolitan-imperial" and "corporate-national" organizational structures, the first being typical of "extensive" regimes—as the Genoese-Iberian and the British were—and the second of "intensive" regimes—as the Dutch and the U.S. were. The Genoese-Iberian and British "cosmopolitan-imperial" regimes were extensive in the sense that they have been responsible for most of the geographical expansion of world capitalism. Under the Genoese regime, the world was "discovered," and under the British it was "conquered." The Dutch and the U.S. "corporate-national" regimes, in contrast, were intensive in the sense that they have been responsible for the geographical consolidation rather than the expansion of the historical capitalism (Arrighi 2006a: 208).

Arrighi also saw a sequence of deepening in which political and economic organization moved from providing protection for capitalist accumulation to the commodification of production, transaction costs and reproduction (see Figure 5). He also noticed the upward trend in the increasing size of the hegemon and Figure 5 predicts the eventual emergence of a "world-state." This is the evolution of both global governance and the capitalist mode of accumulation with helpful implications about what is happening now and about the middle-run future.

Both Immanuel Wallerstein (1984) and Giovanni Arrighi (2010) noted that hegemonies go through stages. In the first stage economic power based on comparative advantages in the

production of consumer goods declines as competition from abroad lowers the profit rate, but this is followed by a shift to capital goods, which then also declines and is followed by the rise of financial services in which the hegemon's national currency became global money, enabling it to print world money and gain currency "seigniorage." Seigniorage is the difference between the face value of money—both paper bills and coins—and what it costs to produce it. The ability to print a currency that is widely used as a standard and means of exchange and as a currency reserve by states, banks and firms, is a huge advantage in the world economy.

Michael Mann (2013) called this "dollar seigniorage." U.S. federal government spending was made possible without increasing taxes because governments and investors abroad were willing to buy U.S. government bonds and to invest in property in the U.S and in U.S. businesses. This massive influx of money has allowed the U.S. economy to sustain huge trade deficits in which imports of foreign goods and services vastly exceeded the amount of U.S. goods that were exported, despite the outsourcing of jobs by U.S. companies. Because of its ability to sell bonds the U.S. government was able to keep interest rates low and so developers could build new housing, and homeowners were able to sell their old houses and move into larger houses because the price of housing tended to go up. Residential mortgages were also subsidized as they had been since the G.I Bill of Rights after World War II, but the mortgage industry kept expanding credit and lowering the requirements for obtaining real estate loans. Mortgages from the residential and commercial real estate markets were repackaged by Wall Street financial entrepreneurs as global commodities and sold to institutional investors all over the world, eventuating in the global financial collapse of 2007.

The wave of financialization during the U.S. hegemonic decline took on new dimensions that differentiate it to some extent from what happened with Britain at the end of the 19th century. British financialization was mainly based on foreign investments. These are important in the current world economy too, but bond purchases and investment inflows have been a very large part of the the U.S. government's ability to finance overseas wars in Afghanistan, Iraq and Ukraine and the expensive funding of a global military apparatus that is coming to be based on satellites, drones, biometric identification, robotics and cyberwar (McCoy 2017). The holding of U.S. Treasury Bonds by the Peoples' Republic of China expanded hugely from 2000 CE to 2012, plateaued and then has been declining since 2017 (U.S. Department of the Treasury 2025) as the U.S. has shifted from treating China as an allied client to a rival for global power.²⁶ The use of U.S. financial power in the form of economic sanctions has also become a tool in the effort to maintain U.S. global power. But the political use of financial sanctions angers those who are sanctioned and risks reducing the trust of investors everywhere in U.S. bonds and support for the U.S. dollar as the main reserve currency in the world economy. The threat of "dedollarization" by the BRICS+ countries is supported by many global justice activists but that threat has not been strongly supported by the main BRICS countries themselves, probably because the elites that control them have sources of wealth that are dependent on ownership of U.S. dollars and enterprises who prefer a stable and reliable medium of exchange and are skeptical of the idea that any other currency could replace the U.S. dollar.

Trajectories of Economic, Political, Ideological and Military Power

Recall our discussion of dimensions of global power above. We have updated several quantitative measures that were examined in Chase-Dunn, Reifer, Jorgenson and Lio (2005) and in Chase-Dunn, Kwon, Lawrence and Inoue (2011) and we have added some other indicators to examine what has happened with economic, political and military power distributions recently during the slow decline of U.S. hegemony. Jeffrey Kentor (2000, 2006) examined the trajectories of countries in 1980, 1990 and 2000 with regard to two measures of economic power (GNP per capita,

²⁶ The P.R.C. is also using foreign investment as a tool in global rivalry. See Wooley (2025).

and total GDP and also military power measured as publicly-known national military expenditures, and Kentor combined these scores into an single index of “position in the world-economy” but he also presented national scores for each of the components separately and discussed differences between them.

Jacob Heim and Benjamin Miller (2020) did a study for the Rand Corporation that used a revised version of a multicomponent Global Power Index (GPI) that had been developed at the Pardee Center for International Futures at the University of Denver (Moyer and Markle 2018; Moyer *et al* 2024) and subsequently used in the National Intelligence Council (NIC) *Global Trends Report* in 2020.²⁷ Heim and Miller modified the Global Power Index by using the G20 countries as a denominator for computing shares rather than the 188 sovereign and semi-sovereign countries that the original GPI had intended to include. Heim and Miller’s 2020 report contains some important ideas regarding both economic power (that should include wealth comparisons as well as GDP in estimating shares, Figure 4, p. 5), recognition of a long history of debates between triumphalists and declinists (p. 2, Footnote 3 on p. 24) (see also Thompson 2022 discussed below), skepticism about the accuracy of quantitative efforts to determine the relative relationships over time between the power of the U.S. and the Peoples’ Republic of China (PRC) (p.3), citation of academic literature that is skeptical about the way in which the PRC estimates its GDP (p.4-5, Fn14, p. 24), weighting the components of their GPI index, and a version of the power-cycle model developed by Charles Doran (2012) that focusses on “inflection or critical points” in which the power share trajectories of countries slow down, speed up or reach asymptotes or troughs (Figure 10, p. 12, Appendix). They also note that the Deng Xiaping “hide and bide” strategy began to be replaced by a more assertive foreign policy in 2011 (Tooze and Bello 2025) just as China’s rapid economic boom slowed down a bit (an inflection point).²⁸ The Belt and Road initiative in which Beijing is using its accumulated U.S. dollars and excess production capacities to make alliances across Eurasia and for upgrading the infrastructure that connects Halford MacKinder’s “World Island” more firmly.²⁹ Thompson (2022: 255) calls this “China’s version of the earlier U.S. Marshall Plan.”

The other innovative contribution in the Heim and Miller article is their testing of three alternative scenario models to see how they influence the timing of crossing points and the risks of war between great powers. They use their modified GPI index to produce a baseline model that is projected out to 2040 (Table 2, p. 15; Figure 12, p. 16) and then they change some of the parameters in ways that would correspond with three alternative future scenarios: a “lost decade” slow-down in Chinese growth, rapid global population growth (faster than that predicted by most demographic models), and a climate change “shared socioeconomic pathways (SSP) model known as SSP2, or the “middle of the Road-Intermediate Challenges) model of global warming. The Chinese “lost decade” scenario slows Chinese ascent and favors both Russia and the U.S. (Figure 14 p. 17). Heim and Miller point out that this produces a situation in which the three top powers are going through critical points during the same years (Figure 15 and 16, p. 17), which they contend raises the probability of war between great powers. The global population growth spurt scenario did not change the model much from the baseline because the relative shares in their GPI model are not

²⁷ In the Heim and Miller publication 2019 is the most recent “historical” (non-imputed) estimates of quantitative components of their GPI index.

²⁸ The Doran inflection-critical point power cycle theory focusses on changes of single country trajectories but also argues that when these points are reached by two or more countries that are close to one another in time the confusion can lead to mistakes in the calculations of those in control of national militaries that can cause the outbreaks of great power wars. A somewhat different interpretation is called power transition theory (Organski 2014) in which great power wars are likely to break out when the power share of a challenger gets close to the share held by a declining hegemon.

²⁹ Thompson (2022: 255) calls this “China’s version of the earlier U.S. Marshall Plan.”

much affected by changes that affect all countries equally (p. 19). The climate change scenario is different in part because the model of global warming does not affect all areas equally. Some regions experience large increases in temperature while others experience only mild changes (see Figure 18 on p. 19 in Heim and Miller) and the different regional effects also vary by the size of the average global temperature changes (see Van der Wiel, *et al.* 2024 and Koninklijk Nederlands Meteorologisch Instituut *KNMI Climate Explorer* n.d.). The global warming scenarios show that China sees a significant increase in global power relative to the baseline model, Russia sees a slight gain and the U.S. and India experience moderate declines (Figure 19, p. 20; Figure 21, p. 21).

The Pardee Center for International Futures at the University of Denver (Moyer and Markle 2018; Moyer *et al* 2024) has developed three measures of global power including the GPI discussed above that was modified and analyzed by Heim and Miller. The three measures include different combinations of shares of military, demographic, economic and energy variables, Research and Development spending, “Information Communication on Technology” (ICT) capital stock, foreign aid, embassies, membership in International Governmental Organizations (IGOs), treaties signed and ratified, and estimations of diplomatic power shares.³⁰ The weighting schemes used for the components of GPI index vary across six time periods (1816-1944, 1945-1959, 1960-1972, 1973-1989-1990-2004 and 2005-2019 (see Table 1 in Moyer *et al* 2024). This is an effort to consider changes in technology. The codebook articles also address the issue of “semi-sovereign” polities by adding the estimates for these (e.g. Puerto Rico, etc.) to the scores of the sovereign polities that control them (e.g. the United States) (see Table 4 in Moyer *et al* 2024:15-16).

William R. Thompson’s (2022) study of U.S. decline includes both military and energy consumption shares of global power.³¹ The Thompson (2022) book also includes a useful comparison and analysis of fifty-nine international relations books on the topic of U.S. decline published between 1987 and 2020 (p. 6, Fn. 8. Thompson’s literature review (2022 p-6-9 and Table 1.1 p 8, compares declinists with anti-declinists and discusses cycles of declinism and a decline continuum). Thompson (2022) also provides a useful summary and update of the power cycle theoretical research program developed by Thompson in collaboration with George Modelski and presents a recent updating to 2018 of their shares indicator of long-distance military power projection as well as a measure of energy consumption based on combining total consumption and per capita consumption. Thompson (2022) also combines the economic (energy) and military shares into a single index global power with the military given twice the weight of the economic capabilities. One important distinction between types of major powers developed by Modelski and Thompson and explained in Lee and Thompson (2018) and Thompson (2022) is between global and regional powers. Global powers develop intercontinental projection capabilities to control trade routes and the global commons and are much more likely to engage in conflicts with very distant adversaries. Regional powers may have large capabilities for defending their borders and engaging in territorial disputes with adjacent states, but most of them do not try to project their military power over long distances. This distinction came out of the Modelski/Thompson (1988) study of seapower in which they developed an early quantitative measure of long-distance power projection. The overlap between our evolutionist account of trading city-states, maritime empires and capitalism mentioned above with the Modelski/Thompson typology of major powers is the key to the convergence of world-system theory and the power cycle model that they developed. Thompson’s (2022: Chapter 10) discussion of the relationship between global leaders and world orders rethinks

³⁰ Access to the Pardee indices and their components are available from Professor Collin Miesel Collin.Meisel@du.edu at the Pardee Center

³¹ We compare the Lee and Thompson (2018) coding of long-distance military reach shares with Mark Souva’s (2023) MMP measure of military power shares below.

George Modelski's evolutionary functional theory of interpolity hierarchy in which hierarchies emerge to solve problems created by the expanding scale and complexity of human social organization and system leaders provide public goods that sustain civilizational orders. What is missing from the Modelski version of the functional theory is the idea of inequality overshoot that applies to both within-polity and between-polity hierarchies. As Marshall Sahlins (1963:297-298) said of the Polynesian chiefdoms, "...the paramounts were inclined to eat the power of the government too much..." This is an important part of the demographic structural model of the rise and fall of polities and it also applies to interpolity hierarchies. Latter-day empires lose legitimacy because the magnitude of inequalities become too great. This also accounts for why egalitarianism is a such a recurrent theme in social movements from both above and from below.

The Modelski/Thompson power cycle model focusses on the evolutionary importance of lead economies that develop and implement new leading industries that allow for the gaining of large profits from exports. This is like the Wallerstein/Arrighi focus on economic power and the stages of hegemony mentioned above and is further detailed in Raymond Vernon's (1971) product cycle model in which new inventions allow their producers to earn technological rents before the inventions diffuse to producers who drive down prices by finding less expensive ways to produce the new products. Modelski and Thompson begin the power cycle story with the emergence of industrial production in Song dynasty China. But lead economies were involved in power cycles in the Mesolithic, Neolithic and Bronze Ages and in that part of the Iron Age that occurred before the Song dynasty and in the evolution of polities in the Americas before they were engulfed by the Europe-centered world-system. Sorting out the similarities and differences for prehending sociocultural evolution benefits greatly by examination of how things worked in an anthropological frame of comparison. The rise and fall of paramount chiefdoms, a topic addressed by several eminent anthropologists and archaeologists,³² is germane to understanding how the power cycle was like or different from what happened since the late Iron Age Song dynasty.

Global Economic Power

Economic power was an important aspect of interpolity and transpolity interactions even before the emergence of institutionalized interpolity hierarchies. Polities that had control over valuable resources had advantages in interpolity and transpolity cooperation, competition and conflict. They attracted migration, could afford better intermarriage deals and could trade their movable resources to advantage even when interpolity exchange was mainly based on gift-giving. The emergence of interpolity trade networks allowed populations to grow and reduced reliance on raiding when shortages occurred (Vayda 1967; Chase-Dunn and Mann 1998: 95-96). But economic power evolved and became even more important when core/periphery hierarchies emerged because returns to trade were used by elites to reward subalterns and to enhance military capabilities. As capitalist city-states, commercialization of tributary empires and maritime empires emerged, economic power increased in importance in interpolity and transpolity systems. The switch from colonial to neocolonial clientelist empires discussed above was a continuation of this evolutionary trend.

Our update of the trajectory of U.S. hegemony in terms of economic power examines the relative shares of the U.S. in terms of national economic size and its relative size regarding foreign investment flows and international trade. Regarding economic size we update the trajectories of two different indicators that are based on estimates of Gross Domestic Product (GDP). GDP estimates are first calculated in the currencies used in each country and then these are converted into U.S. dollars for purposes of comparison. And to calculate shares we need to add up all the country GDPs

³² David G. Anderson's chapter on the cycling of chiefdoms (1994) is a good overview of this literature.

to estimate the global total GDP. There are two ways of converting country currencies into U.S. Dollars:

1. Using world currency market exchange rates, called FX.d
2. Using surveys of the cost of a basket of basic consumer goods within each country, so-called Purchasing Power Parity (PPP).

The FX estimates are more useful for estimating the economic power that a national economy can exert vis-à-vis external entities (other states, foreign firms, international organizations, etc.) The PPP estimates are better for comparisons of the abilities of actors within a national economy to obtain the goods and services that they need and of the ability of states to mobilize their citizens.

Figure 4 above shows the shares of world GDP for six countries from 1820 to 2022 and for the European Union from 1993 to 2022 using PPP GDP estimates. This shows the rise of the share of the United States to its peak in 1945 and its decline since then. It also shows the long decline of the sums of the countries that became the European Union, and the recent rises of China and India

Figure 6 shows the same PPP shares estimates as those in Figure 4 above, but only for the period from 1950 to 2022 so that we can see more clearly what happened in recent decades.

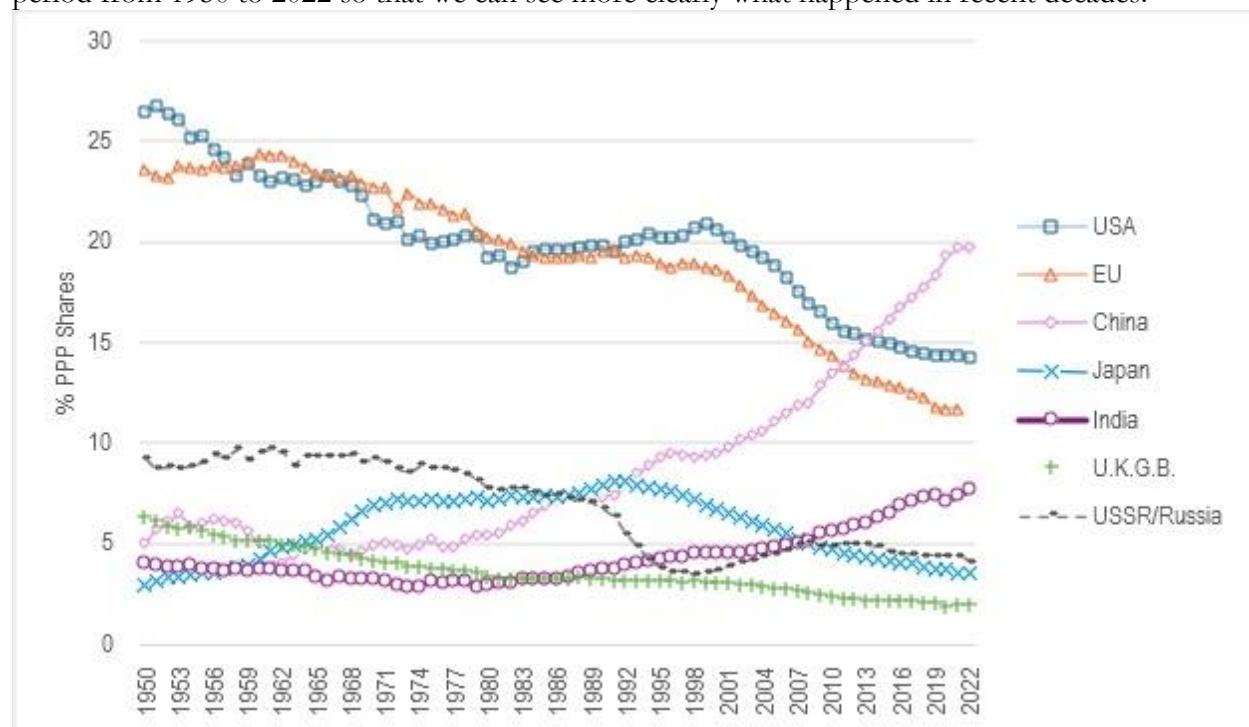


Figure 6: Relative Shares of global GDP PPP estimates 1950-2022. Source: Maddison Project 2023. Notably from Figure 6 are the decline of both the United States and the European Union but also notice that the U.S. declined in relative shares from 1950, whereas the E.U. did not start its decline until the early 1960s and in the 1970s and 1980s the U.S. recovered slightly until 2000 while the E.U. began to decline a bit earlier (in the 1990s). The rise of China began in the middle of the 1970s with Deng Xiaoping's switch from Maoism to "market socialism" [neoliberalism with Chinese characteristics (Harvey 1989)]. The slow rise of India began in 1980. Japan rose from 1950 to 1972, hit a plateau, and then began a decline in 1992. The USSR/Russia was on a high plateau in the 1950s and 60s but began a slow decline in the 1970s that accelerated in 1989 but then recovered a bit to 2008 and then slowly declined since then. The United Kingdom declined slowly and steadily since 1950. Chinese and Indian GDPs **per capita** are still much lower than that of the U.S. because they have much larger populations.

Using World bank GDP figures obtained by exchange rates (FX) (instead of PPP) and converted into 2015 U.S. constant dollars to control for inflation, we get a somewhat different set of trajectories from 1974 to 2022 shown in Figure 7.³³

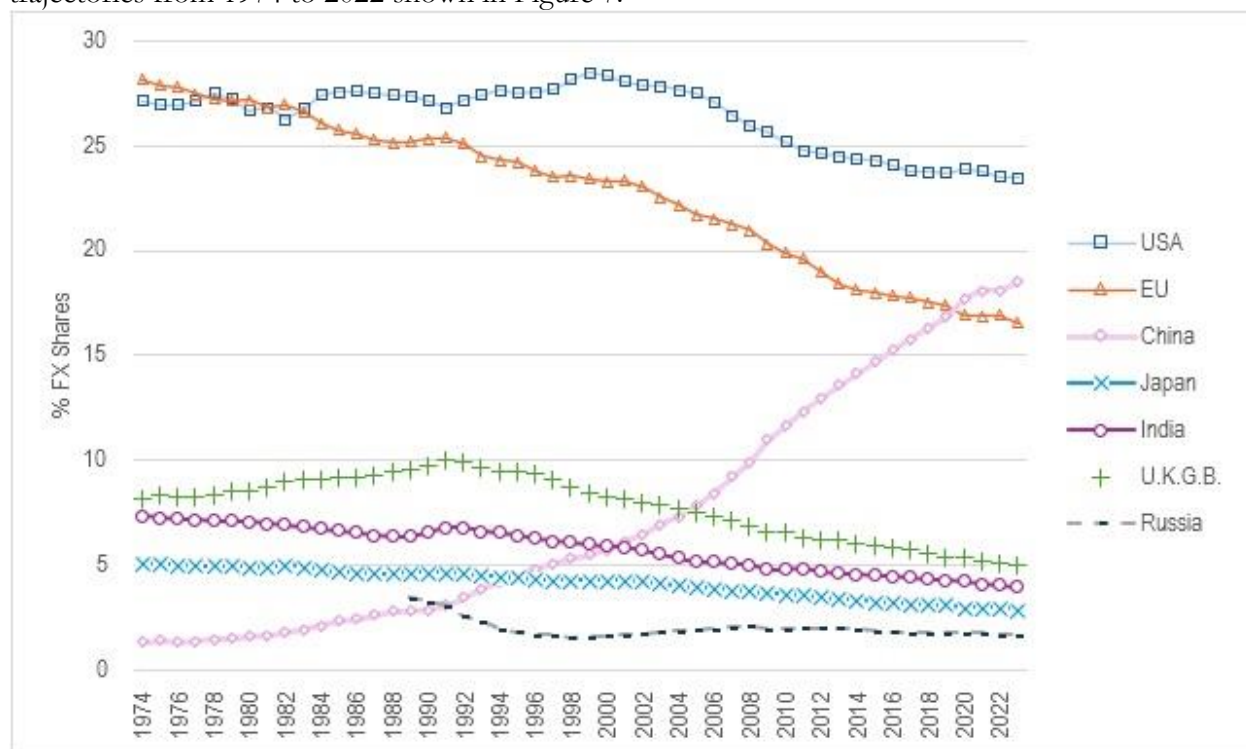


Figure 7: Relative Shares of global GDP (FX) estimates 1974-2023. Source: World Development Indicators Updated: 11/13/2024 :GDP (constant 2015 US\$)(NY.GDP.MKTP.KD)

Recall that FX GDPs are converted to U.S. dollars using currency market exchange rates, which show the estimates of economic size in terms of the amounts of money that matter most in international economic power relations. In Figure 7 China passed the E.U. in global shares in 2018, eight years later than that shown in Figure 6 (PPP purchasing power parity estimates) and India did not rise but rather had a slow decline over the whole period as did the other countries in Figure 7.

Interpolity Trade Shares

Shares of international trade (imports and exports) are important indicators of relative economic power because countries that export to the rest of the world are important to the countries they are supplying and countries that import a lot of goods and services are important because they can afford to do this and because they constitute demand for the goods and services of other countries. The World Bank's World Development Indicators are a convenient source of import and export estimates since 1974 but they do not include many estimates of the trading by the Peoples' Republic of China, so for that we use World Integrated Trade Solution ([WITS](#)), a data source that the World Bank has put together in collaboration with the United Nations Conference on Trade and Development (UNCTAD) and in consultation with organizations such as International Trade Center, United Nations Statistical Division (UNSD) and the World Trade Organization (WTO). The WITS does not yet have estimates for 2023 so Figures 8 and 9 only go until 2022.

³³ The World Bank GDP estimates start in 1974

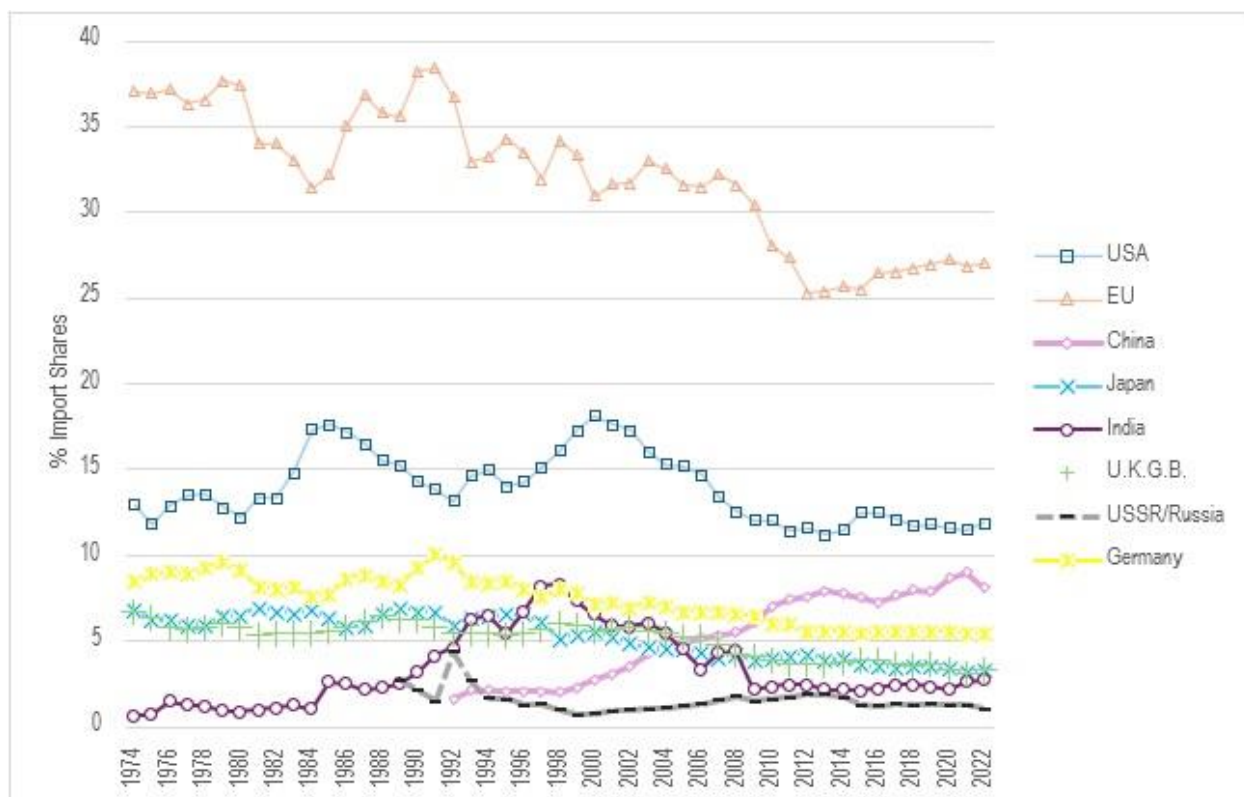


Figure 8: Relative Shares of Imports 1974-2022. Sources: World Bank World Development Indicators and WITS

Shares of total world imports of goods and services are shown in Figure 8. The European Union's shares are large because the EU includes so many developed countries, but its shares declined between 1974 and 2012 and show a slight recovery since then. The import shares of the U.S. are large for a single country, and they oscillated from 1974 to 2006 and then dropped to about the level of the earlier troughs, with only a weak recovery from 2014 to 2015 and then a slight decrease until 2022. China shows a bumpy rise since estimates became available in 1992, passed Germany in 2010 and rose to nearly the level of the U.S. in 2021 and then saw a small drop.³⁴ Russia shows a strange upswing in the early 1990s and then drops back to a steady level just a little lower than the other countries. India shows an increase from 1974 until 1998 and then a decline until 2009 and held steady at that lower level until 2022. Germany oscillated at a level higher than all the other countries except the U.S. from 1974 to 1996 and then declined a bit until 2022. Japan declined from third among these countries in 1974 to just above India in 2022.

Figure 9 shows export shares for these same years. The overall situation is similar because most countries try to balance their imports and exports, but the U.S. is an important exception. Its imports began to exceed its exports and its current account balance of payments went into the red in the 1970s when Japan and Germany caught up with the U.S. in manufacturing and these imbalances have gone down to a wobbling but deep level. (see [Appendix Figure Ax](#)).

³⁴ The "peak China" literature notes that the P.R.C.'s recovery from the covid lockdown was anemic and the planners quickly implemented several stimulus policies to get the economy growing again (Rosen *et al* 2024). How well this has worked will not be easy to figure out until the 2025 estimates become available.

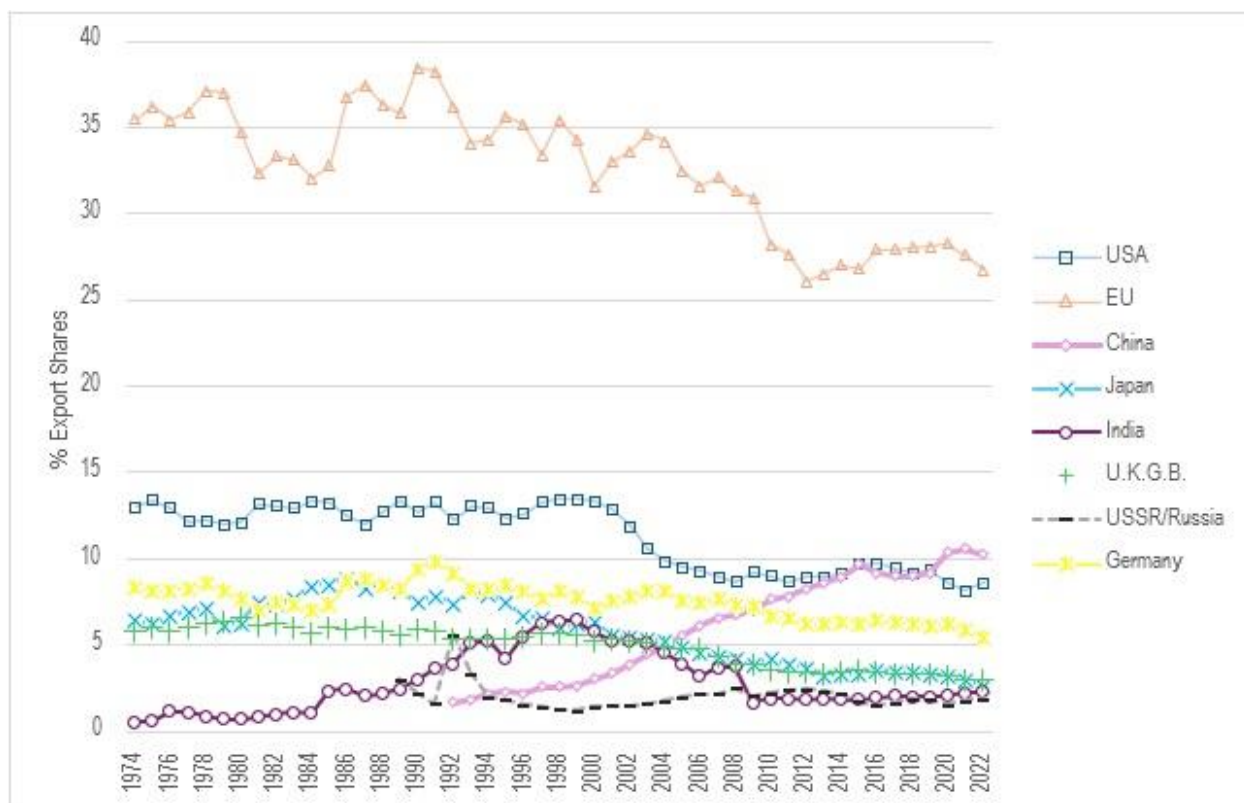


Figure 9: Relative Shares of Exports 1974-2022. Sources: World Bank World Development Indicators and WITS

The EU trajectory of export shares is quite like its import shares trajectory except after 2012 when import shares recovered a bit while export shares recovered and then declined once again. U.S. export share cycles were smaller in amplitude than its import cycles, but they also declined over the period from 1974 to 2022 and were passed by China in 2019. Germany's export shares are very similar to its import shares, showing a slow decline over the whole period. China's export shares increased greatly from 1992 until 2015, then saw a dip followed by an increase, passing the U.S. in 2019. Russia shows the same weird one-year surge in the early 1990s and then is steady after that at a level very similar to that of India. India rose until 1999 and then declined with a steep drop in 2009 followed by a steady level until 2022. Japan shows a slight increase from 1974 until 1986 and a steady decline until 2022 to nearly the level of India and Russia. The overall trade shares story is mainly like what was learned from examining GDP shares, except that the E.U. share of trade is much larger than that of the U.S. while the U.S.'s GDP share is larger than the E.U.'s. But they and Japan declined in economic power as indicated by trade and GDP over the last 50 years. China rose in both GDP shares and trade shares. India rose in terms of PPP GDP but not FX GDP and fell in both import and export shares.

Global Political Power

The Gramscian extension of the concept of hegemony to the international system points to the importance of the balance between coercion and consent that is important for all human hierarchies. Consent is mainly about the consciousness of elites and masses and stable hierarchies are based on a struggle over consciousness in which elites have many power advantages, but competition between elite factions and the ability of masses to come up with counter-hegemonic ideologies are important parts of this struggle. Arthur Stinchcombe (1968:204) contended that the power function of universalistic ideologies is to obtain some consensus among powerholders, but

also to produce mainly non-resistant compliance of the masses.³⁵ Political support and compliance can be coerced and bought, but it is too expensive to rely on coercive power alone and so empires and hegemonies have been active promoters of evolving forms of “universalistic” ideology. The use of military power, torture and assassinations provoke “blowback” (Johnson 2004) undermining “soft power” and fueling resistance movements.³⁶

The big Cold War ideological struggle between communism and capitalism was the most recent incarnation of this struggle, and the demise of the Soviet Union soon led to the idea that the predominant Western justifications of global power – the “Free World” of markets, consumerism and bourgeois democracy --would henceforth usher in the “end of history.” The irony here is that the contradictions of the neoliberal capitalist globalization project and the rise of new counter-hegemonic ideologies (political Islam) have produced a partial abandonment of the Western liberal moral high ground in favor of national “Firstism.” The championing of free trade is now left by default to the Chinese Communist Party.

The rise of the BRICS+ would seem to be another wave of the rise of semiperipheral challengers to the reigning hegemon, but the BRICS coalition so far seems to be held back by powerful disagreements and conflicts of interest among the elites of the member states and by a reticence to go beyond rhetoric regarding potentially counter-hegemonic challenges such as “dedollarization.” (Chase-Dunn and Erin 2025). Patrick Bond (2015,2016, 2020), a leader of the “BRICS From Below” movement, argues that the BRICS are critical subimperialist supporters of the U.S-led global hierarchy because the regimes of the BRICS coalition countries are mainly supporters of capitalism and are not strongly implementing those potentially anti-imperialist policies that they have occasionally articulated. But simply wanting a larger share of global power and profits is a form of challenge even if it does not mean ending capitalism and imperialism.

The Varieties of Democracy Institute (V-Dem) was founded in 2014 at the Department of Political Science at the University of Gothenburg (Sweden) to study the changing characteristics of national governments. V-Dem produces an annual Democracy Report and the 2024 report (V-Dem Institute 2024) codes regimes to study changes over time in the strength of national democratic institutions. The V-Dem coding sorts types of political behavior and regulation into two categories: *democracy* (mutual consultation and majority rule) and *autocracy* (a small elite makes social decisions regardless of the majority). A panel of experts score regimes into two levels of democracy, two levels of autocracy, and two “grey zones” of uncertainty and they study how regimes have changed since 1970 using this scheme. In the 1970s and 1980s there was a general trend toward greater democracy. But since 2012 the V-Dem codes show a **democratic backslide**. The average global level of national democracy has returned to levels like those of 1985.

Regarding the United States the 2024 V-Dem report (p. 48) says:

The election in the United States is likely to be highly consequential.

The expected Republican nominee and former President Donald Trump undermined American democracy substantially during his previous tenure, not least regarding media freedom, judicial independence, and executive oversight. Among the innumerable anti-democratic statements, Trump has called his opponents “vermin” during campaign speeches, declared he wants to purge the Department of Justice and

³⁵ Stinchcombe (1968: 93-97) also outlined a version of Marxist functionalism as a corrective to the attacks on Parsonsian structural functionalism that emerged in the 1960s. Talcott Parsons developed his complex structural-functional model of sociocultural evolution using individual societies as the unit of analysis but in 1961 he discovered the modern world-system (Parsons 1961:71) and applied his evolutionary model to it in Parsons (1971).

³⁶ Alfred McCoy (2017:143-144, 298, Notes 40 and 41) reports that seventeen of the top twenty-five of ISIS (Islamic State) leaders had spent time in U.S. military prisons.

dismantle the FBI, pardon himself of federal crimes, and have journalists arrested. A second presidential term for Trump could have significant ramifications also for democracy internationally given the United States' key role in world affairs and the affinity for autocrats Trump sported during his first term.

Whether or not the Trump regime succeeds in significantly moving the U.S. down the road to autocracy, it accelerated U.S. hegemonic decline in both its first and second installments by threatening the global web of clientelist alliances that has constituted an important basis of U.S. hegemony (McCoy 2018:232; 2025). The embrace of trade tariff protectionism ironically has handed an important universalistic ideology to the P.R. C., now a staunch defender of global free trade.

Quantitative indicators of the U.S. political power trajectory are based on U.N. Security Council and General Assembly voting patterns that show increasing U.S. isolation (Voeten 2004). Network measures of treaty alliances and memberships in international organizations are also possibly useful but, like embassies, these networks have long reached ceiling saturation levels among powerful states and so are unlikely to show much change but should also be investigated. The political power components of the indices developed by the Pardee Center (diplomatic power, shares of foreign aid, etc.) are potentially very valuable but results that could show their different components separately have changed over time have not yet been published. Instead, these political power components have been combined with economic and military variables to produce the Global Power Index discussed below.

Ideological/Cultural “Soft” Power

Competing world orders and civilizations are converging to form a global culture in which ontology, ethics, morality and notions of justice are increasingly similar across countries and world regions. This is a process that has been going on for centuries but that has not yet ironed out a lot of important remaining differences among peoples regarding their beliefs (Pieterse 2004). The idea that each nation has its own unique culture because its unique history is itself a product of this process in which nationalism has become the most important collective solidarity in the modern world-system. In this complex global culture in the making there are multiple status hierarchies and are increasingly converging and this allows comparative studies of regional and global attitudes such as the World Values Survey and regional “barometers.” The global ideological status of cities and states can be quantitatively studied by survey research and by comparing exports of cultural products: books, movies, etc. changes in language usage,³⁷ and by examining the international movements of students. Irene Wu has developed a Soft Power Rubric composed of four indicators—immigration, study abroad, travel, and movies (Wu 2023. 2024). AidData has important information about the growth of Chinese soft power in the form of foreign aid projects and Confucius Institutes (see also Woetzel *et al* 2019). We plan to compare quantitative indicators of soft power to the other power dimensions in a future study.

Global Military Power

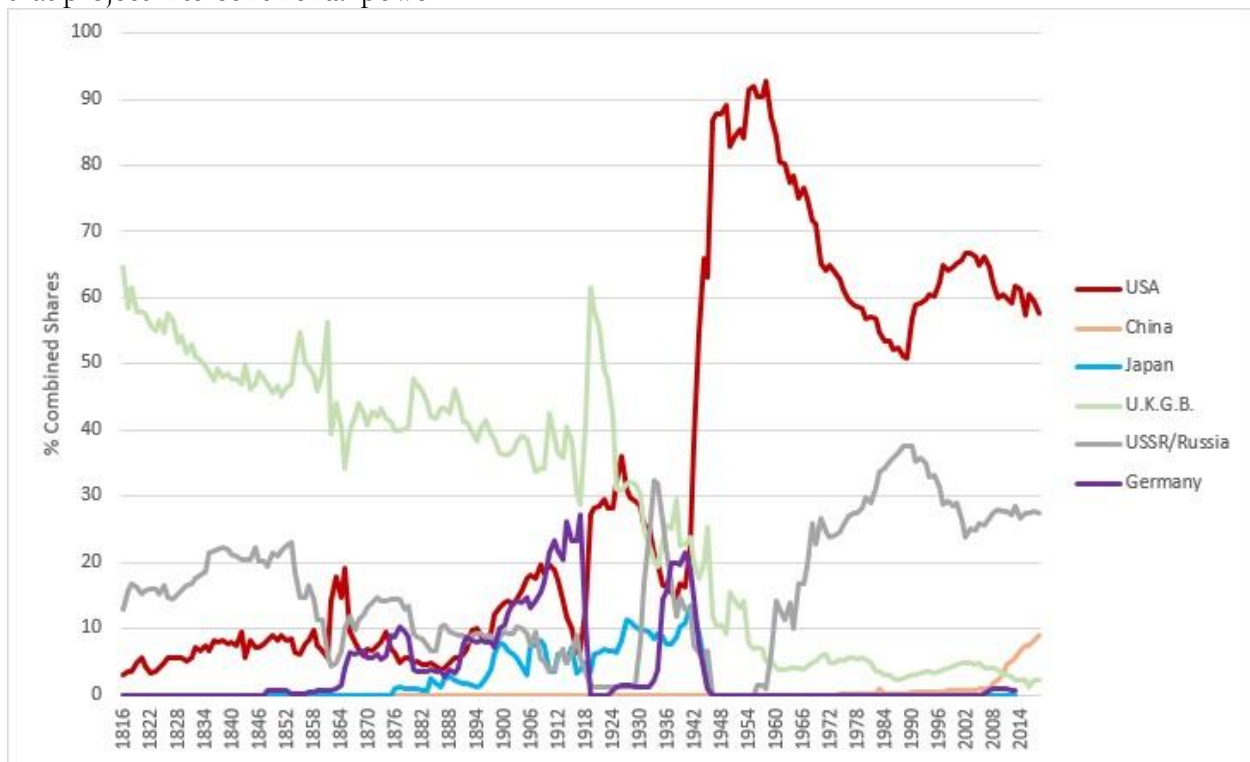
Military power has always been an important dimension of interpolity interactions. It evolved as polities were able to generate and accumulate more surplus and when technological and organizational innovations were invented, diffused and implemented. Military technologies and organizational innovations diffused quickly because competition was, and is, fierce, and this sped up as the production and sale of weapons became an important part of the world economy. In the U.S case the military industrial complex has been an important sector of the domestic economy, a

³⁷ English has become a world language because of the Pax Britannica followed by the Pax Americana and because the Peoples Republic of China required its high school students to obtain a degree of familiarity with English during the détente following the Nixon-Kissinger visit in 1972. It should also be noted that more people in China are playing American basketball than there are citizens of the United States.

powerful force in U.S. domestic politics and a strong driver of a mainly bipartisan U.S. foreign policy. Perry Anderson's (2015:1-2) examination of U.S. foreign policy thinkers notes that, since World War II, strategic planning has mainly been under the control of the presidents and most presidential candidates criticized their opponents during elections but then followed the same policies recommended by the bipartisan foreign policy establishment – the Council on Foreign Relations (see also McCormick 1989). After the U.S. lost its primacy in manufacturing in the 1970s it became increasingly dependent on both military supremacy and financial centrality to try to maintain global control.

Long-Distance Military Reach

George Modelski and William R. Thompson's "power cycle" model of the rise and fall of system leaders bears a close resemblance to the analysis developed by world-system theorists despite that it never mentions capitalism and pays only slight attention to core/periphery relations (Modelski and Thompson 1996; Chase-Dunn and Inoue 2018). The Modelski/Thompson power cycle model focusses both on the military power of states and on economic power through their analysis of "new lead industries" that have been important for the rise of "system leaders." One big empirical contribution of the power cycle theoretical research program has been the development of long-term quantitative measures of global shares of long-distance power projection of states (Lee and Thompson 2018; Thompson 2022). These estimates examine both sea power from 1816 to 2018 and airpower from 1916 to 2018.³⁸ These are combined into a composite index that is graphed in Figure 10 below. The Modelski-Thompson measures are focused on long-distance intercontinental military power projection rather than on short-distance capabilities because they contend that there is an important difference between great powers that mainly try to defend their own borders and those that project intercontinental power.



³⁸ The Modelski-Thompson estimates for long-distance sea and airpower are shown separately in the Appendix, Figures Ax and Ay.

Figure 10: Combined sea and air power long-distance power projection shares 1816- 2018. Source: Lee and Thompson 2018; Thompson 2022: 31-2)

Figure 10 shows the trajectories of global long-distance military power shares from 1816 to 2018. We can see the decline of intercontinental British military power, the long-term rise of U.S. military power and what happened with the other countries that we included in our graphs of economic power above. The U.S. had a spike in relative military power in World War I and then it rocketed to military supremacy during World War II and then to an even higher point during the Korean War when its share of global long-distance military power was above 90%! That huge share declined to about 50% in the 1980s and then recovered until the early 2000 to 68% and then declined again to 58% in 2018. The British had peaks in the middle of the 19th century and in World War I but then saw a bumpy but steep decline. Germany rose since the 1860s to a point just below Britain in World War I, plummeted after that war but rose again to become the 2nd highest in global military reach just before World War II and then plummeted again with a tiny recovery starting in 2008. Japan made a showing from the Meiji restoration until World War II and then fell off the graph. The USSR/Russia were big in the first half of the 19th century, saw a sharp rise in the 1930s and World War II, disappeared until the 1950s and then peaked again until 1989, and then declined but recovered after 2002 to attain a level about half as high as the U.S.³⁹ China began a rise in 2007 but is still far below both Russia and the U.S. in terms of long-distance power projection. We take a closer look at these same estimates for recent years in Figure 11 below.

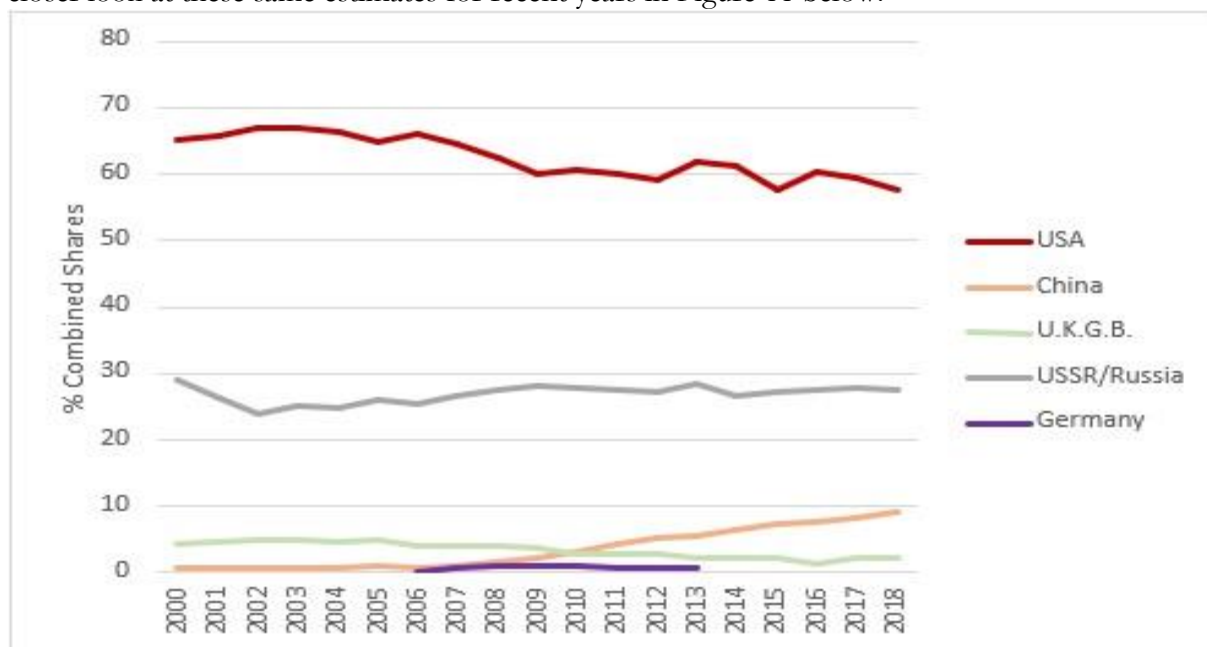


Figure 11: Combined sea and air power long-distance power projection shares 2000-2018: Sources: Lee and Thompson (2018); Thompson (2022:31-2)

When we look more closely at changes in long-distance military power shares between 2000 and 2018, we see a slow bumpy decline in U.S. power projection in terms of shares of long-distance air and seapower. Russia holds steady in the high 30s after the decline from nearly 50% that began in 1990 and ended in 2002. Russia has been far more of a long-distance military power than China has been or was in 2018. But China began a slow rise in 2007 and got to nearly 10% in 2018. China

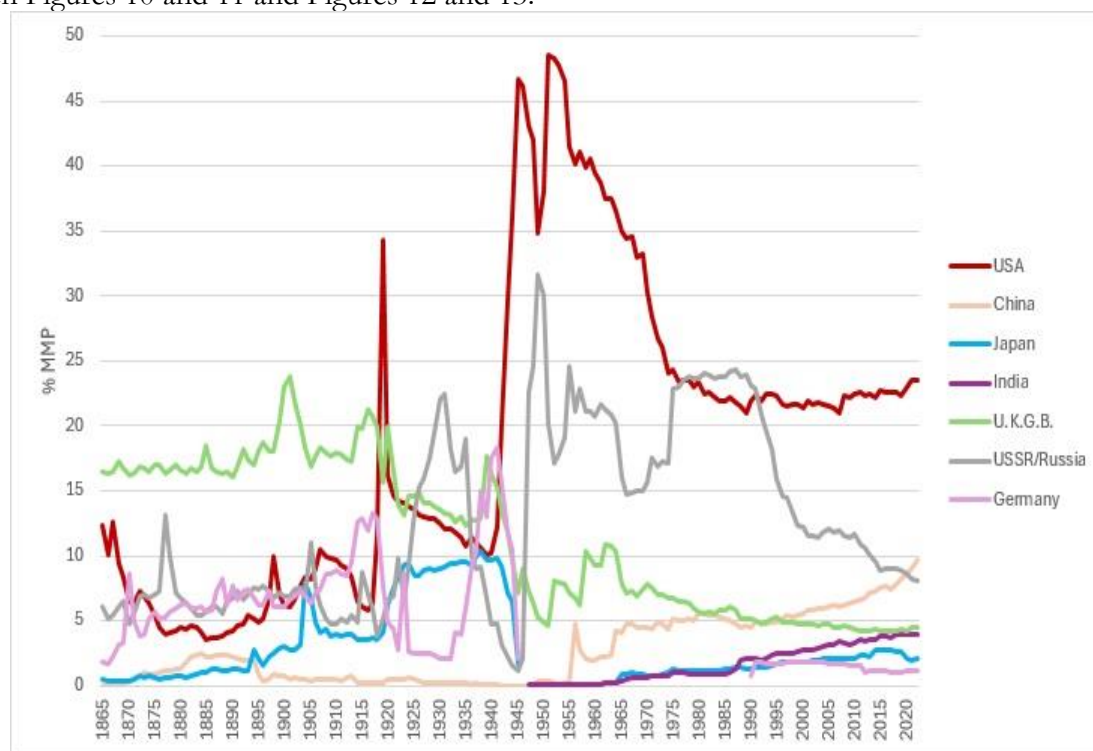
³⁹ Thompson (2022) mentions that the supposed U.S./Soviet bipolarity during the Cold War was never really close to an equal balance of power.

surpassed Britain in 2010. The United Kingdom declined a bit during this period. ⁴⁰The data set only includes share estimates for German from 2006 to 2013 and has no estimates for Japan.

The Modelski-Thompson power projection shares for sea and air power allow us to see national trajectories since 1815, while the MMP measure developed by Mark Souva (see below) starts in 1865. One challenge for these estimates that count weapons is that military technology evolves rapidly and has accelerated in recent decades. This is why we also examine the SIPRI estimates of publicly known military expenditures. Expenditures are better at capturing the new developments as arenas of combat have evolved from land and sea to air and space and to cyberwarfare and the use of self-directed drones and global satellite networks.⁴¹

Combined Regional and Long-distance Military Power

Mark Souva (2023) and his colleagues have developed a measure that includes major weapons systems: mechanized armor, nuclear weapons and ballistic missiles in an index of “material military power” (MMP). Figure 12 shows MMP changes in the shares of the countries we are studying from 1865 to 2022. MMP is a mix of long-distance (missiles) and local (tanks) types of military power projection, whereas the Modelski/Thompson measure focusses on long-distance intercontinental power projection. For example, the MMP estimates of air power focus on fighter planes (Souva and Saunders 2020) whereas the Modelski-Thompson airpower indicator focuses on strategic bombers. These different ranges of military power account for some of the differences between Figures 10 and 11 and Figures 12 and 13.



⁴⁰ The data set only includes share estimates for German from 2006 to 2013 and has no estimates for Japan.

⁴¹Thompson (2022) says that military spending estimates do not always distinguish between ongoing operational expenditures and the costs of acquiring new military equipment. This is probably true but both of these components are important for projecting military power.

Figure 12: Material Military Power (MMP) shares 1865-2022: Sources: Souva (2023); Souva and Saunders (2020), updated to 2022 personal communication.

As mentioned above, Mark Souva's MMP measure includes both long-range and local types of military capabilities whereas the Modelski-Thompson measures focus mainly on long-distance capabilities. One of the big differences between Figures 10 and 12 is the time periods covered. Figure 10 starts earlier in 1816 whereas Figure 12 starts in 1865, and Figure 10 ends in 2018 whereas Figure 12 ends in 2022. Another difference is in the shares of U.S. power when we focus on long-distance or local military capabilities shown on the y-axes of the graphs. The U.S. has had nearly twice the predominance in long-distance capabilities than it has had in combined local and long-distance capabilities because many other states are defending their borders rather than projecting power across oceans. The U.S. peak in Figure 10 is above 90% whereas in Figure 12 it is just below 50%. Both Figures show the sharp decline in U.S. share that occurred when World War II was over and there was a temporary return to a peace-time economy and then the even higher peak that occurred during the Korean war when the U.S. moved toward military Keynesianism (Barker 2019) and the expansion of the military-industrial complex. This was a key move in which the federal military budget became a major driver of private accumulation in the U.S. economy.

Another difference in the U.S. share trajectories in Figures 10 and 12 is what happened from 1989 to 2000. The Modelski-Thompson long-distance projection (Figure 10) saw a U.S. recovery in this period that was co-terminus with the decline of Russian long-distance projection, whereas the Souva measure shows the U.S. at a plateau from 1990 until 2022. The Russian trajectories are also somewhat different in this period. The Souva measure of British shares is also rather different from the Modelski-Thompson long-distance shares. Figure 10 (long-distance) shows British decline from 1815 until 1963 with a few bumps, especially World War I. The Souva measure (Figure 12) shows the British trajectory as flat from 1865 to until after World War I except for spikes at the Boer Wars and World War I. These differences are due to the Modelski-Thompson focus on global reach, and the same goes for the differences in the shapes and sizes of the Russian trajectory after 1950.

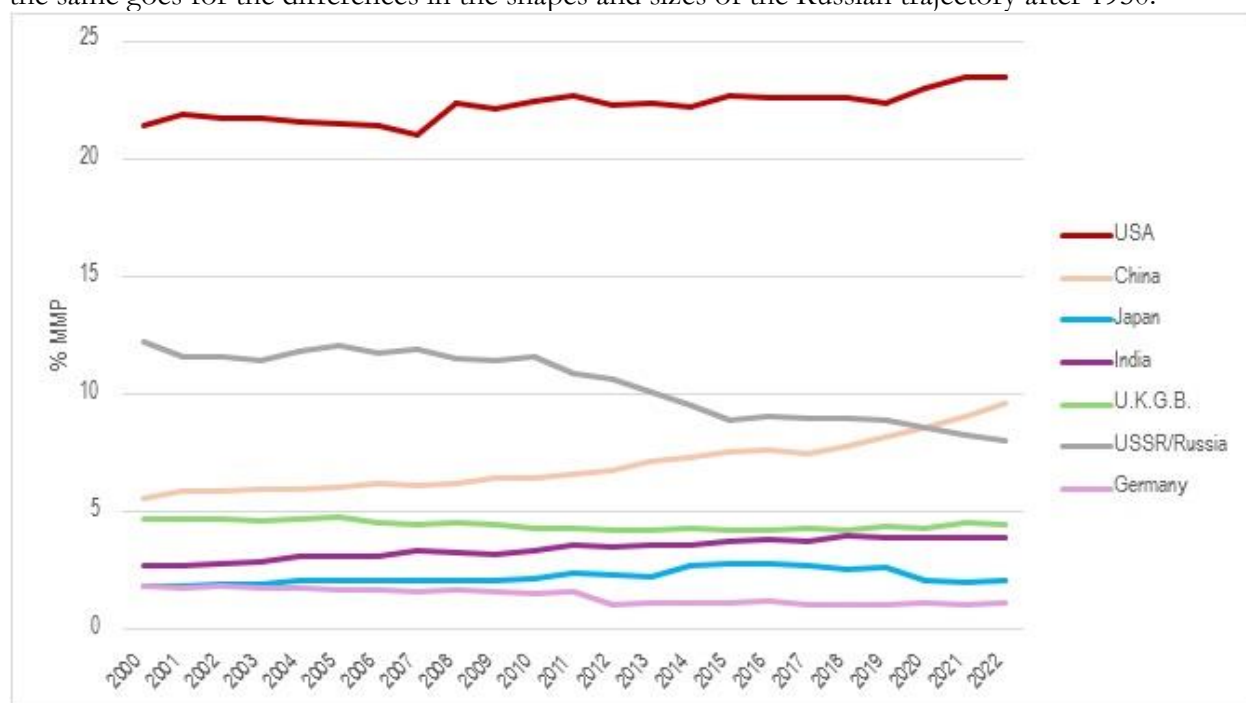


Figure 13: Material Military Power (MMP) shares 2000-2022: Sources: Souva (2023); Souva and Saunders (2020) updated to 2022 personal communication.

Figure 13 graphs the Souva MMP estimates from 2000-2022. The big points to notice are that the U.S. did not show a decline and indeed shows a slight increase in the MMP shares measure from 2000 to 2022. Figure 12 above that graphs the Modelski-Thompson long-range projection military capability finds a U.S. decline over this same period. As noted above the U.S. share on the Y-axis is between 22% and 28% of the MMP whereas the U.S. percentage in Figure 11 began in the high 60s and declined to the high 50s. Apparently U.S. global military reach declined in this period, but its near-border capability did not.⁴² The Russian share of MMP in Figure 13 declined from 12% to 8% in this period, and the share of China rose, slowly at first and then accelerated a bit in 2018 and crossed the Russian share in 2020.

National Military Expenditures

The Stockholm International Peace Research Institute (SIPRI), founded in 1966, constructs comparative data bases on arms transfers, the 100 largest arms-producing and military services companies, multilateral peace operations and military expenditures. The SIPRI Military Expenditure (MilEx) Database estimates the annual military spending of many countries since 1948 in constant U.S. FX (exchange rate) dollars for purposes of comparison. The data set we use was published in 2023 and uses 2022 constant dollars. One thing to note about the MilEx database is that it begins in 1948 but contains estimates for only four countries in that year. The number of countries for each year is graphed in Figure A2 in Appendix. By 1960 there were 58 country estimates and by 1993 there were 143. We will show both the raw amounts of military expenditures and the shares. For the shares we need to calculate percentages that rely on denominators. Ideally, we would like to have “world” denominators that include estimates for all the sovereign states that are members of the United Nations that have a population of at least one million people. And the number of countries should not be changing as we move over the years because when it is done that way it mixes changes in the case base with changes in the countries. For this purpose, we use a method called “constant cases” in which we calculate the shares based on those countries that have estimates for the whole period being studied. This allows us to see how the shares changed over time holding constant the number of countries in the denominators. For MilEx we calculated shares based constant cases from 1960 (58) and from 1993 (143).

Shares must add up to 100% and so if some go up others must go down, but that is not the case for raw amounts. They can all go up, which is what happens in Figure 14 despite the use of 2022 constant dollars (controlling out inflation/deflation).

⁴² William R. Thompson and Michael Lee are working on coding short-distance military capability so that it can be compared with their measure of long-distance power projection (personal communication).

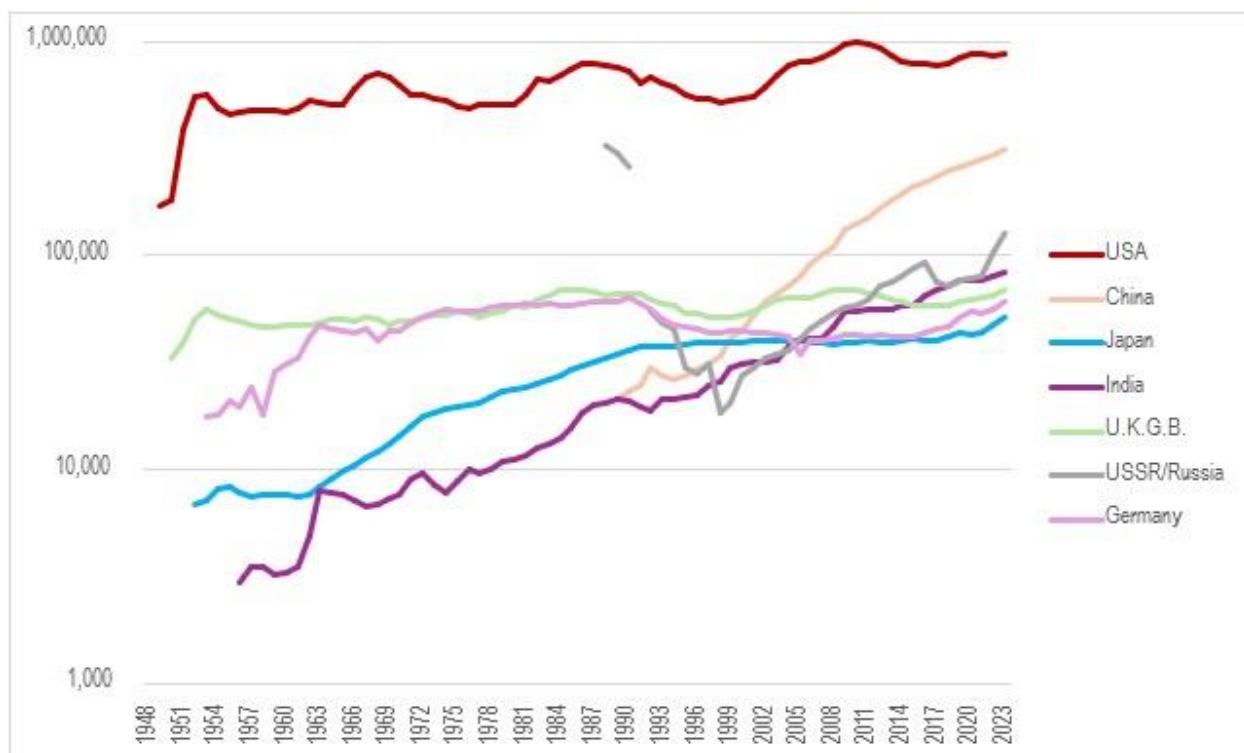


Figure 14: Raw Military Expenditures (logged) 1948-2023 in constant 2022 U.S. dollars: Source: SIPRI <https://www.sipri.org/databases/milex>

Note that the y-axis in Figure 14 is a logarithmic scale of millions of U.S. dollars. We log the estimates to be able to see differences among the non-U.S. countries. In the unlogged graph all the other countries are bunched together at the bottom of the graph. Also recall that all the countries do not have estimates for all the years. The amount of money spent on military equipment and personnel for the United States shows a rapid rise during the Korean war and then stayed at this high level but continued a bumpy growth that touched a trillion dollars in 2010 and declined a little. The next highest is the USSR just before its collapse in 1989, (that gray line) but recall that the dollars are logged. The actual amount in 1988 for the USSR was \$326,658.4 million. In that same year the U.S. amount was \$766,321.6 million. Russian estimates begin again in 1992 at \$54,793.5 million, declined until 1997 and then went up until 2016, declined again and then recovered to a post-Soviet high in 2023 when its military expenditures reached \$126,473.4 million. British military expenditures were mainly flat since 2009. Indian expenditures grew to the point at which they were fourth largest in 2023. German expenditures reached a high point in 1991 and then declined and recovered to become sixth largest in 2023. Japan's expenditures grew and ended in the 7th largest position in 2023. The China story in Figure 14 does not start until 1989, the first year in which SIPRI was able to estimate military expenditures for the Peoples' Republic. The main story is growth since 1989 but there was a peak in 1992 and a small decline which then resumed growth in 1995 and continued smoothly up until 2023 when its military expenditures reached \$309,484.3 million.

Figure 15 shows country shares of MilEx calculated with those 58 countries in the denominator who had SIPRI estimates in 1960 using the constant cases method described above. The U.S. story is one of overall decline but with recovery bumps in the 60s, the 80s and from 2000 to 2011.⁴³

⁴³ We also calculated the MilEx shares using the 143 cases available in 1993. The results were very similar to the 1960 fifty-eight constant cases except for the shorter period covered. See Figure A7 in the Appendix.

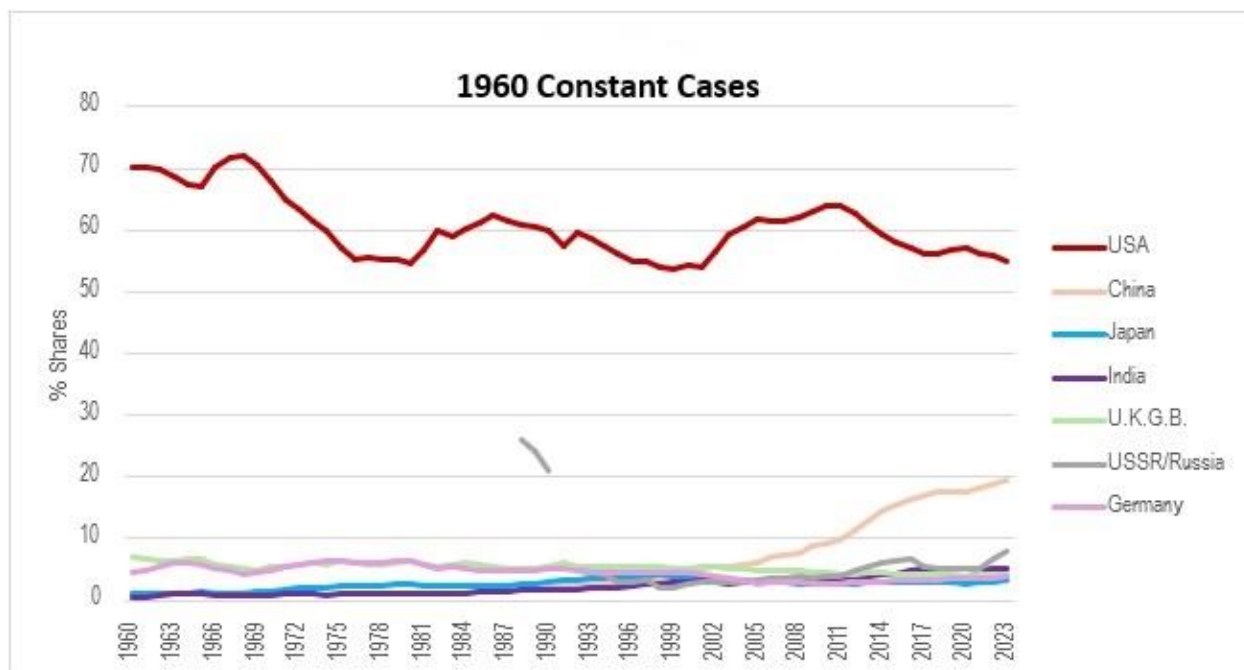


Figure 15: Military Expenditure Shares (1960 constant cases) 1960-2023 in constant 2022 U.S. dollars: Source: SIPRI <https://www.sipri.org/databases/milex>

The USSR is the gray line in the middle of the graph. This and Figures 10 and 12 show that the U.S. already had overwhelming military superiority prior to the fall of the Soviet Union as noted by Thompson 2022. The shares of all the other countries were below 10% until China crossed that line in 2011. The China story is simple: rising since 2000, greater than 10% in 2012. Since these are relative shares, as said above, for some to go down others must be coming up because the total must be 100%. The apparent mystery in Figure 15 is how the U.S. share could be going down from 1969 to 1976, a period that was well before the rising Chinese share? The answer is that the U.S. raw expenditures decreased 31% during this period and 34 other countries increased their raw expenditures by at least 10% in four or more of the years from 1968 to 1976. The U.S. share decrease was the combined outcome of U.S. raw expenditure decline and the rising expenditures of 34 other countries.

Figure 16 shows the shares of the best economic and military power estimates for just China and the U.S from 1960 to 2023. We leave India and the other countries out to focus attention on what most observers think is the major power rivalry in the contemporary world-system.

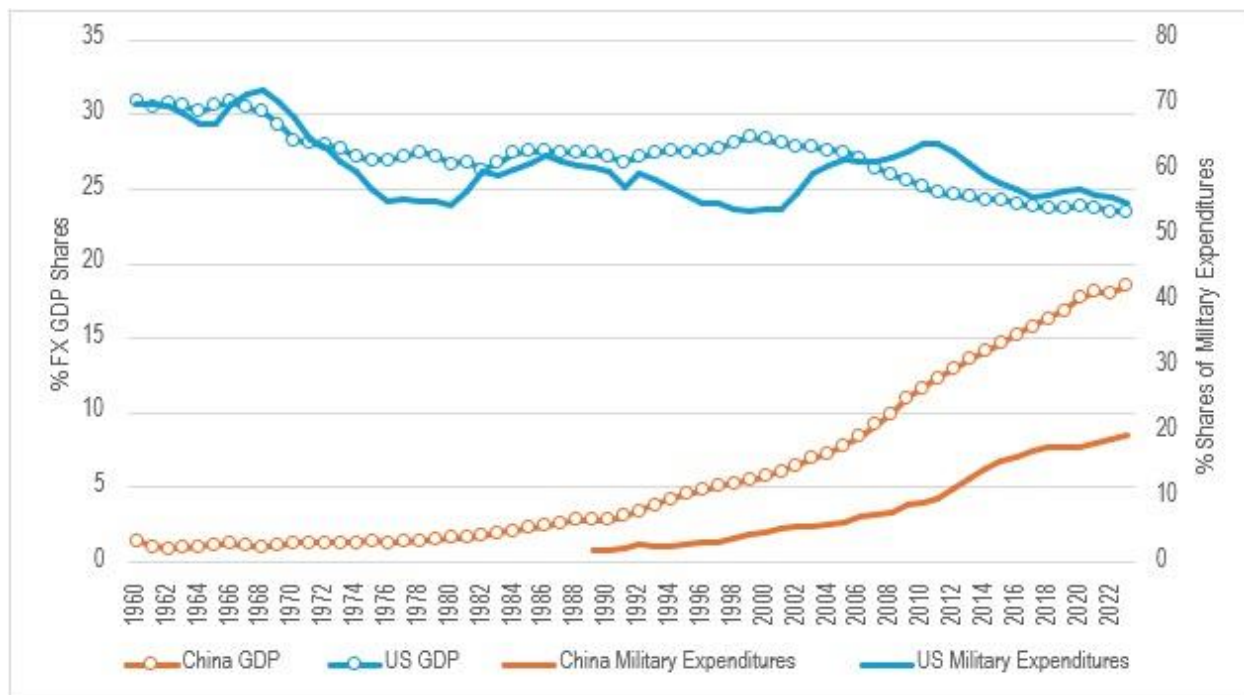


Figure 16: Best Military and Economic Shares Indicators for the U.S. and China: Military Expenditure Shares (1960 constant cases) 1960-2023 and GDP FX shares 1960- 2023 (Sources: see Figures 7 and 13 above)

Figure 16 shows that the U.S. is going down in both and China is coming up. Not surprisingly China is closer to closing the gap in relative economic size than it is in closing the gap in military power. The implication of this is that if these trajectories continue the gaps will continue to decrease and there will be crossing points sometime in the future. Most of the power transition theories proposed by international relations theorists see the years near crossing points as high-risk periods regarding the likelihood of violent conflict.⁴⁴

Figure 17 is used with permission from the Pardee Center for International Futures at the University of Denver. It shows the historical and predicted estimates of the Pardee Center's Global Power Index (GPI) from 1816 to 2050. We described the composition of this indicator and its use by other scholars and policy organizations on page xx above.

⁴⁴ Another interesting project at the Rand Corporation is a study of strategies to lower the probability that the PRC would use nuclear weapons in a war with the United States that emerges in an effort by the PRC to conquer Taiwan (Geist *et al* 2024). This study uses scenario planning and vignettes to examine how a war using conventional weapons might escalate to a first use of Chinese nuclear weapons and how the risks of that could be reduced.

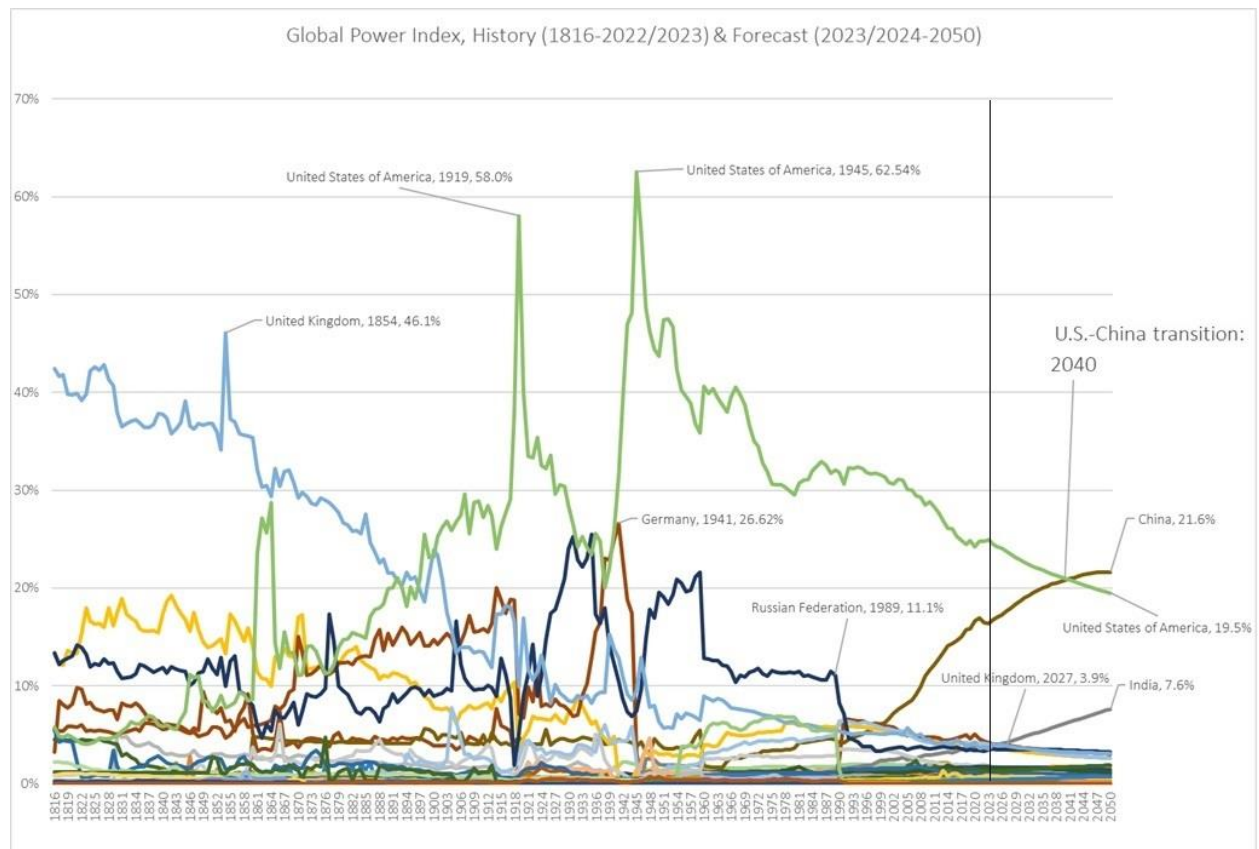


Figure 17: Pardee Global Power Index (1816-2023) and forecast to 2050 (Source: Moyer *et al* 2024)

The graph of the Pardee GPI composite index shows results like the general story told by our studies of different dimensions of international power shares shown in the figures above. But what is added to these stories are the results of a computational model that projects from 2024 to 2050. The vertical line in Figure 17, which we have added, shows where the historical estimates stop, and the computed estimates start. The model predicts a continued U.S. decline at about the same rate as it has been since 1990 and a continuing rise of China but at somewhat decreasing rate with these two countries crossing in 2040. The P.R.C. GDP growth rate has fallen since a peak in 2007 and has gotten quite bumpy in recent years because of problems in overcapacity, a real estate investment collapse and the covid shutdown (See Figure Ax in the Appendix). A P.R.C. “lost decade” scenario as modeled by Heim and Miller (2020) delayed their modified Global Power Index crossing point with the U.S. ten years. All the other countries hold steady or decline a little except for India which is projected to grow to about 8% over the next 25 years.

Findings and Discussion

In evolutionary perspective the rise and decline of U.S. hegemony has been an instance in the expansion of interpolity governance and the evolution of modes of accumulation that has been going on since the rise of hierarchical kinship in chiefdoms in the Mesolithic and Neolithic Eras. Seeing the evolutionary aspects requires comparing with earlier empires regarding scale and modes of organization to know what was similar and what was different. U.S. clientelist empire was less exploitative and less domineering because of the historical rise of the U.S. as the first new nation and its rejection of formal colonialism as a mode of empire.⁴⁵ This did not reduce global inequalities

⁴⁵ Ironically, the current rejection of bourgeois democracy and the rise of authoritarianism seems to be reviving some of the older, more coercive, forms of dominance and exploitation, but it is not clear how far this trend will go.

much because neo-colonial forms of exploitation and control substituted for formal colonialism but it allowed the peoples of the Global South to have at least formal sovereignty and some autonomous options that had not existed when the core states of the system had formal colonies. This was a step in the direction of a more egalitarian world society.

Regarding U.S. decline, the big picture is that U.S. economic and political global power have declined more than its military power, producing an imbalance between coercion and consent. The exercise of military power without adequate economic, political and ideological support by a declining hegemon generates unsustainable levels of resistance by leading to imperial overreach adventures, unilateral military interventions, and saber-rattling threats that insult former allies and embolden challengers. The further onset of global warming and the strengthening of storms and droughts will benefit some regions and be catastrophic for others (Van der Wiel *et al* 2024). Using predictions of these consequences for basing strategies, asset deployment, targeted diplomatic and covert operations and geoengineering may be weaponized to maintain or challenge the power of national states in their competitions and conflicts with one another. Michael Klare (2019) shows that Pentagon strategists have taken global warming seriously. They and the military strategists of contending powers are probably considering the potential uses of climate change in their plans for maintaining or challenging existing power arrangements (Sovacool, Baum and Low 2023).

There is also a race to construct robotized “autosat” satellites (Albon 2025) and drone systems with biometric capabilities that are intended for combat in space, assassinations of individuals, and for cyberspace psychological operations. These inventions were intended by the Pentagon to be a Hail Mary pass to save U.S. global power, but the P.R.C. is fast catching up with their own military satellite network and space and cyberwar capabilities (TOI World Desk 2025; McCoy 2018:229).⁴⁶ These efforts are very expensive, and so economic power will continue to be an important capability for contenders for global military power, but the arms market is competitive. Israel and Turkey are strongly competing with U.S.-based Global Atomics in the market for surveillance and attack drones and many other states and firms are seeking power and wealth from the invention and sale of new weapons.

The emerging multipolarity is seen by some global justice advocates as progress because it decreases the magnitude of global inequality and allows states, firms and social movements in the Global South to play the competing great powers off against one another as they did during earlier world wars and periods of bipolarity. But hegemonic transitions in the past have usually been settled by world wars among the contending powers. And it has been after these wars that new hegemons and new and more capacious supranational organizations emerged. Another hot global war among “great powers” would be extremely costly in human lives because of increasing deadliness of weaponry. And war between powerful states is likely to be combined with the further emergence of catastrophes caused by global warming, portending an increasingly tragic time of troubles for humanity in the 21st century.

Human sociocultural evolution has been punctuated by catastrophic Malthusian corrections since the Stone Age, the most recent of which occurred in the first half of the twentieth century “Age of Extremes” (Hobsbawm 1994). But the 21st century might be even more cataclysmic if scientists are right about global warming tipping points and if another power transition leads to global warfare between powerful states. These gloomy scenarios and vignettes have all been made into popular cinema and have been predicted by the most prestigious and powerful intelligence and elite global planning institutions.⁴⁷

⁴⁶ The P.R.C. appears to be building a very large nuclear-hardened command and control center near Beijing (Defense Mirror 2025).

⁴⁷ See World Economic Forum (2025) and National Intelligence Council (2024).

What Next: The G2 and Beyond

There are several possible structural arrangements that could emerge between 2025 and 2050. Another round of U.S. hegemony is not impossible. The Modelski/Thompson power cycle model has two rounds of British leadership -- one in the eighteenth century and one in the 19th century. But for this to happen the U.S. would need to mobilize a return to its former centrality in the production of profitable material exports and this seems unlikely because Wall Street is quite happy with the profits to be had from investing globally and the expansion of profitable opportunities produced by privatization and accumulation by dispossession grabs that rely on control of federal and state governments. So, another round of U.S. economic hegemony is quite unlikely. But the decline part of the U.S. growth/decline trajectory will likely be gradual, as was Britain's, but longer because it started from a higher point in terms of systemic shares.

A new global hegemony of the P.R.C. is another possibility but this would require steady success in moving up the food chain regarding the production and sale of high technology goods, increasingly less reliance on imported high technology and a major retooling of China's advocacy of universalistic ideology. The ideological shift could either be in the direction of embracing the values and institutions of the liberal world order (e.g. free trade, rule of law, sovereignty of nations) that were championed by the United States after World War II⁴⁸ or promulgation of alternative values and institutions that are appealing to both elites and masses in the world outside of China (Mações 2019). This could be done, but at this point the P.R.C. leadership seems more concerned about maintaining support from the Chinese middle class than with coming up with something that would be appealing abroad. A universalistic hegemonic ideology must be able to legitimate both domestic and international consent. The shift from Maoism to Confucianism (Wang and Nahm 2019) probably did not help much. China has a long way yet to go in the trajectories of both economic and military global power but if it can keep going up it could get to a position from which a bid for global hegemony might succeed, especially if it embraces the tenets of the liberal world order that had been championed, until lately by the United States.

The European Union might also make a bid for regional or global hegemony independent of the United States. This seems somewhat plausible but internal politics seem to be going in the wrong direction with nationalism on the rise (Brexit and the rise of anti-immigrant movements and parties). And recall from the trajectories shown in our graphs above that the EU has also been going down in shares of GDP (but not shares of imports and exports -- Figures 8 and 9 above). The colonial legacies of some of the European states might seem to be an obstacle, but the connections that remain could be used to mobilize a global challenge. The E.U. is unlikely to be able to mount a campaign for expanded influence because needs to deal with the threat from Russia and with military dependence on the U.S. umbrella. The EU reliance on NATO presumed a strong alliance with the U.S. that now seems to be wobbling. This will probably keep Britain and the EU countries bogged down for some time to come.

William R. Thompson's *American Global Pre-eminence: The Development and Erosion of Systemic Leadership* (2022), written after the first Trump presidency but before the second), presents a useful comparison of eight international relations "theories/models" as to how they are or are not helpful for understanding the rise of China and decline of the U.S. (2022, Chapter 9. Thompson concludes that the best theoretical perspective is "Geostructural Realism" that adds geographical considerations to the more abstract transition models of Organski (2014) and Waltz (2001). Thompson notes that China is a land power bordering on seas that pose challenges for a large army. The land/power/sea power (global/ regional) distinction was useful for explaining past hegemonic

⁴⁸ John Ikenberry (2011) contends that the liberal world order can survive the decline of U.S. global power.

transitions and world wars, but it may be less useful now because military technology has moved into high space. In order to compete with the U.S. global military satellite network the P.R.C. has developed its own global navigation and military satellite systems (Chen 2024), so the idea that they are only a regional challenger to U.S. power is not the whole story. Thompson says (2022: 239) “If geography can trump polarity, technology can trump geography and polarity.” This does not mean that Thompson’s conclusion that the coming configuration of global power will be a bipolar system in which two world regions, one centered on the U.S. and the other on the P.R.C., is wrong because trade and investment are also at play along with military reach.

Thompson also contends that another world war among great powers is unlikely because of the huge costs to both sides and because the U.S. and Chinese economies are so intertwined by trade and investment that a big decoupling would be a disaster for both sides and for the world economy.⁴⁹ Thompson also points out that advances in supranational global governance in the past have been pushed forward when there was a clear military victor that then sponsored the rise of more capacious supranational organizations. It is quite likely that a very destructive global war in the future will not have a clear winner and so an opportunity to further institutionalize global government might not emerge.⁵⁰

Thompson also contends that the ability to gain a commanding lead in technological innovation and economic comparative advantage that allowed the rise of previous “system leaders” is no longer possible because of changes in communications technology that make it difficult for any state to geographically concentrate and monopolize technological rents long enough to pay back the costs of research and development. Transnational connectivity, a globalized structure of value chains and a globally connected culture of science work against technological and production concentrations. Instead, Thompson foresees the emergence of an extended balance of power in which China and the U.S. compete with one another for technological advances and consolidate regional trade and investment networks. This would be a new Cold War, possibly with proxy wars within and between lesser powers, but would likely be rather different from the U.S. and Soviet Cold War. China is likely to have a greater share of global power than the Soviet Union had and the ideological divide between the contending blocs would probably be less contentious than was the capitalist/socialist discourse of the 20th century Cold War.⁵¹

Thompson also notes that the B2 bipolar structure would still have to deal with global problems such as climate warming, energy transition and disease control. What he does not discuss is what would be likely to emerge after a long B2 bipolar power structure. Here is where the evolutionary perspective is helpful. The Modelski functionalist view of global leaders (also known in the International Relations field as “hegemonic stability theory” is that “leaders” provide public goods that they can afford because of the profits they make as technological pioneers but that as these returns diminish, the leader is no longer able to afford to provide as much and so they decline, and competitors emerge. One obvious solution to this messy form of leadership formation would be a global federal state that could cover its costs by means of taxation to provide security and other

⁴⁹ Thompson hedges his bets somewhat about the **no world war prediction** because of the dangers of accidental conflicts that could lead to escalation, and he mentions the scary close calls that occurred during the Soviet/U.S. Cold War (the Cuban missile crisis and the 1983 Able Archer NATO exercise during which Soviet leaders loaded nukes on to bombers because they thought a NATO first strike was coming).

⁵⁰ This brutal form of leadership selection needs to be replaced by capacious global governance institution that would peacefully resolve conflicts and that allowed the world’s peoples some say in who will represent them. The zeitgeist seems to be moving toward deglobalization and the rise of competitive regions in the next decades as outlined by Thompson.

⁵¹ Alfred McCoy (2018: 234-235) foresees the possibility of a multipolar structure of smaller regional “back-door” blocs each surrounded by a strong state: The U.S. in North America, Brazil in South America, etc.

services to the population of the Earth. We have already argued above that the process of supranational governance formation has been going on since the Concert of Europe. This would also be able to replace the costly game of military competition with less expensive means of enforcing the law and confronting coercive challenges. Immanuel Kant made this case in the 18th century. Many social scientists who have thought about the long-run future predict the eventual emergence of a global state,⁵² whereas others think that a system of states competing and cooperating with one another is a natural order that will continue far into the future. Both stances are partly correct. A future global state would probably experience a rise and fall pattern just as states and empires have in the past. And it is possible that technological change and cultural development would make it possible to have a stable system of small polities that would resolve conflicts peaceably without resorting to violence if social systems provided what people need in the absence of big inequalities, exploitation and domination. We think these things are possible, but we doubt this will be the next step after the G2 period.

And G2 will not likely be the end of capitalism. Chinese “market socialism” and Western transnational capitalism are converging to some extent because Chinese development projects are increasingly a mix of state-controlled and private firms, and the West is rediscovering national industrial policies that involve planning. This convergence has not gone very far yet, but what it probably means for the middle-run future is that capitalism will go through at least one more systemic cycle of accumulation. A world state that might emerge after a period of bipolarity might be either a global police state (McCoy 2018:234; Robinson 2020) or some form of global democracy. If a global police state emerges it would be able to employ technological improvements in mind control to convince many that it is providing public goods and should be supported. But if the past is any indication such a regime would not last forever. Individuals and groups would figure out how to subvert, go around, resist and undermine and eventually to overthrow a global police state. There would be another World Revolution. That could lead to the return of either another multipolarity system or a global federal democratic commonwealth, and in either case the process of rise and fall would not cease. The possibility that humanity would grow up could happen if a global federal government was able to implement an effective system for resolving conflicts peacefully and for providing security and the material needs of the Earth’s people. This would not be the end of history or of sociocultural evolution. Rise and fall of power structures on Earth and in the human polities the emerge in space would continue. And even if a very destructive global war occurred at one of the dangerous inflection points, and it killed a large number, but not all, the humans, the waves of social complexity and the rise and fall of power/authority structures would begin again and would eventually get back to a situation rather like the present. Big history will not end, and human history probably has a long way to go.

Appendix to Christopher Chase-Dunn and Emlyn Zhai,

“The Rise and Decline of U.S. Hegemony In Evolutionary Perspective: What is New and What Is Next?”
<https://irows.ucr.edu/cd/appendices/ushegemony/ushegemonyapp.pdf>

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⁵² Taagepera and Nemcok (2024:246) calculate based on long term trends in the effective numbers and largest sizes of polities that a single global state will emerge around 4616 CE.

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