Waging War with Gold: National Security and the Finance Domain Across the Ages

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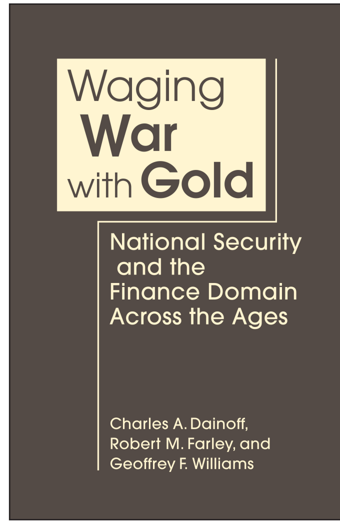

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The Financial Battlespace

The Wars now adays seem rather to be waged with Gold than with Iron, and unless we Pay well, we shall never be able to Punish well; and perhaps a due Disposition and Faculty to Punish and Reward, may be none of the least of our Defects; and without a due Administration of these, and a right Use of Extraordinary Persons and Means, we can never in Reason expect to do anything Great.

—John Whitlock, *Some Observations upon the Bank of England,* 1695

In 1655, King Karl X Gustav of Sweden led an invasion of the western section of Poland-Lithuania in an attempt to expand his territory. This campaign, known as the "Swedish Deluge" for its swiftness, opened up a new theater of operations in what would later be called the Second Northern War. The campaign marked the resumption of the foreign wars of the Swedish Empire following the end of Sweden's participation in the Thirty Years War in 1648. The Second Northern War would last only from 1655 to 1660, with the combatants mostly agreeing to return to the status quo ante at the end. The war settled nothing and arguably set the stage for conflicts that would engulf Europe for the rest of the century. These wars would proceed without Karl X Gustav, who died of pneumonia on February 8, 1660.[1]

The wars of the seventeenth century were bloody and costly. The expansion and professionalization of Sweden's armed forces in the early 1600s demanded additional funding.[2] Sweden had begun to systematize its tax collection apparatus in 1520, but by the mid–seventeenth century the crown was frequently forced by shortfalls to resort to more extreme fundraising measures such as selling land to the nobility or withholding payment from royal servants.[3] During the Thirty Years War the crown minted excess coins to pay its expenses, which led to devaluation of the Swedish currency in 1647. As Karl X Gustav prepared his country for another war in

1656, he realized Sweden needed more than just soldiers and weapons—what it needed most of all was a bank.[4]

On November 30, 1656, after several entreaties by the Latvian-born commissioner of the Swedish Board of Trade, Johan Palmstruch, Karl X Gustav while in the field personally leading the deluge, signed two charters creating the innovative Stockholms Banco that copied from public banks in European city-states.[5] That the launch of what would become the first modern central bank occurred on the frozen mud of an East Prussian battlefield is entirely appropriate. The Banco would loan money to the crown, and these loans would be taken from deposits of account holders rather than just from the pockets of wealthy nobles. The money from these loans could then be used by Karl X Gustav (and his successors) to finance his army to aid in Sweden's expansion.

The eleven-year path from Stockholms Banco to the Sveriges Riksbank, the world's first central bank, was short but rocky. But the relationship between the wars of seventeenth-century Europe and the development of central banking, one of the core institutions of modern finance, is clear. Sveriges Riksbank was followed twenty-six years later by the Bank of England, and during the 1700s and 1800s a tide of central banks swept across Europe. The link between central banking and war finance is additionally illustrated in the negative by the many countries that were late to create a lasting central bank, in particular the United States. Central banks are only one tool for managing and manipulating the strategic issues involved in financial operations for warmaking, what we term the *finance domain,* but they are among the most important of the technologies that states have developed to fight wars of finance. This book tracks how states have developed technologies such as central banks not simply to manage their own financial affairs, but also to influence the finances of their allies and competitors as they aggressively compete in the international system.

Finance as a Domain

Across many regions and time periods, and nearly universally for the past 200 years, it has been an existential concern for states to maintain the day-to-day ability to purchase resources rapidly and in large quantities by the issuance of highly liquid and generally accepted financial assets such as coins, notes, or bonds. The strategic vulnerability that this presents is best understood using the "domain" framework.

Military analysts increasingly think in terms of domains as distinct arenas of state competition, and consequently as an environment in which it becomes possible to measure relative state power. The most commonly cited domains include maritime, air, and land, although increasingly analysts have also begun to evaluate relative state power within the space and cyber domains. Within these domains are areas of contestation in which no state can exert legal authority, and whose existence creates systemwide problems; these spaces are generally known as "commons." Competition within and across these domains can change significantly as a result of organizational and technological advancements, even to the point of significantly changing the balance of power or even transforming the nature of hegemony itself in the international system; these advancements are known as "revolutions." In this book, we answer the question of how states use financial tools to coerce others and maximize their own security by first demonstrating that finance is a domain worthy of strategic study on its own, and that this domain undergoes revolutions in financial affairs (RFAs) in the same way that other domains undergo revolutions in military affairs (RMAs). We then review how international financial flows represent a commons, analogous to the way in which naval specialists discuss oceans and waterways. Next, we guide readers through a brief history of the development of financial systems by individual states throughout the world, in the process defining several RFAs that changed the balance of power in the international system, as well as illustrating how national security concerns have routinely guided state financial development, even as these RFAs pushed states toward new strategies and capabilities.

If we take as a given that the international system has always been anarchic and that states compete with each other to maximize either security or power, and that finance is a domain of this contestation, then we must determine how states use this domain to compete with each other. That finance is a key component of war, strategy, and international competition is not a novel or controversial claim, and dates back to the premodern or "classical" eras. For example, Herodotus made clear in *The Histories* in 430 BCE that Persian systems of finance enabled the expansion of their empire across the Levant and into the Eastern Mediterranean. Later, in *The Peloponnesian War,* Thucydides detailed the impact of finance on the conduct of the war, reporting the concerns of Spartan kings regarding the inadequacy of their monetary system in the early fourth century BCE. Ancient Greek and Roman commentators from Xenophon to Cicero discussed the demands of war on financial policy, with the latter famously declaring "the sinews of war, infinite money" in his "Fifth Philippic" against Antony in 43 BCE.[6] Further east, monetary considerations bedeviled policymakers in the Spring and Autumn Period and Warring States Period in China. Neither is this phenomenon limited to the ancient world; the relationship between the availability of money and state power has likewise preoccupied rulers from medieval to early modern Europe.[7]

Despite the fulsome and well-documented history of the relationship between money and state power, it is our contention that modern strategic analysts do not give it sufficient consideration, particularly the vulnerabilities it creates in the exigent circumstances of war. These analysts will universally agree on the importance of economics and finance, having gone so far recently as to develop the concepts of "economic" and "financial statecraft," yet the strategic community has done little to contemplate the independent effect of financial arrangements on strategic competition when discussing warfighting or diplomacy.[8] This absence is problematic not just because ignoring the finance domain gives analysts an incomplete picture of state capacities, but also because of the topic's complexity. Indeed, the use of money for international contestation involves more than the ability to transform basic economic factors into military power, to change gold into lead in a reverse alchemy that results in an improved ability to compete. For example: the role of the British navy in the nineteenth century and the American navy in the twenty-first century are understood to be critical to the warmaking ability of London and Washington, respectively. But the similar importance of the pound and the dollar are at best relatively underexamined, and arguably ignored, in many discussions of national security. Our goal in writing this book is to provide a way to more easily understand the structure of the finance domain, how international competition in this domain has affected state power and the relationships of states to one another, the impact that RFAs have had on the mechanisms of contestation, how this contestation currently works, and how it might work in the future.

Understanding the Financial Battlespace

Just as states have armies, navies, and air forces as tools of defense statecraft, they also have groups of professionals dedicated to protecting state interests in the finance domain: "gold forces," if you will. In the United States, this force is small relative to the other armed services, and its members are distributed in offices across the Department of the Treasury, the Department of Justice, and the Federal Reserve. The US gold force has been operating in some sense since 1789 and is paralleled by hundreds of similar institutions across the globe in central banks, state treasuries, and exchequers. Understanding what a gold force is and what it does is critical for understanding national security and developing a sound grand strategy.

This understanding is also critical because it is important to appreciate the breadth of the gold force's power and responsibilities. To improve this understanding, this book focuses on the state's ability to create and transmit liquid assets rapidly as a way to avoid defeat or disabling crises while in conflict with others. Other researchers have done great work in analyzing the importance of economic size broadly, fiscal and tax structure as a regular source of resources, and the use by developed states of currency as a source of general pressure and coercion. Nevertheless, it is important to draw explicit links—historically, in the present day, and looking forward—between state capacity, finance, and international competition. We believe these links have not yet been explicated in any significant way, and that the stability of the international system depends in part on state-level decision-makers understanding them.

Domain

The term *domain* has become an integral part of defense analytical thinking in the United States in the twenty-first century. Eric Heftye traces the term to the "Joint Vision 2020," a planning document published by the US Department of Defense (DOD) in June 2000 and intended to lay out a vision of US military dominance in 2020.[9] Joint Vision 2020 identifies five domains: "US forces are able to conduct prompt, sustained, and synchronized operations . . . with access to and freedom to operate in all domains—space, sea, land, air, and information."[10] *Domain* replaced the term *dimension,* which the DOD had used to characterize spheres of activity such as land, sea, and air since its founding in the late 1940s. As Heftye notes, use of the term *domain* is bound up in conceptions of US military hegemony, as the origins of the word lie in concepts of land ownership and sovereignty. Heftye gives the term some shape and form by borrowing an explanation from another doctrinal publication, the 2005 edition of the US Joint Chiefs of Staff report "Capstone Concept for Joint Operations," which defines a *domain* as "any potential operating 'space' through which the target system can be influenced—not only the domains of land, sea, air, and space, but also the virtual (information and cyber) and human (cognitive, moral, and social) domains."[11] Given this working definition, the usefulness of characterizing international finance as a domain becomes easier to grasp.

Domains require a level of strategic interaction, in that the actions of the players (usually states in this discussion) affect and anticipate those of other players. Evaluations of international power rely on comparisons across a range of military, political, and economic metrics. Especially with regard to military power, these metrics often focus on comparisons within particular domains: China's military buildup has threatened US dominance in the air and naval domains in the Western Pacific, for example.[12] While these comparisons generally involve complex calculations of military capability—for example, the Correlates of War project's Composite Index of National Capability (CINC) score[13]—they can include brute force counting of warships, assessments of the relative qualities of fighter aircraft, and analysis of the characteristics of nuclear missile silos.

Like the cyber domain mentioned above, the finance domain is a human creation; it does not exist except within a specific set of social circumstances.[14]

Unlike cyber, space, or even air, however, finance is not a *new* domain. States have acted in the finance domain for as long as substantial trade financed with liquid assets has existed, although the complexity of operations within this domain has varied over time. The effectiveness of certain kinds of operations within the finance domain depends on the overall structure of the domain and the position of the state within that domain. Even relatively weak states by conventional definitions can undertake disruptive actions—such as counterfeiting foreign currencies—and "punch above their weight" in the international system.[15] One of the most successful (if difficult to duplicate) examples is the January 1968 currency conversion implemented by the federal government of Nigeria, which effectively obliterated the liquid assets of the rebelling Biafran government.[16] In fact, certain states like Switzerland that are weak in other domains have continued to exist throughout history relying solely on their ability to manipulate the finance domain to their advantage by creating goods and services so valuable to elites in strong states that the preservation of these goods and services overrides the impulse to conquest.[17]

It is important at this point to clarify the distinction between finance as a domain and closely related areas such as economic warfare (via blockades or sanctions, for example) and materials procurement. For the purposes of this book, we define the *finance domain* as concerning in particular the managing of flows and stocks of liquid assets like money and negotiable debt in a financial commons where other states are active. Economic statecraft can include financial statecraft, but also involves the mobilizations of resources for the purposes of national security. States can mobilize resources through nonfinancial means and can prevent the mobilization of enemy resources through violence or intimidation. For example, Sparta used slave labor to mobilize agricultural and mining resources during the Peloponnesian War and used these resources to support an army consisting largely of enthusiastic citizen volunteers. The Combined Bomber Offensive of World War II sought to destroy German industrial capacity as a means of economic warfare, but did not directly damage the German system of finance.[18] Similarly, the British Royal Navy's blockade of Germany during World War I sought to deprive the German state of the basic raw materials necessary to wage war.[19] Steps short of war, such as sanctions designed to cause economic harm or to prevent the import of technologies of warfare, also fall under the category of economic statecraft.

However, while all of these examples illustrate the relationship between economics and warfare, none of them directly involve the finance domain. By contrast, the Continental System of Napoleon involved blockades and hence economic warfare, but also utilized the finance domain to gain a strategic advantage.[20] Napoleon's strategy used the Continental System to force gold outflows from Britain, which he believed would weaken the British economy.[21] The distinction here is between controlling an opponent's use of liquid assets, the sinews of war, and controlling the flow of physical resources needed for the opponent to fight and survive. Another example would be the binding by several European states of the Ottoman Empire with debt in the nineteenth century sharply limiting Constantinople's domestic and international policy latitude.[22] More recently, the United States has taken steps to limit Iran's access to international financial markets to coerce Iran into abandoning its missile and nuclear programs.[23]

Finance, Mobilization, and the State

While the efficient mobilization of financial resources is always important to warmaking entities, this mobilization becomes a domain of strategy only when there is the potential for interaction in international markets.[24] For finance to be a domain, a warmaking state needs to be dependent on financial markets in which other states are also active. Two state characteristics indicate if this is the case: first, the state's economy is substantially monetized, meaning that money and other highly liquid assets are used broadly; and, second, the state's economy is "outward facing," meaning it involves substantial international trade. These two characteristics are interrelated: without substantial international trade, there is little use for significant liquidity; and without significant liquidity, it is difficult to coordinate substantial international trade. The current complexity and interconnectedness of the global economy demands that nearly every state develop a strategy and a set of tools for competing in the finance domain, but this condition was not nearly the necessity that it is today. Although cases of true autarkic states are rare, it was possible for premodern states to survive without engaging in significant international trade. These states that did not participate in international markets, by definition, did not compete in the finance domain.

States that do compete in the finance domain to ensure their survival or establish dominance are behaving in the same way that, for example, states that build navies are competing to establish the security of their own ports or shorelines or to establish dominance in the naval commons. We further refine the concept by introducing the idea that the finance domain has undergone several RFAs throughout premodern and modern history. Before that, however, it is necessary that we discuss what happens when domains interact with one another, and when states act in ways in one domain that have an impact in another.

Domain Interactions

Domains do not exist in isolation from each other; it is possible for elements of one domain to significantly affect state behavior in another. In fact, the US Army has in recent years developed a concept termed *multi-domain battle* to characterize the domain-interactive character of modern warfare, and platforms such as aircraft carriers are specifically designed to straddle domain boundaries.[25] In addition, technological developments that open up one domain—the invention of the aircraft or the ballistic missile, to offer two examples—can have transformative effects on other domains. So it is with the development of the cyber domain, which served to extend the reach and change the tools available in the finance domain, despite the former domain preexisting the latter; international finance existed long before the invention of the computer. Just as the advent of manned flight opened the air domain while transforming the conduct of conflict in the land and maritime domains, the creation of cyberspace has changed how states compete in the finance domain.[26]

Domains are useful for categorizing spaces of conflict and can also inform institutional design. Broadly speaking, most national security apparatuses structure themselves around lines characterized by domains. For example, the uniformed military of the United States consists of the army, the air force, and the navy (the last of which includes the marine corps).[27] Each of these services focuses on a particular domain: land power, airpower, and seapower, respectively. Similar to the recent creation of the space force, some experts have argued for the creation of a "cyber force" to manage national security interests in the cyber domain.[28]

This delineation of domains among service branches has consequences for the institutional structure of the entire national security apparatus, with further downstream effects on the national security structures of other states. The identification of an organization with a domain has implications for culture, mission sets, capabilities, professional pathways, and the overall worldview of its members. Members of organizations focused on the air domain tend to view the world in terms specific to aircraft, those in the maritime domain tend not to think about solutions in terms of land competition, and so forth.[29] Furthermore, the institutionalization of domains tends to focus expectations of participants, observers, and policymakers around certain kinds of behavior; for example, members of the US Air Force expect the air force to manage aircraft and members of the US Navy expect the navy to manage boats, even though the distribution of both aircraft and boats across the services is complex and contested.

The Finance Domain—and Its Absence—from International Relations Theory

Despite its evident importance to strategic thought, finance received relatively little attention in the foundational texts of international relations.[30]

This tendency exists in historically major paradigms of realism and liberalism, while the relatively newer paradigm of constructivism as well as its close relation international political economy are better at integrating finance into their Weltanschauungen.

One of the most relevant examples (for the purposes of this book) of this absence is in the work of Edward Hallett Carr. In *The Twenty Years' Crisis*, *1919–1939,* Carr laid much of the foundation for thinking about realist power politics in the modern state system and, in doing so, disaggregated different kinds of state power, demonstrating the inextricable linkages between military and economic power. Unfortunately, although Carr briefly discussed finance, he did not attempt to disaggregate financial and economic power in any sophisticated way.[31] Carr did not, for example, describe the ways in which the Triple Entente-dominated financial system attempted to constrain Germany at the end of the World War I, or the means by which Britain and the United States tried to control the access that revisionist powers had to credit.

This lack of specificity is characteristic of other foundational works of international relations. For example, in *Politics Among Nations,* Hans Morgenthau does not identify command of the international financial system as a core element of American power. When Morgenthau does mention finance, it is to echo a point Adam Smith made 175 years earlier that a financial policy, in Morgenthau's case a loan, might well be "insecure and unprofitable"[32] but should nevertheless be pursued if it enhances a state's political power. Morgenthau admittedly does get close to the idea of international finance as a domain and state financial power being a weapon to use in and of itself, but visualizes both economic and financial power as entities separate from—and subservient to—political power.

Neither is Kenneth Waltz exempt. In fact, Waltz gives no specific account of the structure of international finance in his *Theory of International Politics*, although this is not surprising as he does not discuss domestic systems of finance either.[33] We may surmise, however, that, had Waltz mentioned them, his theory would have concluded that financial institutions that grant a state competitive advantages will generally be replicated by other states in the system. However, this conclusion belies the nature of the finance domain, where the interrelationships between states structure state choice.

Waltz says nothing, for example, about the dominance of London's financial markets during the long nineteenth century, or how that dominance affected the capacity of states around the world to provide for their own defense. Similarly, he has nothing to say about how Bretton Woods structured the financial environment of the Cold War. In both cases, states could not simply choose to adopt the innovative institutions of the hegemons; they had to either operate within the constraints provided or pay the costs of going their own way.

Neorealist theory lacks any specific account of the nature of state institutions. Foundational neorealist texts have little to say about how states access the land, air, or sea domains, or whether dominance in any particular domain (land powers vs. sea powers, for example) better secures the survival or prosperity of a state. Neorealists, however, view this lack of specificity as a strength because it enables the theory to remain flexible and parsimonious and, if there is no specificity regarding the traditional strategic domains, there could hardly be an expectation of it concerning the development of financial institutions.

However, it is possible to imagine a neorealist theory of the emergence of financial institutions: as the economies of early modern Europe developed in sophistication, financial institutions likewise developed in a way that managed the distribution of capital between a state and different types of enterprises within that state. Such institutions would therefore enable said state to better mobilize its basic factor endowments of land, labor, resources, and energy. In addition, when appropriate, these institutions also mediated relations between the European pole and its colonial periphery, facilitating investment and enabling colonial powers to take advantage of the labor and resources of their colonies.

Furthermore, as is the case with military organizations, these financial institutions were not created equal; for whatever reason, some performed more effectively than others, some were more innovative, and consequently some produced benefits for their states that resulted in genuine advantages on the battlefield or in other areas of strategic competition, resulting either in increased power or hegemony. Out of a fear of falling behind, other states in the system copied these innovations and installed them within their own financial systems, which invariably involved some degree of public-private interaction.

Sadly, neorealism is ill-equipped to integrate any further theoretical refinements along this line of logic such as the development of sophisticated financial institutions in one state affecting the development of financial institutions in another; or the constellation of banks, stock exchanges, and government institutions in one state actively precluding their development in another; or, finally, the development of financial institutions in one state enabling that state to effectively control how other states fund their wars, military establishments, and other public works. One state, without launching a ship, dropping a bomb, or landing a soldier, can limit another state's ability to mobilize its basic factor endowment, and therefore its ability to maximize its own security and to compete in an anarchic international system.

The liberal challenge to realism opened space for thinking about how structural factors other than the balance of power could affect state choice: international institutions can change the payoffs of actors within the system, thereby rewarding states for seeking prosperity as well as security. However, neoliberal institutionalism largely regarded the institutionalization of international politics as a recent phenomenon, developing since the end of World War II. In addition, neoliberal institutionalism also de-emphasized the role of power in the formation and performance of international institutions, making it ill-equipped for analyzing an international financial system such as the classical gold standard. Neoliberal institutionalism can go some distance toward explaining the global impact of financial institutions in the postwar period. But because of the de-emphasis of the concept of power, it does less well at explaining how particular states can weaponize the leverage they have over different aspects of the financial system, as well as at explaining the role of finance in earlier historical periods, where international institutions were either wholly absent or had a much different character than the regimes of the Cold War. Overall, neoliberal institutionalism offers little leverage for understanding the enduring characteristics of competition in the finance domain.

Finance may also impose particularly serious problems for how liberalism and neoliberal institutionalism understand hegemonic stability. In *After Hegemony*, Robert Keohane argues that the international regimes established by North American and European states after the end of World War II should be able to sustain international cooperation even after American hegemony fades.[34] This is not contradicted by a focus on the finance domain because, of course, the economic and financial regimes established by the United States and its allies in 1945 are an immensely important part of the story of hegemony. The difference here is one of emphasis; Keohane focuses on the role that institutions play in maintaining peace and prosperity after the end of US hegemony, while a financial perspective concentrates on how such institutions further, deepen, and indeed constitute hegemony.

Constructivism and international political economy (IPE) fare better in adapting concepts of financial power to the overall idea of international contestations and the arenas in which those contestations take place, in part because these disciplines exist in reaction to the inabilities of realism and liberalism to fully explain state behavior, particularly in the late twentieth and early twenty-first centuries.[35] Two brief examples illustrate this point. First, Robert Gilpin offers not only a framework for conceptualizing the dominance of the United States in financial affairs, but also comments directly on the subject of IPE.[36] Gilpin's vision of international relations involves states engaged in a multifaceted contest with one another in which power and interest played essential roles. Hegemonic states used norms, rules, and institutions to shape the international system to their liking. We can easily fit international financial competition into this framework, as states use money not only to enhance their own capabilities, but also to place constraints on the freedom of other states. Indeed, we locate this concept within our own conception of RFAs to explain the extent to which the United States midwifed the Bretton Woods system in such a way that placed the United States at the center of the new international order.

Second, the literature on military organizations and international cooperation in general—whose major contributors include Martha Finnemore and Michael Horowitz—has focused to an extent on the importance of firm institutional foundations to the adoption and diffusion of technologies and doctrines.[37] Finnemore's book *The Purpose of Intervention,* for example, addresses these questions through the lens of the changing tendency of states to intervene militarily, but statements such as "in a society that has no central government or law enforcement, those with the means to do so enforce understandings of right and permissible conduct"[38] apply equally well to our theory of international contestation within the finance domain.

Our purpose here is to catalogue the tools that states can use to compete and influence one another within the finance domain. These tools have become more visible and arguably more powerful in the past twenty years, as the United States has wielded its financial power like a maul to enhance its hegemony. However, the existence of such tools is not limited to the twenty-first century, or to the early modern period, or to the ancients, but rather it is evident across the history of international relations.[39] We should note that although we believe the principles outlined here are universal, and we attempt to include from the broadest array of regions, cultures, and time periods, our discussion is focused on European, East Asian, and North American history for the past 800–1,000 years. There are multiple reasons for this. First, given the need to keep the scope of the discussion targeted, we focus on developments that are most critical to understanding the finance domain, which means we touch lightly or not at all on most of human history. Second, at the risk of availability bias, we found the most extensive documentation of financial developments in this period. Third, we believe that European history from roughly 1200 to 1800 is where the most dramatic development of the finance domain occurred, and the 200 years since then are crucial to understanding where we are now. We believe the finance domain has played an important role in regions and periods we do not spend time on here, and hope that further research will bring these stories to light.

Plan of the Book

The rest of the book proceeds as follows. In Chapter 2, we sketch out the central characteristics of the finance domain.

In Chapter 3, we discuss examples of systems of monetary exchange in the premodern world and review the development of finance as a strategic domain. The early empires of Mesopotamia, Egypt, and the Middle East used taxation to systematically fund their militaries by about 3,000 BCE. Steady increases in trade and taxation led to coinage, our first RFA, but taxation paid in goods and corvée labor stayed important throughout this era. By the height of the Roman Empire, a number of critical pieces of the financial domain had been developed and were in use across Eurasia, including regular systems of taxation, coins, and formalized loan contracts.

In Chapter 4, we examine the regression that occurred in Europe after the collapse of the western half of the Roman Empire. We then investigate the means through which the early Islamic polities funded their conquest of much of the Mediterranean world, and the reach of Islamic finance deep into the Eurasian continent. We look at developments in China, which by roughly the eleventh century show some of the most sophisticated monetary and financial institutions in the world. Over the next few hundred years, polities in Western Europe began to reconstruct some of the financial practices that decayed or disappeared with the fall of Rome and innovate new ones such as negotiable bills of exchange. We conclude with a discussion of two important RFAs: the development of paper currency in China and the development of public debt in Europe.

In Chapter 5, we discuss a critical RFA almost exclusively centered in Europe, when the combination of increased maritime trade, improvements in agriculture, an influx of specie from the Americas and competitive pressure in warfare triggered a substantial increase in state revenues between the early 1600s and the early 1700s. This period marks a significant leap forward in the evolution of linkages between trade, taxation, finance, and national security, as developments in economic thought and the launch of central banking—as well as a number of public-private financial schemes—demonstrated the strategic relevance of finance. Because many of these developments began with the proto-economic discussions grouped under the name mercantilism, we term this the *mercantilist RFA*.

In Chapter 6, we consider the period of the Pax Britannica, 1815 to 1914. The development of the gold standard, which was at its height from 1880 to 1914, facilitated international trade and finance, a facilitation exploited for trade in munitions and financing of warfare. However, the establishment of a gold standard did not simply increase the availability of funding for substate actors; it also had the impact of creating an international system of rules, thereby stabilizing state behavior. This system—the Pax Brittanica and the classical gold standard—ended in the destructive forces unleashed by World War I.

In Chapter 7, we cover the transformation wrought by World War I, aka the interwar period. The aftermath of the war resulted in extensive economic and social change, as the mass mobilization and high death toll of the war radically remade European politics, overturning autocratic governments in

Russia, Germany, and Austria and expanding the voting franchise elsewhere. In a development we term the *bureaucratic RFA*, the intersection of civil service professionalization, experience using monetary systems to control prewar colonies, and pressure from overvalued currencies led to more aggressive use of government controls on financial flows. In this case, countries' efforts to gain relative advantage drove an RFA, but the following competition worsened the developing depression and helped lead to world war.

Determined to learn from the chaos of 1929 to 1945, the victors in World War II attempted to create a benevolent global financial hegemony under the United States, the subject of Chapter 8. This hegemony—the *Bretton Woods RFA*—tried to adapt the best parts of the British-centered gold standard system while mitigating its weaknesses. Beyond that, it was hoped that Bretton Woods would mute the use of finance as a tool for interstate rivalry. However, shocks such as the rise of the Organization of Petroleum Exporting Countries (OPEC), the pressure of maintaining the United States' military commitments, and worldwide inflation were more than the system could easily handle. Even as governments became increasingly ready to let exchange rates and trade flows be dictated by market forces, the United States maintained its central role and Bretton Woods Institutions worked to expand trade and stabilize financial flows.

Chapter 9 concludes our history of RFAs by investigating the transformations wrought in the era of post–Cold War American hegemony. The *digital RFA* of this period is characterized by the beginning of the use of signals intelligence (SIGINT) and negotiated transparency to track financial flows outside of US financial networks and flag transactions involving enemies and competitors. After September 11, the United States put an increased emphasis on tracking terrorism financing, which led to an increased use of the Society for Worldwide Interbank Financial Telecommunication (SWIFT) system. With the Russian invasion of Ukraine, the arsenal of US digital interventions was deployed against its largest target to date, with ambiguous results.

Chapter 10 projects potential future developments in the finance domain. We evaluate six scenarios, one in which the United States remains a financial hegemon, a second in which we see a relatively orderly transition to another hegemon, three scenarios that look at the development of bipolarity in the finance domain, and a sixth that witnesses the development of a multipolar financial commons. We use the International Futures model to help generate likely paths, and to help evaluate how those paths will impact geostrategic affairs. Our argument concludes with some final thoughts on the need for policymakers and strategic analysts to carefully incorporate financial thinking into their decisionmaking. We also outline lacunae in which future research can more tightly integrate financial and strategic analysis.

Notes

1. Frost, Robert I. 2014. *The Northern Wars: War, State and Society in Northeastern Europe, 1558–1721*. London: Routledge.

2. Feld, Maury D. 1975. "Middle-Class Society and the Rise of Military Professionalism: The Dutch Arm, 1589–1609." *Armed Forces and Society* 1 (4): 419–442, at 430.

3. Hendrickson, Joshua R. 2020. "The Riksbank, Emergency Finance, Policy Experimentation, and Sweden's Reversal of Fortune." *Journal of Economic Behavior and Organization* 171: 312–332, at 314.

4. Sveriges Riksbank. 2021. *Money and Power—the History of Sveriges Riksbank,* 25–32.

5. The first charter enabled the creation of an exchange bank and the second created a loans bank. While the former is notable for the invention and circulation of paper money—at least for a few years—it is the latter charter that is of greater import for this story.

6. Cicero, Marcus. 1913. *The Orations of Marcus Tullius Cicero vol. 4*. London: G. Bell and Sons, 1913, p. 96.

7. Kakinuma, Yohei. 2014. "The Emergence and Spread of Coins in China from the Spring and Autumn Period to the Warring States Period." In *Explaining Monetary and Financial Innovation*, edited by Peter Bernholz and Roland Vaubel. Cham: Springer, 79–126.

8. See, for example Blackwill, Robert D., and Jennifer M. Harris. 2016. *War by Other Means: Geoeconomics and Statecraft.* Cambridge: Harvard University Press; Steil, Benn, and Robert E. Litan. 2006. *Financial Statecraft: The Role of Financial Markets in American Foreign Policy*. New Haven: Yale University Press.

9. Heftye, Eric. 2017. "Multi-Domain Confusion: All Domains Are Not Created Equal," Strategy Bridge, May 26; Hoffman, Frank and Davies, Michael 2013. "Joint Force 2020 and the Human Domain: Time for a New Conceptual Framework?" *Small Wars Journal*. https://smallwarsjournal.com/jrnl/art/joint-force-2020-and-the-human-domain-time-for-a-new-conceptual-framework.

10. Joint Chiefs of Staff. 2000. *Joint Vision 2020*. June. Washington, DC: US Government Printing Office, 6.

11. Joint Chiefs of Staff. 2005. *Capstone Concept for Joint Operations, Version 2.0.* Washington, DC: US Government Printing Office, 16.

12. Nye, Joseph S., Jr. 2010. *Cyber Power*. Cambridge: Harvard University Press; Alexander, Keith B. 2007. *Warfighting in Cyberspace*. Washington, DC: National Defense University Institute for Strategic Studies; Libicki, Martin C. 2012. "Cyberspace Is Not a Warfighting Domain." *I/S: A Journal of Law and Policy for the Information Society* 8 (2): 325–340; Lynn, William F., III. 2010. "Defending A New Domain—The Pentagon's Cyberstrategy." *Foreign Affairs* 89 (5): 97.

13. Singer, J. David, Stuart Bremer, and John Stuckey. 1972. "Capability Distribution, Uncertainty, and Major Power War, 1820–1965." In *Peace, War, and Numbers,* edited by Bruce Russett. Beverly Hills: Sage, 19–48. A state's CINC score is calculated using its total population, urban population, iron and steel production, energy consumption, military personnel, and military expenditure. Given the inherent problems of data collection over a now two-century period, and the change in the nature of state power since the index was first developed, we recommend using the CINC score mainly as a control variable and present it merely as an example of the ways in which state power is estimated.

14. Libicki 2012: 322.

15. Nanto, Dick K. 2008. *North Korean Counterfeiting of Currency*. Washington, DC: Congressional Research Service.

16. Kirshner, Jonathan. 1997. *Currency and Coercion: The Political Economy of International Monetary Power*. Princeton: Princeton University Press, 102–106.

17. Dainoff, Charles. 2021. *Outlaw Paradise: Why Countries Become Tax Havens*. Lanham, MD: Lexington Books.

18. Tooze, Adam. 2007. *The Wages of Destruction: The Making and Breaking of the Nazi Economy*. New York: Viking Penguin, 120–149.

19. Lambert, Nicholas A. 2012. *Planning Armageddon: British Economic Warfare and the First World War*. Cambridge: Harvard University Press.

20. Occhino, Filippo, Kim Oosterlinck, and Eugene N. White. 2007. "How Occupied France Financed Its Own Exploitation in World War II." *American Economic Review* 97 (2): 295–299; White, Eugene N. 1995. "The French Revolution and the Politics of Government Finance, 1770–1815." *Journal of Economic History* 55 (2): 227–255; Dube, Arindrajit, Ethan Kaplan, and Suresh Naidu. 2011. "Coups, Corporations, and Classified Information." *Quarterly Journal of Economics* 126 (3): 1375–1409.

21. Davis, Lance E., and Stanley L. Engerman. 2006. *Naval Blockades in Peace and War: An Economic History Since 1750*. Cambridge: Cambridge University Press, 29–33.

22. Eldem, Edhem. 2005. "Ottoman Financial Integration with Europe: Foreign Loans, the Ottoman Bank, and the Ottoman Public Debt." *European Review* 13 (3): 431; Blaisdell, Donald C. 1929. *European Financial Control in the Ottoman Empire*. New York: Columbia University Press.

23. Majd, Mariam. 2018. "The Cost of a SWIFT Kick: Estimating the Cost of Financial Sanctions on Iran." In *The Political Economy of International Finance in an Age of Inequality: Soft Currencies, Hard Landings,* edited by Gerald A. Epstein. Cheltenham: Edward Elgar: 175–193.

24. An analogy here is the importance of maritime resources and capabilities versus maritime competition: a state that used its inland waterways to move supplies and troops domestically would need ships but, if no other state's vessels accessed these waterways, they would not need to think about mobilizing resources to contest in the maritime domain.

25. See, for example, US Army Headquarters. "The Army in Multi-Domain Operations: 2028." Initial Coordination Draft v0.6h, August 7; Perkins, David G. 2017b. "Multi-Domain Battle: Driving Change to Win in the Future." *Military Review* 97 (4): 6–13; Perkins, David G. 2017a. "Multi-Domain Battle: The Advent of Twenty-First Century War." *Military Review* 97 (6): 8–13; Perkins, David G. 2017c. "Preparing for the Fight Tonight: Multi-Domain Battle and Field Manual 3-0." *Military Review* 97 (5): 6–13.

26. See below for a more complete discussion of the impact of technological developments on the conduct of international finance.

27. On December 20, 2019, President Donald Trump created a space force housed within the air force to manage the space domain. See "History." United States Space Force. Garamone, Jim. 2019. "Trump Signs Law Establishing U.S. Space Force." *DOD [United States Department of Defense] News*. https://www.defense.gov/News/News-Stories/Article/Article/2046035/trump-signs-law-establishing-us-space-force/.

28. Graham, Maj. Matt. 2016. "U.S. Cyber Force: One War Away." *Military Review* 96 (3): 111–118; Solce, Natasha. 2008. "The Battlefields of Cyberspace: The Inevitable New Military Branch—The Cyber Force." *Albany Law Journal of Science and Technology* 18 (1): 293–325.

29. Farley, Robert M. 2014. *Grounded: The Case for Abolishing the United States Air Force*. Lexington: University Press of Kentucky.

30. The following section should not be considered a comprehensive literature review of foundational international relations texts. Rather, it is a representative sample intended to illustrate a few general points.

31. Carr, Edward Hallett. 2016. *The Twenty Years' Crisis, 1919–1939*. 2nd ed. Edited by Michael Cox. London: Springer.

32. Morgenthau, Hans J., 1985. *Politics Among Nations: The Struggle for Power and Peace*. 7th ed. Edited by Kenneth W. Thompson and W. David Clinton. New York: McGraw Hill: 47.

33. Waltz, Kenneth N. 2010. *Theory of International Politics*. Long Grove, IL: Waveland Press.

34. Keohane, Robert O. 2005. *After Hegemony: Cooperation and Discord in the World Political Economy*. Princeton: Princeton University Press; Keohane, Robert O. 1986. *Neorealism and Its Critics*. New York: Columbia University Press.

35. A foundational document being Strange, Susan. 1970. "International Economics and International Relations: A Case of Mutual Neglect." *International Affairs* 46 (2): 304–315.

36. Gilpin, Robert. 2016. *The Political Economy of International Relations*. Princeton: Princeton University Press; Gilpin, Robert. 1981. *War and Change in World Politics*. Cambridge: Cambridge University Press; Gilpin, Robert, and Jean M. Gilpin. 2001. *Global Political Economy: Understanding the International Economic Order*. Princeton: Princeton University Press.

37. Horowitz, Michael C. 2010. *The Diffusion of Military Power: Causes and Consequences for International Politics*. Princeton: Princeton University Press; Finnemore, Martha. 2013. *The Purpose of Intervention*. Ithaca: Cornell University Press.

38. Finnemore 2013: 2.

39. Von Glahn, Richard. 2016. *An Economic History of China: From Antiquity to the Nineteenth Century*. Cambridge: Cambridge University Press, 81–82. The Qin Empire lasted from 221 BCE to 206 BCE.