Scholars and strategists have long argued that offense is easier than defense in some periods but harder than defense in others. In the late 1970s, George Quester and Robert Jervis took the first steps toward systematizing this claim. Since then, the debate about the causes and consequences of the offense-defense balance has been one of the most active in security studies.

If the relative efficacy of offense and defense changes over time, states should be more vulnerable to conquest and more likely to attack one another at some times than at others. Specifically, when offense is easier than defense, defenders’ military forces should be more likely to collapse or surrender when attacked, and defenders’ political leaders should be more likely to surrender sovereignty in response to military threats. Thus states in offense-dominant eras should be conquered—involuntarily lose the monopoly of force over all of their territory to external rivals—more often than states in defense-dominant eras. Given their heightened vulnerability to conquest, states in offense-
dominant eras should also be more likely to act on the doctrine that the best defense is a good offense. That is, they should attack one another—conduct offensive military operations against states that have not previously attacked them—more often than states in defense-dominant eras.

Although these points have been widely discussed, neither proponents of offense-defense arguments nor their critics have tested the effects of the offense-defense balance on the historical incidence of attack and conquest. Instead, they have examined its effects on the offensive or defensive character of military doctrine; the extent of arms racing, prevalence of cooperation, and nature of alliances; and especially the incidence, severity, and duration of war.


6. Peter Liberman, whose dependent variable is expansionism, is the exception. Liberman, “The Offense-Defense Balance, Interdependence, and War,” Security Studies, Vol. 9, Nos. 1–2 (Summer and Fall 1999), pp. 59–91. Some scholars have suggested that the number (and, by implication, the size) of states in the international system is a function of the offense-defense balance. But because the number of states could fall through conquest, union, or collapse, studies that simply note the different numbers or sizes of states in different periods are not directly testing this hypothesis. Stanislav Andreski, Military Organization and Society, 2d ed. (Berkeley: University of California Press, 1968), chap. 3; Richard Bean, “War and the Birth of the Nation State,” Journal of Economic History, Vol. 33, No. 1 (March 1973), pp. 203–221; Quester, Offense and Defense in the International System, pp. 8, 17; and Robert Gilpin, War and Change in World Politics (Cambridge: Cambridge University Press, 1981), pp. 61–62, 66.


Attention to war is easy to understand, for it is one of the most destructive human activities. But testing offense-defense arguments on the incidence of war is problematic because these arguments suggest that wars in offense-dominant eras should have many attacks while those in defense-dominant eras should have few. Moreover, they suggest that attacks in offense-dominant eras should frequently culminate in conquest while those in defense-dominant eras should rarely do so. In defense-dominant eras, states with state-of-the-art capabilities should be able to declare war then wait to counterattack without imperiling their survival. Thus, although there may be many declarations of war, there should be few attacks. Moreover, attacks should not result in conquest unless states have outdated capabilities or strategies. In offense-dominant eras, by contrast, security should come from attacking first. Instead of declaring war, states should engage in surprise attacks, wars should involve a number of attacks by a variety of states, and attacks should frequently result in conquest.

Because offense-defense arguments suggest there should be less variation in war than in attack and conquest, the most direct way to test the core claims of these arguments is to examine the effects of the balance on the incidence of attack and conquest. That is my purpose in this article. But constructing an effective test requires more than applying existing arguments to new dependent variables. It also requires redefining the concept of the balance to distinguish between defense and deterrence dominance, as well as operationalizing the historical balance deductively, at the operational level of analysis, and in purely technological terms.

I begin by explaining the need for these refinements to the logic and application of offense-defense arguments. Then I elaborate and operationalize an ar-
gument about the technological sources of the offense-defense-deterrence balance and the balance’s effects on state vulnerability to conquest and propensity to attack other states. Next, I derive hypotheses about the historical incidence of attack and conquest from this argument, as well as from alternative arguments about technology, relative capabilities, duration of great power status, and audience costs.

Then, using the quantitative methodology of event history analysis and new data on attacks by and conquests of great powers and nuclear states, I test the explanatory power of these hypotheses from 1800 to the present. I find that hypotheses derived from my technological argument are strongly supported by historical trends in both attack and conquest. In offense-dominant eras, great powers are significantly more likely to be conquered, to attack other great powers, and to attack non-great powers than they are in defense- and especially deterrence-dominant periods. But the offense-defense-deterrence balance is not the only cause of attack and conquest. Relative capabilities also matter. Specifically, the more capable a great power is, the less likely it is to be conquered and the more likely it is to attack other great powers. Moreover, the imbalance of power between great powers and non-great powers tempts great powers of all capabilities to exercise and expand their influence even in defense- and deterrence-dominant eras.

Finally, I explore the theoretical and political implications of these findings. To summarize, because states are less vulnerable to conquest and less likely to attack one another in defense- and especially deterrence-dominant eras, it is not the case, as offensive realists claim, that states must always act aggressively to survive. Neither is it the case, as defensive realists suggest, that states act aggressively only when their security is threatened. Instead, as structural realists argue, states are sensitive to environmental constraints and opportunities but, given international anarchy, can do as they like, especially when they are strong. This suggests that although deterrence dominance makes nuclear states more secure than great powers have historically been, contemporary nuclear states may attack and conquer nonnuclear states. Given its unrivaled power, the United States is especially likely to do so. Thus if other nuclear states, feeling secure from attack and conquest, move slowly to protect vulnerable states or balance U.S. power, the spread of nuclear weapons is likely to accelerate.

What about Deterrence Dominance?

Although most offense-defense scholars acknowledge the deterrent effects of nuclear weapons, they treat deterrence as a special case of defense. Jervis, for
example, argues that “concerning nuclear weapons, it is generally agreed that defense is impossible—a triumph not of the offense, but of deterrence.” Yet each of Jervis’s “four worlds” of offense-defense advantage and offense-defense differentiation is possible in the nuclear era. Similarly, Stephen Van Evera argues that nuclear weapons make “conquest among great powers . . . virtually impossible,” whereas previous military revolutions simply “strengthened the defense.” Yet Van Evera’s characterization of “military realities” is the same before 1792, from 1816 to 1856, and from 1871 to 1918 as it is from 1945 to 1990.

There are two reasons to distinguish between defense and deterrence dominance. First, defensive and deterrent operations are distinct. As Glenn Snyder puts it, “Deterrence means discouraging the enemy from taking military action by posing for him a prospect of cost and risk outweighing his prospective gain. Defense means reducing our own prospective costs and risks in the event that deterrence fails.” Deterrent operations entail punishment; defensive ones, damage limitation. Second, attack and conquest should occur more often in defense-dominant eras than in deterrence-dominant ones. Attack is more likely in defense-dominant eras because, in the absence of the survivable and deliverable “absolute weapons” (such as nuclear weapons) that make deterrence dominant by dramatically increasing the costs of miscalculation, states face fewer costs for playing the odds. Moreover, in defense-dominant eras, states face incentives to prepare for future revolutions in military affairs by extending their perimeters to make it hard for other states to conquer them when offense regains the advantage; when deterrence is dominant, states have less need to expand because the difficulty of defending against absolute weapons makes it unlikely that deterrence dominance will be overturned. Conquest is also more likely in defense-dominant eras, both because states are more

10. The four worlds describe strategic situations ranging from “doubly dangerous,” in which “there is no way to get security without menacing others,” to “doubly stable,” in which defensive advantage encourages states to adopt policies that pose no threat to others, and offense-defense differentiation enables them to correctly assess their competitors’ intentions. Jervis, “Cooperation under the Security Dilemma,” pp. 198, 211–214.
likely to attack one another and because offense dominance is not the only cause of conquest; attrition can also lead to total military collapse or surrender. Given these differences between the requirements and expected outcomes of defense and deterrence dominance, I redefine the offense-defense balance as the offense-defense-deterrence balance.  

Operationalizing the Balance

Defining the balance is easy: The offense-defense-deterrence balance is the relative efficacy of offense, defense, and deterrence given prevailing conditions. Operationalizing the balance—explaining how to measure it so that its effects can be examined—is harder because it entails decisions about which level of analysis to use (i.e., strategic, operational, or tactical), whether to assess the historical balance inductively or deductively, and which variables to consider.

LEVEL OF ANALYSIS

I operationalize the balance at the operational level, for three reasons. First, specifying the balance at the operational level acknowledges that defenders may allow tactical conquest to achieve operational gains (i.e., trade space for time) and that, even if offense is dominant at the tactical level, operational gains may be elusive. It also acknowledges that offense dominance at the operational level can overwhelm variables that favor defense at the strategic level, such as alliances or economic disincentives for conquest. Second, specifying the balance at the operational level makes it possible to avoid the tautology of coding offense as dominant when many states are conquered, then arguing that offense dominance affects state vulnerability to conquest. Instead the claim is that the strategic outcome of conquest (the involuntary loss to an external rival of a state’s entire territory) is more likely when offensive operations dominate. Third, the aims of offensive and defensive strategies (winning...
wars) differ from those of deterrent strategies (avoiding wars). Thus strategic assessments of the balance can occur only at a high level of abstraction that blurs the distinction between offense and defense dominance. But deterrence dominance requires absolute weapons (force lethality) that can survive first strikes (force protection) and be delivered to their targets (force mobility). Thus deterrence is easily compared to offense and defense at the operational level of analysis using the same, tangible criteria that analysts readily apply to them.

**INDUCTION VERSUS DEDUCTION**

To determine whether offense, defense, or deterrence is dominant in particular eras, I deduce the potential lethality, protection, and mobility of state-of-the-art offensive, defensive, and deterrent operations from prevailing conditions. This approach is contrary to current, inductive efforts to count attacker casualties per defender casualties or kilometer conquered, compare the budgets required for state-of-the-art attackers to prevail against state-of-the-art defenders, and compare the costs of conquest to the value of territory seized.\(^{18}\) When assessing the aggregate effects of the historical balance across the conventional and nuclear eras, induction falls short. Robust evaluation of the historical balance would entail either extensive reenactments or complicated computer models of past campaigns, both of which would require more extensive military, economic, political, and social data than are available. Moreover, inductive measurement of the systemic, post–World War II balance would entail direct assessment of the battlefield effects of nuclear weapons. Thus scholars who pursue the inductive approach must limit their inquiries to contemporary, nonnuclear state dyads and assume that the deterrent effects of other states’ nuclear weapons do not extend to conflicts among such states.\(^{19}\) Because I am interested in aggregate historical outcomes, I take a deductive approach. In doing so, I try to be as explicit and systematic as possible.\(^{20}\)


\(^{20}\) Scholars interested in aggregate outcomes often advocate induction, then abandon it in favor of ad hoc description. For example, although Van Evera operationalizes the balance in terms of
VARIABLES

Although most scholars argue that prevailing technology is among the most important sources of the balance, they assume that technology alone has little explanatory power.21 By contrast, I adopt a purely technological notion of the balance. Instead of lumping technology with other variables such as military doctrine, force posture and deployments, geography, regime popularity, collective security systems, defensive alliances, and balancing behavior by neutral states to arrive at a "master cause" called the offense-defense balance,22 I treat technology as the sole determinant of the balance. This does not preclude consideration of the effects of other variables. In fact, it makes it possible to disentangle the effects of many variables while testing the most fundamental argument about the balance.

The Offense-Defense-Deterrence Balance, 1800 to the Present

In this section, I elaborate and operationalize a technological argument about the offense-defense-deterrence balance. My argument is that prevailing technology affects the relative efficacy of offensive, defensive, and deterrent military operations and thus the incidence of attack and conquest. Specifically, attack and conquest should occur more often when technology favors offensive operations than when technology favors defensive and, especially, deterrent operations.

21. The best indication of this is that scholars treat technology as just one of many sources of the balance. For more direct criticisms, see Fearon, “The Offense-Defense Balance and War since 1648,” pp. 31–32; and Biddle, “Rebuilding the Foundations of Offense-Defense Theory,” p. 753.

To operationalize this argument, I define offensive, defensive, and deterrent operations as follows:

- **Offensive operations** are actions in which a state uses force to attack another state’s military or nonmilitary assets to conquer its territory or compel compliance with policy directives (impose its will on the other state).

- **Defensive operations** are actions in which a state uses force against another state’s military assets to repel and limit damage from that state’s attacks to retain control of its territory and avoid having the other state impose its will upon it.

- **Deterrent operations** are actions in which a state prepares to use force or demonstrates its ability to use force to attack another state’s nonmilitary assets to deter that state from attacking it or to deter it from further attacks once a war has begun.

The technologies relevant to the balance are the “methods, skills, and tools” that affect states’ abilities to conduct offensive, defensive, and deterrent operations. These technologies may be strictly military, or they may have nonmilitary origins or applications. Either way, they define the most effective military operations in a particular historical era.

To determine whether and when offensive, defensive, or deterrent operations dominated, I deduce the relative lethality, protection, and mobility of state-of-the-art offensive, defensive, and deterrent operations from what is known about the potential and interactions of technologies that prevailed from

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23. Military assets include a state’s military forces and the agencies, industries, and infrastructure that command and support those forces. Nonmilitary assets include citizens, cities, cultural artifacts, natural resources, and nonmilitary industries, agencies, and infrastructure.

24. Deterrent operations (preparations to retaliate and demonstrations of the ability to do so) always involve punishment; that is what distinguishes them from offensive operations to conquer or compel and defensive operations to deny victory and limit damage. Snyder, *Deterrence and Defense*, p. 14. By contrast, deterrent outcomes (decisions not to attack) can occur either because one state fears another’s capability to punish or because it fears the other’s capability to deny victory. Demonstrations of a state’s ability to punish attackers can take various forms, including weapons testing and demonstration strikes. In a demonstration strike, a state uses force against the nonmilitary targets of a state that has already attacked it to remind the attacker of the state’s ability to retaliate more extensively should attacks continue. Demonstration strikes in deterrent operations differ from attacks in offensive and defensive operations in that their purpose is to demonstrate the ability to retaliate—not to limit damage, deny victory, conquer territory, or compel compliance with policy directives other than stopping attacks on a state or its allies.


26. For the argument that such technologies are neither domestic nor international variables but contextual or environmental ones, see Adams, “State Survival and State Death,” chap. 4.
1800 to the present. When I identify a technological change that transformed the balance, I date the change with the development of that technology—neither its first use in war nor the continued procurement or deployment of men and matériel in ways consistent with that technology. In other words, I specify the balance in terms of what was technologically possible at the operational level, not in terms of the strategic, operational, or tactical moves states made.

**FORCE LETHALITY**
Lethality is the “effectiveness capability” of operations, “based upon such considerations as range, rate of fire, accuracy, reliability, radius of damage, etc.” On this dimension of the offense-defense-deterrence balance, no operational mode was dominant from 1800 to 1945, and deterrence was dominant after 1946.

In assessing the relative lethality of offensive, defensive, and deterrent operations in particular historical eras, one must determine whether there was an absolute weapon—a weapon capable of destroying not just other weapons but also entire geographical areas, such as cities. When such a weapon exists, states

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27. Considering the lethality, protection, and mobility of each type of operation is vital because it acknowledges the role of mobility in the success of defensive and deterrent operations (and of force protection in the success of offensive operations), as well as the effects of the operational context in which particular weapons are used. Yet many scholars simply argue that mobility favors offense while firepower favors defense or that certain weapons are inherently offensive or defensive. For a sophisticated example of the argument about mobility and firepower, see Glaser and Kaufmann, “What Is the Offense-Defense Balance?” pp. 61–64. For criticisms of this argument, see Lieber, “Grasping the Technological Peace.” For an argument about weapons, see Marion William Boggs, *Attempts to Define and Limit “Aggressive” Armament in Diplomacy and Strategy*, The University of Missouri Studies, Vol. 16, No. 1 (Columbia: University of Missouri, 1941). Critics of this approach include Quincy Wright, *A Study of War*, 2d ed. (Chicago: University of Chicago Press, 1965), pp. 805–810; and John J. Mearsheimer, *Conventional Deterrence* (Ithaca, N.Y.: Cornell University Press, 1983), pp. 25–27. For the argument that offense-defense arguments do not hinge on whether weapons can be classified as offensive or defensive, see Lynn-Jones, “Offense-Defense Theory and Its Critics,” pp. 672–677; and Glaser and Kaufmann, “What Is the Offense-Defense Balance?” pp. 79–80.

28. Specifically, I consider one offense-defense-deterrence era to end the year that a balance-transforming technology is developed and a new one to begin the following year.

29. This facilitates a more robust periodization than that articulated by Quester, who asserts that offense dominated from 1789 to 1849, when railroads and breech-loading rifles appeared on the scene, and that defense dominated from 1850 to 1939, when tanks and dive bombers emerged, but does not explain why he chose these years. Quester, *Offense and Defense in the International System*, chaps. 8, 12. It also makes for a less tautological periodization than that offered by Van Evera, who dates changes based on behavioral variables such as demobilization and “defense-enhancing diplomacy.” Van Evera, “Offense, Defense, and the Causes of War,” pp. 17, 27.

can punish their opponents without first achieving victory through offensive or defensive operations. Thus deterrence dominates. From 1800 to 1944, force lethality grew markedly, but no absolute weapon existed. Thus deterrence was dominated by offense or defense. But once the atomic bomb was developed in 1945, deterrent operations became far easier and more robust than ever before. Because nuclear weapons greatly increase the costs states might have to pay for attacking others' territory and vital interests, they make deterrent operations dominant.

Before the nuclear revolution, advances in explosives technology were neutral (although they are generally thought to have favored the defense) because they could be exploited by either defenders or attackers, depending on their ability to protect and deliver their weapons. Frederick the Great’s offensive breakthroughs of the late eighteenth century occurred with the same muskets and rifles used by his opponents; the difference lay in Prussia’s tactics of marching in step, firing in unison, and reloading quickly, as well as its use of horse-drawn artillery. Similarly, although artillery inflicted more than half of the battle casualties suffered by Napoleon’s opponents, it was the technology that made artillery mobile, not the inherent lethality of French guns, that facilitated offensive lethality. Finally, although the increased lethality of small arms made possible by the 1849 invention of the conoidal bullet (minié ball) for rifled muskets contributed greatly to the subsequent power of the defense, defense dominance would not have been possible without the concurrent vulnerability of offensive forces. When covering fire tactics, motorized armor, and aircraft were developed in the twentieth century, state-of-the-art small arms were effectively employed by the offense as well.

31. Ibid.
32. Although deterrent operations did not dominate in the prenuclear era, such operations did occur. For example, to deter other states from attacking them at all or to deter them from further attacks once a war had begun, states planned and carried out “terror bombing” attacks on opponents’ population centers. But in the absence of an absolute weapon, such operations were less likely to deter attacks than state-of-the-art offensive or defensive operations were to conquer territory or repel invaders. Ibid., pp. 12–18. George H. Quester, Deterrence before Hiroshima: The Airpower Background of Modern Strategy (New Brunswick, N.J.: Transaction, 1986); Mearsheimer, Conventional Deterrence; and Barry R. Posen, The Sources of Military Doctrine: France, Britain, and Germany between the World Wars (Ithaca, N.Y.: Cornell University Press, 1984), pp. 231–232.
FORCE PROTECTION

An arsenal of lethal weapons has little utility if it cannot be sheltered from a disabling first strike. Thus whether offense, defense, or deterrence is dominant depends on the extent to which offensive, defensive, and deterrent operations can be protected from one another. On this dimension of the balance, technology favored offensive operations from 1800 to 1849, defensive operations from 1850 to 1933, offensive operations from 1934 to 1945, and deterrent operations from 1946 to the present.

Here again, the first step in assessing the balance is to determine whether an absolute weapon exists. If so, protection of military forces alone is insufficient to shield a state from devastating reprisals for attacks on other states’ territory and vital interests because just one nuclear weapon can do profound damage. Only perfect early-warning, interdiction, and interception technologies could protect states from their effects. Such technologies have not been and are unlikely to be developed, for three reasons. First, nuclear weapons are relatively small, thus easy to hide. Second, tactics and technologies for making missiles, bombers, submarines, and other delivery vehicles stealthy are robust. Finally, marginal production costs for the third, fiftieth, and one-hundredth weapon make it possible to build redundant forces without bearing exorbitant costs.

Because nuclear weapons are much less vulnerable than state-of-the-art defensive and offensive forces, deterrence has been dominant since 1946 on this dimension of the balance, as well.

To assess force protection during the conventional era, one must consider the ease with which offensive forces could bypass or destroy defensive ones given force mobility (discussed below), as well as the depth of force that attackers needed to evade defensive fire and the depth of force that production technologies enabled them to amass. From 1800 until the development of the conoidal bullet, which enabled defenders to harden positions through constant and increasingly lethal defensive fire, the requisite depth was not very great, so the relative strength of offense and defense hinged on the size of force (especially infantry) that attacking states could amass. Because state-of-the-art pro-

duction technologies made it possible to take hundreds of thousands of men from the fields, put them in uniforms, and give them weapons, offensive operations had the protection advantage.\textsuperscript{37} After 1850, however, even sizable offensive forces were vulnerable to defensive fire. This remained the case until 1933, when the development of swift, well-armed and armored tanks and dive bombers enabled attackers to be stealthy until the last minute and shielded from defensive fire once discovered.\textsuperscript{38}

FORCE MOBILITY
Mobility refers to the ease with which offensive, defensive, and deterrent forces can deliver their weapons. On this dimension of the balance, prevailing technology favored offensive operations from 1800 to 1835 and 1930 to 1945, defensive operations from 1836 to 1929, and deterrent operations after 1946.

Until the mid-nineteenth century, the speed at which men and horses could run, artillery could be towed, and ships could be rowed defined the limits of mobility. If attacking forces could move faster than defensive forces could be deployed to eliminate them, offensive operations had the advantage. Late eighteenth-century improvements in mobile artillery combined with cumbersome communication and transportation technologies to make offense dominant from 1800 to 1835.\textsuperscript{39} Beginning in 1836, the invention of the telegraph and


\textsuperscript{38} Tanks were first built in 1915 and were first used in World War I. Early tanks were lightly armed and armored, with 12–15 millimeter plates that could be penetrated by field artillery, heavy machine guns, or even rifles firing heavy ammunition. During the interwar years, tanks carried increasingly lethal weapons, but models made of thicker (40–60 mm) cast armor that was less vulnerable to defensive fire were not developed until the mid-1930s. The first such tank was the French R-35, which was initiated in 1933. Thus I use 1933 as the end of defense dominance in protection. “War, Technology of,” \textit{New Encyclopaedia Britannica}, Vol. 29 (Chicago: Encyclopaedia Britannica, 2002), pp. 583–585, 667; Dupuy, \textit{The Evolution of Weapons and Warfare}, pp. 221, 231; Kenneth Macksey, \textit{Technology in War: The Impact of Science on Weapon Development and Modern Battle} (New York: Prentice Hall, 1986), pp. 91–95, 103–104, 112–113; and Richard M. Ogorkiewicz, \textit{Armor: A History of Mechanized Forces} (New York: Praeger, 1960), pp. 177–178. The first (naval) dive bomber was developed by the United States in 1929. A prototype of the first dive bomber designed for direct support of ground operations (the German Ju-87 Stuka) was tested in 1935. “War, Technology of,” \textit{New Encyclopaedia Britannica}, Vol. 29, p. 612; Richard R. Muller, “Close Air Support: The German, British, and American Experiences, 1918–1941,” in Williamson Murray and Allan R. Millet, eds., \textit{Military Innovation in the Interwar Period} (New York: Cambridge University Press, 1996), pp. 178–180; and Dupuy, \textit{The Evolution of Weapons and Warfare}, p. 233.

\textsuperscript{39} The Griebeuval system, developed in 1774, enhanced the mobility of artillery by reducing the length and weight of gun barrels; outfitting carriages with iron axles and large, rugged wheels; improving cannonball production; and developing lightweight, prefabricated cartridges. Dupuy, \textit{The
steam-powered railroads and ships enabled defenders to obtain early warning of attacks, mount swift and coordinated responses, and sustain large armies in wars of attrition. From 1930 to 1945, improvements in tanks, planes, and especially radio tipped the scales toward offense dominance once again. Since 1946, the small size of nuclear weapons and advances in transportation and

Evolution of Weapons and Warfare, p. 158; Brodie, From Crossbow to H-Bomb, pp. 102–103; and O’Connell, Of Arms and Men, pp. 178–179. Those who claim that the Napoleonic revolution was the result of nationalism and strategic genius overlook these technological developments. Even Napoleon recognized the importance of technology. According to him, “A good infantry is without doubt the soul of an army; but, it cannot long maintain a fight against a superior artillery; it will become demoralized and then destroyed. . . . The fate of a battle, of a state, often follows the [route] taken by the artillery.” Quoted in James R. Arnold, Napoleon Conquers Austria: The 1809 Campaign for Vienna (Westport, Conn.: Praeger, 1995), p. 198.

40. Although steam locomotives were invented by the British in 1803 and could outpace a horse team by 1814, a reliable locomotive was not invented until 1829, and modern rail, spikes, and roadbed did not appear until 1830. Steamships emerged a few years later. Because the telegraph repeater (the first telegraph capable of sending signals over long distances) actualized the potential for defensive mobility afforded by steam transportation, I date the end of offense dominance with its invention in 1835. Bruce Wetterau, The New York Public Library Book of Chronologies (New York: Prentice Hall, 1990), pp. 182, 204; and “Transportation,” New Encyclopædia Britannica, Vol. 28 (Chicago: Encyclopædia Britannica, 2002), pp. 793–794. Railroads gave the advantage to the defense because “invaders could not use the defenders’ railroads (given that railroad gauges differed across states, and defenders destroyed rail lines as they retreated) while the defenders had full use of their own lines.” Van Evera, “Offense, Defense, and the Causes of War,” p. 17. Steamships favored defense because of their coaling needs. On railroads and steamships, see Quester, Offense and Defense and the International System, chaps. 8, 9. On railroads and the telegraph, see Martin Van Creveld, Technology and War from 2000 B.C. to the Present (New York: Free Press, 1991), pp. 153–170, 213–214.

41. The first tanks were slow, subject to mechanical breakdown, vulnerable to defensive fire, and unable to communicate with one another. Moreover, the inability of artillery and infantry to keep pace with tanks made it difficult to convert breakthroughs (as at Cambrai in 1917) into operational or even tactical success. After World War I, tanks (as well as motorized artillery and personnel carriers) were faster and more reliable, but attackers’ ability to carry out adaptive maneuvers remained limited by communication problems. Similarly, although by 1918 planes reached top speeds of 145 miles per hour and carried more than 3,000 pounds of cargo, communication difficulties limited their ability to give close support to ground operations and deliver men and matériel where it was needed. Improvements in radio technology in the 1920s overcame these barriers, replacing the bulky radios and unreliable and insecure transmissions of World War I with small, high-frequency and frequency modulated (FM) radios and cyphering machines. I date the end of defense dominance with the development of FM radio in 1929, which reduced the effect of ignition and other vehicle noises on the strength of radio transmissions. FM radio was developed six years after the development of the first cyphering machine (the German Enigma, in 1923) and nine years before the design and manufacture of the earliest line of portable high-frequency radios suitable for both land and air forces (by Germany, in 1938). Williamson Murray, “Armored Warfare: The British, French, and German Experiences,” in Murray and Millett, Military Innovation in the Interwar Period, pp. 6–7; 26, 35; “War, Technology of,” New Encyclopædia Britannica, Vol. 29, pp. 583–585, 624; Dupuy, The Evolution of Weapons and Warfare, pp. 221–223, 231; Wetterau, The New York Public Library Book of Chronologies, pp. 185, 222; Macksey, Technology in War, pp. 91–95, 103–104, 107–108, 112; and Van Creveld, Technology and War from 2000 B.C. to the Present, p. 190. In the 1930s and early 1940s, offense dominance was enhanced by the development of amphibious landing
missile technologies have meant that nuclear weapons can be easily delivered to their targets, whether by bomber, land- or sea-based missile, ship, truck, or even airline passenger. The plethora of options makes deterrence dominant.

**SUMMARY OF THE HISTORICAL BALANCE**

My coding of the overall offense-defense-deterrence balance from 1800 to the present is shown in Table 1. To summarize, offensive operations dominated from 1800 to 1849 due to lack of defensive lethality, industrial technologies facilitating offensive depth, and improvements in mobile artillery. After 1850, when the telegraph, railroad, and conoidal bullet enabled defenders to respond both quickly and lethally to attacks, defense dominated. With improvements in tanks, planes, and radio, offensive operations regained the mobility advantage in 1930, but the overall balance continued to favor defense until 1933, when the development of well-armed and armored tanks and dive bombers gave state-of-the-art offensive operations dominance in protection as well. Offensive operations then dominated from 1934 to 1945. After 1946, the lethality, survivability, and deliverability of nuclear weapons made deterrence dominant.

**Hypotheses about the Effects of the Balance on Attack and Conquest**

Conquest is most likely in offense-dominant eras because prevailing technology favors offensive operations. Attack is most likely in such eras as well because states are likely to respond preemptively to the threat of conquest. Attack and conquest are less likely in defense-dominant eras, yet more likely than in deterrence-dominant eras, for two reasons. First, although defense dominance makes it difficult to conquer states through offensive military operations, conquest through attrition is still possible. Second, states are unlikely to be completely dissuaded from attacking one another because the costs of miscalculation are not significantly higher than in offense-dominant eras, and the chance of an offensive revolution in military affairs provides incentives for states to expand. Attack and conquest are least likely in deterrence-dominant eras because states may punish attackers with absolute weapons.

Table 1. Dimensions of the Offense-Defense-Deterrence Balance and Assessment of the Overall Balance, 1800–Present.

<table>
<thead>
<tr>
<th>Lethality</th>
<th>Protection</th>
<th>Mobility</th>
<th>Overall Offense-Defense-Deterrence Balancea</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800–1945</td>
<td>no mode dominant due to the absence of an absolute weapon and the ability of both attackers and defenders to use state-of-the-art weapons, depending on their ability to protect and deliver them</td>
<td>1800–35 offense dominant due to the lack of defensive lethality and agricultural and industrial technologies facilitating offensive depth</td>
<td>1800–49 offense dominant due to the lack of defensive lethality and improvements in mobile artillery</td>
</tr>
<tr>
<td>1850–1933</td>
<td>defense dominant due to the lethality afforded by the conoidal bullet and later advances in firearms and artillery, as well as improvements in fortification technology</td>
<td>1836–1929 defense dominant due to the invention of telegraph, railroad, and steamship</td>
<td>1850–1933 defense dominant</td>
</tr>
<tr>
<td>1934–45</td>
<td>offense dominant due to the development of well-armed and armored tanks and dive bombers</td>
<td>1930–45 offense dominant due to improvements in tanks, planes, and especially radio</td>
<td>1934–45 offense dominant</td>
</tr>
<tr>
<td>1946–present</td>
<td>deterrent dominant due to the absolute nature of nuclear weapons</td>
<td>1946–present deterrent dominant due to the lethality of nuclear weapons and the ease with which they can be hidden, delivered, and produced</td>
<td>1946–present deterrent dominant due to the small size of nuclear weapons and the variety of means for delivering them</td>
</tr>
</tbody>
</table>

*aIn assessing the overall balance during the two “mixed” periods (1836–49 and 1930–33), I gave protection greater weight than mobility because mobility has little utility if soldiers, weapons, and societies cannot be sheltered from defensive, offensive, or retaliatory strikes.*
Thus my assessment of the historical offense-defense-deterrence balance yields the following hypotheses about the incidence of attack and conquest:

H1. States should attack one another most often in the offense-dominant eras (1800–49 and 1934–45), less often in the defense-dominant era (1850–1933), and rarely in the deterrence-dominant era (1946 to the present).

H2. States should be conquered most often in the offense-dominant eras (1800–49 and 1934–45), less often in the defense-dominant era (1850–1933), and rarely in the deterrence-dominant era (1946 to the present).

Alternative Predictions about Trends in Attack and Conquest

To test an argument, one must examine its explanatory power relative to that of other arguments and theories. Alternative explanations of attack and conquest abound. Here I focus on those most often discussed in the offense-defense literature. These arguments suggest that variation in the incidence of attack and conquest is affected by technological variables other than the offense-defense-deterrence balance, states’ relative capabilities, the length of time states have been great powers, and audience costs. 42

OTHER TECHNOLOGICAL VARIABLES

There are two technologically based alternatives to my argument about the offense-defense-deterrence balance. The first is that deterrence is “the equivalent of the primacy of defense.” 43 This argument, which underlies current conceptions of the offense-defense balance, suggests that:

H3. States should attack one another more often in the offense-dominant eras (1800–49 and 1934–45) than in the defense- and deterrence-dominant eras (1850–1933 and 1946 to the present).

H4. States should be conquered more often in the offense-dominant eras (1800–49 and 1934–45) than in the defense- and deterrence-dominant eras (1850–1933 and 1946 to the present).

42. For a comparison of the effects of the offense-defense-deterrence balance, polarity, great power decline, prevailing economic technologies, and international norms, see Karen Ruth Adams, “Conquering Myths: Testing Realist, Liberal, and Constructivist Arguments about State Vulnerability to Conquest,” paper presented at the annual meeting of the American Political Science Association, Boston, Massachusetts, August 29–September 1, 2002.

The second technological alternative posits a distinction between the conventional and nuclear eras. This argument, exemplified by James Fearon’s statement that “the technological/organizational offense-defense balance is simply not a very important cause of war . . . except in the case of nuclear weapons,” suggests that:

H5. States should attack one another more often in the conventional era (1800–1945) than in the nuclear era (1946 to the present).

H6. States should be conquered more often in the conventional era (1800–1945) than in the nuclear era (1946 to the present).

Because H5 and H6 simply distinguish between the pre- and post-1945 periods, testing them will also illuminate the explanatory power of arguments about the war-inhibiting effects of other post–World War II variables, such as bipolarity and territorial sovereignty norms.

**Relative Capabilities**

Carl von Clausewitz’s argument that “defense is always the stronger form of war” might be interpreted to predict no systematic variation in attack and conquest over time. The same might be said of Kenneth Waltz’s structural realist theory and John Mearsheimer’s offensive realist theory, which suggest that attack and conquest are always possible because there is no international sovereign to rule them out. Clausewitz’s argument, however, is that “defense is easier than attack, assuming both sides have equal means.” Similarly, Waltz and Mearsheimer argue that although anarchy makes all states vulnerable to conquest and other undesirable outcomes, more capable states are less vulnerable than others. Thus these arguments suggest that:

H7. Less capable states should be conquered more often than more capable states.

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47. Waltz, Man, the State, and War, p. 232; and Mearsheimer, The Tragedy of Great Power Politics, p. 3.
48. Clausewitz, On War, p. 357.
Clausewitz, Waltz, and Mearsheimer also expect relative capabilities to affect the incidence of attack, yet here their expectations diverge. For offensive realists, anarchy means that great powers “have to seek more power if they want to maximize their odds of survival.” They “are always searching for opportunities to gain power over their rivals, with hegemony as their final goal.” Thus, great powers are “primed for offense”—likely to adopt strategies such as buck passing, balancing, blackmail, and especially war (i.e., attack).50 Because the states of greatest capability have the most resources to pursue such strategies, offensive realism predicts that:

**H8. More capable great powers should attack other great powers more often than less capable great powers.**

Structural realism, by contrast, is indeterminate about the effects of relative capability on great power attacks on other great powers because great powers, even more than other states, may do as they like. More capable great powers could act as offensive realism predicts, for three reasons. First, their power “gives [them] a big stake in their system and the ability to act for its sake.”51 Second, balancing the power of powerful states is the primary system-maintaining action. Finally, anarchy means there is nothing to keep states from attacking one another. Yet more capable great powers may choose not to attack their less powerful counterparts because it is rarely necessary to use force to maintain the status quo.52

Despite their different expectations about great power attacks on other great powers, structural and offensive realists agree that great powers are more likely than other states to attack non-great powers. Yet they base their conclusions on different considerations. Here again, structural realists focus on the balance of power, arguing that states are more likely to succumb to the temptation of imperialism “where gross imbalances of power exist” because “weakness invites control [and] strength tempts one to exercise it, even if only for the ‘good’ of other people.”53 Offensive realists, by contrast, explain imperialism with reference to great power competition fueled by hegemonic ambitions.54 Either way,

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52. Ibid., p. 185.
53. Ibid., pp. 26–27.
H9. More capable great powers should attack non-great powers more often than less capable great powers.

Like offensive realists, Clausewitz would expect H8 to find support. Unlike them, however, he would disagree with H9. For Clausewitz, as well as for Geoffrey Blainey and power transition theorists such as A.F.K. Organski, when the policies of two states conflict, war erupts to resolve the difference only if it is unclear who will win, for “war between states of markedly unequal strength” is “absurd” and, in theory, “impossible.” From this point of view, attacks are more likely among states of relatively equal power, such as great powers, than between great powers and less powerful states.

Defensive realists, by contrast, would expect H8 and H9 to find support only in offense-dominant eras, when mutual security is elusive. These scholars take the structural realist expectation that the states that survive will tend to seek security and turn it into an assumption that most states seek security. Then, because states are less vulnerable to conquest in defense- and deterrence-dominant eras, defensive realists expect states to attack one another rarely, if at all, in such periods. Structural realists, by contrast, argue that anarchy’s effects on international affairs persist even when prevailing technology yields high levels of mutual security, for it is always possible for states to misperceive the conditions in which they operate. Moreover, states can do as they like, especially when they are strong.

**Duration of Great Power Status**
Defensive realists suggest that states that approve of the status quo are more concerned with security and thus less likely to attack other states. Assuming that new great powers are less likely than older powers to find the status quo to their liking:

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57. According to Jervis, “If the defense has enough of an advantage and if . . . states are of roughly equal size, not only will the security dilemma cease to inhibit status-quo states from cooperating, but aggression will be next to impossible, thus rendering international anarchy relatively unimportant.” Jervis, “Cooperation under the Security Dilemma,” p. 187.

H10. New great powers should attack other great powers more often than old great powers.

H11. New great powers should attack non-great powers more often than old great powers.

Furthermore, assuming it is easier to uphold the status quo than it is to change it,

H12. New great powers should be conquered more often than old great powers.

Although Waltz’s argument that powerful states rarely need to use force to uphold the status quo suggests these three hypotheses, structural realist theory is indeterminate about whether the length of time a state has been a great power affects its vulnerability to conquest and propensity to attack other states. Here again, the important point for structural realists is that anarchy enables states to do as they like. States that have recently attained great power status may be content with the status quo. Moreover, older great powers may cease to maintain state-of-the-art capabilities, use force to uphold the status quo when it is not necessary to do so, or grab power rather than settle for security.

AUDIENCE COSTS

Fearon argues that war has become less likely since the French Revolution because of rising “audience costs,” that is, the effects of direct costs such as battle deaths on the domestic legitimacy of rulers. According to Fearon, after the French Revolution “swept away...the divine right of kings” and the Congress of Vienna enshrined sovereigns as guardians of their states, “monarchs...had to worry that costly and/or losing efforts at war would spell the end of their rule, or at least pressure for reform from domestic liberalizers.” Since then, audience costs have become increasingly influential in decisionmakers’ war calculi as industrialization and communications technologies have created ever larger and better informed “political classes [who pay] attention to and [care] about” their state’s participation in war. Assuming that audience costs began to rise with the French Revolution and rose steadily each year,

H13. States should attack one another less each year from 1800 to the present.

From Fearon’s expectations about war, one might infer that conquest would also occur less often because audience costs would discourage leaders from

trying to conquer other states. Yet Fearon identifies a second trend that suggests otherwise. Specifically, he argues that the Napoleonic Wars marked the beginning of “increased offensive advantages . . . [that] increased the variance in military outcomes.”60 Stephen Biddle concurs and elaborates Fearon’s point. According to Biddle, since the dawn of modern warfare (which he puts in the 1870s), military technology has been a “a systemic, time-correlated variable: the more recent the operation, the more sophisticated the technology,” and “the more extreme the outcome.” In other words, “the scale of the victory or defeat that ensues” from war has grown with each passing year. Depending on force employment and force size, attackers either conquer more and more territory or defenders lose less and less.61 From this, one must conclude that Fearon and Biddle would either expect no systematic variation in the incidence of conquest or concur with the hypothesis that the least capable states are the most likely to be conquered (H7). Nevertheless, because conquest requires attack, it is worthwhile to test the hypothesis that:

H14. States should be conquered less each year from 1800 to the present.

Because H13 and H14 predict a steady decline in attack and conquest after 1800, they can be used to test any argument about secular trends over the period, whether the trends are thought to arise from audience costs, learning, or other variables.62

Data

To test these hypotheses, I developed data on conquests of and attacks by great powers and nuclear states from 1800 to 1997.63 Table 2 lists the states included in the data and the years of their inclusion.64 I restricted the analysis to great powers and nuclear states because, in the prenuclear era, great powers were the states most likely to have state-of-the-art capabilities. Thus they should have been the states most likely to attack other states in offense-dominant eras

60. Ibid., pp. 34–36.
and least likely to be conquered in defense-dominant ones. In the nuclear era, deterrence hinges less on relative capabilities than on the possession of second-strike nuclear forces. Thus including nuclear states after 1946 provides a more rigorous test of deterrence dominance than simply examining attack and conquest among great powers.

The unit of analysis in the data is the state year. In other words, each year from 1800 to 1997 that a state was a great power or nuclear state is a single case. There are 1,140 cases (state years) in the data. For each case, I coded three dependent variables: whether all of the state’s territory was conquered, the number of other great powers the state attacked, and the number of non-great powers it attacked.

I coded a state as conquered if it involuntarily lost its monopoly of force over all of its territory to an external rival and it was a great power or nuclear state when this occurred. To identify great powers that experienced this fate, I relied on my State Survival and Death (SSAD) data on conquest in Europe and the Middle East from 1816 to 1994, as well as Quincy Wright’s list of wars from 1800 to 1825 and Jack Levy’s list of great power wars from 1495 to 1995. From 1800 to 1997, there were 13 great power conquests (see Table 3).

65. Henceforth, unless otherwise noted, I use “great power” to refer to both great powers and nuclear states.

66. Conquest may occur either directly, through the complete collapse or surrender of a state’s military forces, or indirectly, through the surrender of political leaders in response to military threats or operations.


68. For references and more detailed information on each conquest, see Adams, “Codebook for Data Used in ‘Attack and Conquer,’” Appendix A.

<table>
<thead>
<tr>
<th>Conquered State and Date of Conquest</th>
<th>Conquered By</th>
<th>Military Occupation of Capital prior to Armistice</th>
<th>Collapse or Surrender of All Troops prior to Armistice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria 12/4/1805</td>
<td>France</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Prussia 11/24/1806</td>
<td>France</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Spain 5/10/1808</td>
<td>France</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Austria 7/10/1809</td>
<td>France</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>France 4/11/1814</td>
<td>Prussia, Austria, Sweden, Britain</td>
<td>yes</td>
<td>yes, through Napoleon's abdication</td>
</tr>
<tr>
<td>France 6/22/1815</td>
<td>Britain, Prussia</td>
<td>no</td>
<td>yes, through Napoleon's abdication</td>
</tr>
<tr>
<td>France 1/28/1871</td>
<td>Prussia</td>
<td>no, but Paris had been under siege for months</td>
<td>no</td>
</tr>
<tr>
<td>Austria 11/3/1918</td>
<td>Italy, France, Britain, United States</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Germany 6/28/1919</td>
<td>United States, Britain, France</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>France 6/22/1940</td>
<td>Germany</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Italy 9/8/1943</td>
<td>United States, Britain, Germany</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Germany 5/7/1945</td>
<td>Soviet Union, United States, Britain</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Japan 8/14/1945</td>
<td>United States</td>
<td>no, but Tokyo was heavily bombed</td>
<td>no</td>
</tr>
</tbody>
</table>
I coded a state as attacking a great power if it was a great power or nuclear state and it conducted offensive operations against military or nonmilitary assets in the territory of a great power or nuclear state that had not previously attacked it.\textsuperscript{69} To identify great power attacks on other great powers from 1800 to 1997, I developed a list of great power wars based on Wright’s and Levy’s lists, as well as the Correlates of War (COW) Project’s Interstate War data for 1816 to 1997.\textsuperscript{70} Then I used Ernest Dupuy and Trevor Dupuy’s \textit{Encyclopedia of Military History} to disaggregate the great power attacks in each war.\textsuperscript{71} From 1800 to 1997, I found thirty-one such attacks in thirteen wars (see Table 4).

Counting great power attacks on non-great powers was more difficult because the sources I used to code great power attacks on other great powers lack data on a number of great power/non-great power wars.\textsuperscript{72} Moreover, even if accurate data existed, the large number of such wars would make it difficult to disaggregate them into discrete attacks. Thus I estimated the number of such attacks based on data from Wright’s and Levy’s lists for the period from 1800 to 1815, COW’s Interstate and Extra-State War data for 1816 to 1997,\textsuperscript{73} and my SSAD data on conquest in Europe and the Middle East from 1816 to 1994.\textsuperscript{74} The result is a conservative estimate of 105 great power attacks on non-great powers from 1800 to 1994.

\section*{Methodology}

To test the hypotheses elaborated above, I assigned numerical codes to the independent variables identified in the hypotheses. Then I used the quantitative technique of event history analysis to examine the relationship between these variables and the historical incidence of attack and conquest among great powers.

I coded the independent variables as follows. To test my hypotheses about the effects of the technological offense-defense-deterrence balance on attack

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\textsuperscript{69} For discussion of this coding rule, see Adams, “Codebook for Data Used in ‘Attack and Conquer,’” p. 3.
\textsuperscript{74} For an explanation of how I made this estimate and discussion of its reliability, see Adams, “Codebook for Data Used in ‘Attack and Conquer,’” p. 4.
<table>
<thead>
<tr>
<th>War</th>
<th>Year</th>
<th>Description</th>
<th>Did Attack Culminate in Conquest within One Year?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Franco-British (1803–14)</td>
<td>1804</td>
<td>British attack on French flotilla at the mouth of the Rhine</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>1805</td>
<td>British attack on Spanish flotilla at Cape Trafalgar</td>
<td>no</td>
</tr>
<tr>
<td>Third Coalition (1805–07)</td>
<td>1805</td>
<td>French invasion of Austria</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>1806</td>
<td>French invasion of Prussia</td>
<td>yes</td>
</tr>
<tr>
<td>Peninsular (1807–14)</td>
<td>1808</td>
<td>French invasion of Spain</td>
<td>yes</td>
</tr>
<tr>
<td>Franco-Austrian (1809)</td>
<td>1809</td>
<td>Austrian invasion of Bavaria and Italy (held by France)</td>
<td>no</td>
</tr>
<tr>
<td>Franco-Russian/War of Liberation (1812–14)</td>
<td>1812</td>
<td>French invasion of Russia</td>
<td>no</td>
</tr>
<tr>
<td>Hundred Days’ (1815)</td>
<td>1815</td>
<td>British invasion of France</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>1815</td>
<td>Prussian invasion of France</td>
<td>yes</td>
</tr>
<tr>
<td>Crimean (1853–56)</td>
<td>1854</td>
<td>British attack on Russia</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>1854</td>
<td>French attack on Russia</td>
<td>no</td>
</tr>
<tr>
<td>Italian Unification (1859)</td>
<td>1859</td>
<td>French invasion of Lombardy (held by Austria)</td>
<td>no</td>
</tr>
<tr>
<td>Seven Weeks (1866)</td>
<td>1866</td>
<td>Prussian invasion of Austria</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>1866</td>
<td>Italian invasion of Austria</td>
<td>no</td>
</tr>
<tr>
<td>Franco-Prussian (1870–71)</td>
<td>1870</td>
<td>Prussian invasion of France</td>
<td>yes</td>
</tr>
<tr>
<td>World War I (1914–18)</td>
<td>1914</td>
<td>French invasion of Alsace-Lorraine (held by Germany)</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>1914</td>
<td>Russian invasion of Germany</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>1914</td>
<td>Austrian invasion of Russian Poland</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>1914</td>
<td>British attack on Germany navy in German waters</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>1915</td>
<td>Italian attack on Austria</td>
<td>no</td>
</tr>
<tr>
<td>Russo-Japanese War (1938–40)</td>
<td>1938</td>
<td>Japanese attack on the Soviet Union (at Changkufeng Hill)</td>
<td>no</td>
</tr>
<tr>
<td>World War II (1939–45)</td>
<td>1939</td>
<td>German attack on British fleet in British waters</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>1940</td>
<td>German invasion of France</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>1941</td>
<td>British invasion of Ethiopia (held by Italy)</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>1941</td>
<td>German invasion of the Soviet Union</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>1941</td>
<td>Japanese attack on the United States (in Kowloon)</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>1942</td>
<td>German attacks on the U.S. coast</td>
<td>no</td>
</tr>
<tr>
<td></td>
<td>1943</td>
<td>U.S. invasion of Italy</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>1943</td>
<td>German disarmament and imprisonment of Italian forces</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>1945</td>
<td>Soviet invasion of Manchuria (held by Japan)</td>
<td>yes</td>
</tr>
</tbody>
</table>

and conquest (H1 and H2), I developed an ordinal variable coded 0 in the de-
terrence-dominant era (1946–97), 1 in the defense-dominant era (1850–1933),
and 2 in the offense-dominant eras (1800–49 and 1934–45). To test the hypo-
theses that defense and deterrence are functionally equivalent (H3 and H4), I de-
veloped a dummy variable coded 0 in the defense- and deterrence-dominant
eras and 1 in the offense-dominant eras. To test the hypotheses that attack and
conquest are best explained by relative capabilities (H7, H8, and H9), I im-
ported COW’s indexed capabilities data for each state.⁷⁵ To test the hypotheses
that newer great powers should be more likely to attack other states and, thus,
to be conquered (H10, H11, and H12), I created a variable for the number of
years a state had been a great power or nuclear state.⁷⁶ Finally, to test the hy-
potheses that the historical incidence of attack and conquest have declined
steadily over time as audience costs have risen (H13 and H14), I used the case
year as an independent variable.

To test the effects of these independent variables, I used multivariate event
history models, which are appropriate because I am interested in how these
variables influence “the patterns and correlates of . . . events,”⁷⁷ namely the
incidence of attacks by and conquest of great powers. Specifically, I used the
Cox proportional hazards model to determine whether it was appropriate to
assume that the baseline hazard rates for attack and conquest were constant
from 1800 to 1997.⁷⁸ Finding that these rates were quite constant, I then used
the discrete-time logit model to test the various hypotheses.⁷⁹ Finally, I calcu-

⁷⁵. This index measures each state’s overall capabilities relative to those of all other states in the
system based on military personnel, military expenditure, energy consumption, iron and steel pro-
duction, urban population, and total population. J. David Singer, “Reconstructing the Correlates of
pp. 115–132. The data are available at http://www.umich.edu/~cowproj/dataset.html#Capabilities. To download the data, I used D. Scott Bennett and Allan Stam’s, EUGene soft-
ware, version 2.25, available at http://eugenesoftware.org/. On EU Gene, see D. Scott Bennett and
⁷⁶. In coding this variable, I relied on Table 2. Each time a great power regained its independence
after conquest, I restarted the clock at zero.
(Newbury Park, Calif.: Sage, 1991), p. 1; Paul D. Allison, Event History Analysis: Regression for Longi-
tudinal Data, Quantitative Applications in the Social Sciences Series, Vol. 46 (Newbury Park, Calif.: Sage,
1984); Janet M. Box-Steffensmeier and Bradford S. Jones, “Time Is of the Essence: Event His-
tory Models in Political Science,” American Journal of Political Science, Vol. 41, No. 4 (October 1997),
pp. 1414–1461; and D. Scott Bennett, “Parametric Models, Duration Dependence, and Time-
Varying Data Revisited,” American Journal of Political Science, Vol. 43, No. 3 (January 1999), pp. 256–
270.
⁷⁸. From 1800 to 1997, the baseline hazard rates for great power attacks on other great powers
were 1.0. Those for great power attacks on non-great powers were 0.96, 0.99 (99 percent of cases),
or 1.0. Baseline hazard rates for great power conquest were either 0.99 (99 percent of cases) or 1.0.
⁷⁹. Logit is appropriate because the baseline hazard rates are steady and the clustering of con-
quests and attacks in time (the tied nature of the data) reduces the accuracy of the Cox propor-
lated probabilities of attack and conquest based on the independent variables significant in logit analysis.80

In analyzing the data, I examined six time spans: 1800 to 1997, for which I have data on conquests and attacks; 1816 to 1993, for which there are COW capabilities data; 1850 to 1993, which contains one full period each of offense, defense, and deterrence dominance; and 1800 to 1945, 1816 to 1945, and 1850 to 1945, which allow for the possibility that the effects of the balance are driven by nuclear weapons or other variables unique to the post–World War II era. The period from 1816 to 1993 begins in the middle of the offense-dominant era, after the conquests and attacks of the Napoleonic Wars, making it a very hard test of the balance. By contrast, the period from 1850 to 1993, which begins with the change from offense dominance to defense dominance, poses a more reasonable test.81 Thus in discussing my quantitative findings, I focus on the period from 1850 to 1993.

In testing the various hypotheses about conquest, I held constant the number of great power war dyads in which each state was involved each year.82 Given that states cannot be conquered unless they are at war and that they are most likely to be conquered when they are fighting many great powers, doing so isolates the effects of the balance from those of war participation.

Finally, in testing all of the hypotheses, I adjusted the standard errors for clustering on country codes. This tests the possibility that states’ geographic, cultural, and other internal attributes affect their vulnerability to conquest and propensity to attack other states more than contextual variables such as the offense-defense-deterrence balance and relative capabilities.83

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81. Nevertheless, the balance is a significant predictor of conquest and both types of attack from 1800 to 1997, 1816 to 1993, and 1850 to 1993, as well as in the pre-1946 periods enumerated in note 86.

82. I considered a state to participate in a particular war dyad from the time it declared war on or attacked another state (whichever came first) until it concluded a peace treaty with that state or one side’s military forces collapsed, surrendered, or were withdrawn (again, whichever came first).

83. Adjusting for clustering on country codes does not provide a measure of the statistical
Findings

Historical trends in attack and conquest provide strong support for my hypotheses about the effects of the offense-defense-deterrence balance (H1 and H2). As shown in Table 5, from 1800 to 1997, the average annual rates of great power conquest and attack were consistently higher in offense-dominant eras than in defense- and especially deterrence-dominant eras. Moreover, as shown in Table 6, event history analysis indicates that the offense-defense-deterrence balance is a statistically significant predictor of attack and conquest. In fact, the offense-defense-deterrence balance is the only variable to predict great power conquest, great power attacks on other great powers, and great power attacks on non-great powers. Relative capabilities are statistically significant predictors of conquests of and attacks by great powers (confirming H7 and H8), but (contrary to H9) they do not predict great power attacks on non-great powers. Similarly, duration of great power status predicts conquest (confirming H12), but (contrary to H10 and H11) predicts neither type of attack. Finally, contrary to H13 and H14, year predicts neither attack nor conquest.84

Separate analyses (not reported in Table 6) reveal that the offense-defense-deterrence balance is not only a more consistent predictor of attack and conquest than relative capabilities, duration of great power status, and year; its predictive power also trumps that of the binary offense-defense balance. Although the binary balance is a significant predictor of conquest and both types of attack, models testing this formulation of the balance explain less of the historical variance in these outcomes than models containing the offense-defense-deterrence balance.85 Thus, contrary to H3 and H4, defense and deterrence dominance are not equivalent in their effects.

Moreover, when tested on the pre-1946 periods (results not reported in

significance of any clustering that does occur; it simply assesses the significance of other variables given that clustering.

84. The number of great power war dyads in which states are involved is also a significant predictor of conquest, but this is to be expected given that conquest requires war and states are most likely to be conquered when they are at war with many great powers.

85. When tested on conquest from 1850 to 1993, the coefficient for the binary offense-defense balance is 2.673, the standard error is 0.819, and the pseudo $R^2$, which indicates the amount of variance explained by the model, is 0.366. When tested on great power attacks on great powers, the coefficient is 3.136, the standard error is 0.581, and the pseudo $R^2$ is 0.166. When tested on great power attacks on non-great powers, the coefficient and the standard error for the offense-defense balance are 1.438 and 0.332, and the pseudo $R^2$ is 0.047. Although the differences between the $R^2$'s for the offense-defense balance and the offense-defense-deterrence balance are presently slight, they will increase with each year that passes without the conquest of or attacks by nuclear states.

<table>
<thead>
<tr>
<th>Technological Environment</th>
<th>Number of Years</th>
<th>Number of Great Powers Conquered</th>
<th>Average Annual Rate of Great Power Conquest</th>
<th>Number of Great Power Attacks on Great Powers</th>
<th>Average Annual Rate of Great Power/Great Power Attack</th>
<th>Estimated Number of Great Power Attacks on Non-great Powers</th>
<th>Average Annual Estimated Rate of Great Power/Non-great Power Attack</th>
</tr>
</thead>
<tbody>
<tr>
<td>offense dominant 1800–49</td>
<td>49</td>
<td>6</td>
<td>0.12</td>
<td>9</td>
<td>0.18</td>
<td>20</td>
<td>0.41</td>
</tr>
<tr>
<td>1934–45</td>
<td>11</td>
<td>4</td>
<td>0.36</td>
<td>11</td>
<td>1.00</td>
<td>24</td>
<td>2.18</td>
</tr>
<tr>
<td>defense dominant 1850–1933</td>
<td>83</td>
<td>3</td>
<td>0.04</td>
<td>11</td>
<td>0.13</td>
<td>55</td>
<td>0.66</td>
</tr>
<tr>
<td>deterrence dominant 1946–97</td>
<td>51</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>6</td>
<td>0.12</td>
</tr>
<tr>
<td>totals</td>
<td>13</td>
<td>31</td>
<td>105</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*This estimate is low because I did not attempt to code great power attacks on non-great powers during the Napoleonic Wars.*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variable</th>
<th>Coefficient&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conquest of great powers</td>
<td>offense-defense-deterrence balance</td>
<td>2.273*</td>
<td>1.070</td>
</tr>
<tr>
<td></td>
<td>indexed capabilities</td>
<td>-15.617**</td>
<td>6.382</td>
</tr>
<tr>
<td></td>
<td>years great power or nuclear state</td>
<td>-0.005**</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>year</td>
<td>-0.013</td>
<td>0.031</td>
</tr>
<tr>
<td></td>
<td>number of war dyads</td>
<td>1.068**</td>
<td>0.298</td>
</tr>
<tr>
<td></td>
<td>constant</td>
<td>18.347</td>
<td>57.827</td>
</tr>
<tr>
<td></td>
<td>log likelihood</td>
<td>= -25.582</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\chi^2$ (5df) = 287.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>prob &gt; 5 $\chi^2$ = 0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>pseudo $R^2$</td>
<td>= 0.370</td>
<td></td>
</tr>
<tr>
<td>Attacks on great powers</td>
<td>offense-defense-deterrence balance</td>
<td>2.623**</td>
<td>0.605</td>
</tr>
<tr>
<td></td>
<td>indexed capabilities</td>
<td>4.808*</td>
<td>2.850</td>
</tr>
<tr>
<td></td>
<td>years great power or nuclear state</td>
<td>-0.002</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>year</td>
<td>-0.016&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.009</td>
</tr>
<tr>
<td></td>
<td>constant</td>
<td>21.076</td>
<td>17.536</td>
</tr>
<tr>
<td></td>
<td>log likelihood</td>
<td>= -81.167</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\chi^2$ (4df) = 36.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>prob &gt; 5 $\chi^2$ = 0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>pseudo $R^2$</td>
<td>= 0.177</td>
<td></td>
</tr>
<tr>
<td>Attacks on non-great powers</td>
<td>offense-defense-deterrence balance</td>
<td>1.032**</td>
<td>0.272</td>
</tr>
<tr>
<td></td>
<td>indexed capabilities</td>
<td>2.553</td>
<td>3.457</td>
</tr>
<tr>
<td></td>
<td>years great power or nuclear state</td>
<td>-0.001</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>year</td>
<td>-0.003</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td>constant</td>
<td>2.573</td>
<td>12.844</td>
</tr>
<tr>
<td></td>
<td>log likelihood</td>
<td>= -217.733</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\chi^2$ (4df) = 29.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>prob &gt; $\chi^2$ = 0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>pseudo $R^2$</td>
<td>= 0.054</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>An asterisk after the coefficient indicates that this variable is a statistically significant predictor of the dependent variable when the other variables in the model are held constant. Because most of the hypotheses tested here are directional, I used one-tailed tests of significance. Coefficients marked ** are highly significant (p < 0.01), those marked * are significant (p < 0.05), and those marked # approach statistical significance (p < 0.10). In each of these models, there were 857 cases.
Table 6), the offense-defense-deterrence balance is a significant predictor of conquest and both types of attack. This confirms that offense and defense dominance have different effects. Thus, contrary to H5 and H6, the significance of the balance is not simply the result of nuclear deterrence or any other attack-inhibiting variable unique to the postwar era.

Interestingly, in these tests of the prenuclear era, year is a significant predictor of attacks on great powers from 1816 to 1945. Yet, contrary to H13, more recent years are associated with higher, not lower, probabilities of attack. Because there is no variance in great power attacks on great powers after 1945 (because there have been no such attacks), the near-statistical significance of year from 1850 to 1993 does not reflect the effects of rising audience costs or other time-dependent, attack-inhibiting variables. Instead it suggests a secular increase in attack-promoting variables from 1816 to 1945.

Based on the findings shown in Table 6, I calculated the probabilities that an individual great power would be conquered or attack other states in a given year of the offense-, defense-, and deterrence-dominant eras. As shown in Table 7, great powers were seven times as likely to be conquered in each year of the offense-dominant era from 1934 to 1945 (probability 0.014) as they were in each year of the defense-dominant era from 1850 to 1993 (probability 0.002), and they were twice as likely to be conquered in the defense-dominant era as they were in the deterrence-dominant era from 1946 to 1997 (probability 0.001). Offense dominance affected the probability of great power attacks on other great powers even more strongly. Such attacks were twelve times more likely when offense was dominant (probability 0.156) than when defense was dominant (probability 0.013), and they were more than thirteen times more likely when defense was dominant than when deterrence was dominant (probability 0.001). Great power attacks on non-great powers have been less affected by the balance, decreasing by less than a factor of three from both offense dominance (probability 0.194) to defense dominance (probability 0.077) and from defense to deterrence dominance (probability 0.030). Yet among all of the independent variables tested, only the offense-defense-deterrence balance is a significant predictor of great power attacks on non-great powers. Thus even

86. Specifically, it is a very significant predictor of conquest and great power attack from 1800 to 1945 and of both types of attack from 1850 to 1945. When King and Zeng's ReLogit software is used to adjust for rare events data, the balance is also a significant predictor of conquest from 1816 to 1993.
87. To make these comparisons, I divide the probability of conquest in one era by the probability of conquest in another.
states that lack nuclear weapons seem to have benefited from deterrence dominance.

I also used the findings summarized in Table 6 to calculate the annual probabilities of conquest and attack for great powers and nuclear states of different capabilities. As shown in Table 8, irrespective of the offense-defense-deterrence balance, the least capable great powers (those with indexed capabilities in the 10th percentile) from 1850 to 1993 were forty times more likely to be conquered (probability 0.008) than their most capable counterparts (those in the 90th percentile, probability 0.0002) and were two and a half times less likely to attack other great powers (probabilities 0.006 and 0.015, respectively).

If these findings are robust, qualitative analysis of attacks and conquests in different technological eras should confirm the effects of the offense-defense-deterrence balance and relative capabilities. Although detailed analysis of this nature is beyond the scope of this article, it is notable that (as shown in Table 4) great power attacks on other great powers culminated in the conquest of the target state within one year twice as often in the offense-dominant eras as they did in the defense-dominant era.88 Furthermore, as shown in Table 3, attackers

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88. As shown in Table 4, five of nine (56 percent of) attacks on great powers from 1800 to 1849 culminated in the conquest of the target state within one year, and four of eleven (36 percent) did so from 1934 to 1945, compared to one of eleven (9 percent) from 1849 to 1933. But because two attacks in each of the offense-dominant eras were joint attacks and because the Japanese surrender in 1945 reflected both the U.S. atomic bombings and the Soviet invasion of Manchuria, it is more accurate to say that four of nine and two of eleven (44 percent and 18 percent of) great power attacks in the offense-dominant eras culminated in conquest within one year, compared with 9 percent in the defense-dominant era. Thus the ratio of conquest to attack was twice as high in the safest offense-dominant era as it was in the defense-dominant one.
occupied the capitals of conquered great powers before an armistice was reached at least half of the time in the two offense-dominant eras but never in the defense-dominant era. Similarly, the militaries of conquered great powers completely collapsed or surrendered at least half of the time in the offense-dominant eras but just one-third of the time in the defense-dominant one. Thus offense dominance does seem to make it easier to take territory than to hold it and, as a result, more likely that states will be conquered.

Furthermore, Prussia’s conquest of France in 1871—the one great power conquest during the defense-dominant era that occurred in less than one year and involved the complete collapse or surrender of a great power’s military forces—was clearly the result of defense dominance. France failed to develop either a defensive strategy or state-of-the-art defensive capabilities. Moreover, Napoleon III surrendered at Sedan because French troops were unable to re-take French territory under Prussian artillery fire. Finally, Paris capitulated only after a siege.\(^9\)

**Conclusions and Implications**

Historical trends in attack and conquest among great powers and nuclear states from 1800 to 1997 provide strong support for my argument about the effects of the technological offense-defense-deterrence balance. The balance, which I operationalized by deducing the relative lethality, protection, and mobility of offensive, defensive, and deterrent military operations from prevailing

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\(^9\) This table summarizes the probabilities that an individual great power of particular capabilities would be conquered or would attack other great powers in a given year. These probabilities are based on the logit results shown in Table 6, with the offense-defense-deterrence balance, duration of great power status, year, country code, and number of great power war dyads held constant at their means.

### Table 8. Annual Probabilities of Conquest of and Attacks by Great Powers and Nuclear States for Great Powers and Nuclear States of Different Capabilities, 1850–1993.\(^a\)

<table>
<thead>
<tr>
<th>Probability of</th>
<th>10th Percentile (low capability)</th>
<th>Mean</th>
<th>90th Percentile (high capability)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conquest of great powers</td>
<td>0.008</td>
<td>0.002</td>
<td>0.000</td>
</tr>
<tr>
<td>Attacks on great powers</td>
<td>0.006</td>
<td>0.008</td>
<td>0.015</td>
</tr>
</tbody>
</table>

\(^a\)This table summarizes the probabilities that an individual great power of particular capabilities would be conquered or would attack other great powers in a given year. These probabilities are based on the logit results shown in Table 6, with the offense-defense-deterrence balance, duration of great power status, year, country code, and number of great power war dyads held constant at their means.

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technologies, is a significant predictor of great power vulnerability to conquest and propensity to attack both other great powers and non-great powers. These findings have important implications for future research on the balance, as well as for international political theory and the future of international politics.

**Implications for Future Research on the Balance**

My findings about the effects of the technological offense-defense-deterrence balance on attack and conquest belie three prevalent assumptions in the offense-defense literature. First, the incidence of war is not the best dependent variable to use in testing the balance. Although great power wars occurred in both offense- and defense-dominant eras, great powers were less likely to attack one another and to be conquered when defense was dominant. Thus, although the balance may affect the incidence of war, it most directly affects the incidence of attack and conquest.

Second, scholars have too quickly dismissed arguments about the effects of the technological offense-defense-deterrence balance. Military doctrine, geography, force employment, perceptions, and many of the other variables previously invoked in defining the balance no doubt affect the vulnerability of states to conquest and the likelihood that they will attack other states. But differences in the potentials and interactions of offensive, defensive, and deterrent military operations in different technological eras have significant effects of their own.

Third, it is not the case that defense and deterrence are functionally equivalent. Defensive and deterrent operations have different logics and requirements. They also have different international political effects. As shown in Table 7, during the defense-dominant era from 1850 to 1933, great powers were almost twice as vulnerable to conquest, thirteen times more likely to attack other great powers, and more than twice as likely to attack non-great powers as nuclear states from 1946 to 1997. Because the offense-defense-deterrence balance explains more of the variance in conquest than the offense-defense balance (and will explain more with each year that passes without attacks by or conquests of nuclear states)—and because its significance is not driven by nuclear deterrence or other post-1945 attack-inhibiting variables—scholars seeking to explain other outcomes or to explain more about attack and conquest should use this version of the balance.

In explaining other outcomes, it is important to recognize two points. First, because the offense-defense-deterrence balance affects the incidence of attack, states seem to be aware that they are more vulnerable to conquest in offense-
dominant eras than they are in defense- and deterrence-dominant ones. Thus the balance may also affect the character of military doctrine, the extent of arms racing, and the prevalence and nature of international cooperation. But, second, although the balance is a significant predictor of attack and conquest, models containing the balance, relative capabilities, and the other independent variables tested here do not explain all of the variance in these outcomes. Because the balance’s effects on doctrine, procurement, and cooperation are likely to be more muted than its effects on attack and conquest, the challenge will be to avoid lumping other variables into the balance to increase its explanatory power. Yet only when this is avoided will it be possible to assess the relative importance of each variable. Thus a firm distinction should be drawn between adding variables to the technological offense-defense-deterrence balance, which raises questions about the meaning of the balance and complicates testing, and adding variables to models, which should improve explanatory power while maintaining clarity and specificity.

Efforts to test arguments about other causes of attack and conquest while controlling for the offense-defense-deterrence balance and relative capabilities are also needed, both to explain more of the variance in these outcomes and to explain the gap between attack and conquest in offense-dominant eras. As shown in Table 7, from 1934 to 1945, the probability that one great power would attack another in a given year (0.156) was eleven times greater than the probability that an individual great power would be conquered (0.014). This gap is striking, especially given that (as shown in Table 8) the most capable great powers (those with indexed capabilities in the 90th percentile) have been more than twice as likely to attack other great powers (probability 0.015) as their less capable counterparts (probability 0.006).

Perhaps, as Clausewitz would argue, the gap between attack and conquest in offense-dominant eras can be attributed to a ubiquitous defensive advantage, which is only marginally eroded by offense dominance. Or perhaps, as Waltz and other structural realists would suggest, the failure of most attacks to culminate in conquest, even in offense-dominant eras, is a result of the tendency for states to balance the power of the states most capable of conquering others. Then again, maybe great powers fail to perceive the dominance of offensive operations, adopting defensive doctrines and strategies that reduce the vulnerability of other states. Or perhaps attacking states fail to employ their

90. The amount of variance explained by each model is indicated in Table 6 by the pseudo $R^2$'s.
forces to optimal effect. Finally, perhaps great power wars in offense-dominant eras so quickly exhaust the participants that few are able to mount effective offensives for long. To test these possibilities, efforts to elaborate and test hypotheses about the effects of homeland advantage, power balancing, military doctrine, force employment, and attrition are needed.

**IMPLICATIONS FOR INTERNATIONAL POLITICAL THEORY**

My findings not only confirm the importance of the offense-defense-deterrence balance. They also provide strong support for structural realist theory while raising questions about the explanatory power of offensive realism, defensive realism, and arguments about the pacific effects of unbalanced power and rising audience costs.

Both structural and offensive realism are supported by the finding that less capable great powers are more likely to be conquered and less likely to attack other great powers than their more capable counterparts. But because great powers are significantly less likely to attack and conquer one another when defense and, especially, deterrence are dominant than when offensive operations dominate, the offensive realist argument that states can be secure only when they are “primed for offense” fails to convince.\(^91\) Defense and deterrence dominance afford high levels of security to states with state-of-the-art defensive and deterrent capabilities.

Yet security is not the only end great powers seek. Although great power attacks on non-great powers are significantly less likely in defense- and deterrence-dominant eras than they are in offense-dominant ones, as shown in Table 7, in all technological eras the probability that a great power will attack a non-great power is higher than the probability that it will attack one of its peers. In fact, in the deterrence-dominant era from 1946 to 1997, the probability that a great power or nuclear state would attack a nonnuclear state (0.030) was thirty times larger than the probability that it would attack another great power (0.001). Moreover, older great powers are no less likely than their younger counterparts to attack other states. Thus the defensive realist claim that states simply seek security also fails to find support. All one can say with any certainty is that states, “at a minimum, seek their own preservation and, at a maximum, drive for universal domination.”\(^92\) Because historical trends in attack and conquest indicate both that national security is affected by structural

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\(^91\) Mearsheimer, *The Tragedy of Great Power Politics*, p. 3.

\(^92\) Waltz, *Theory of International Politics*, p. 118.
and technological conditions and that security is not the only end states seek, structural realism explains more than either offensive or defensive realism.

These findings also pose problems for those who expect unbalanced power or rising audience costs to have pacific effects on international affairs. It may be “absurd” for states to attack states with substantially less capability than their own, but strong states frequently do so. Such attacks could reflect lower audience costs for attacks on less powerful states than for attacks on one’s peers (because the former are more likely to succeed). But contrary to Fearon’s argument that audience costs have risen steadily since the early nineteenth century and that they dissuade states from starting wars they might lose, great powers were increasingly likely to attack other great powers each year from 1816 to 1945. Thus the age-old logic of international relations still applies. Military, economic, political, and other costs of war—as well as self-restraint—may induce the strong to forego attacking the weak, but in the absence of an international sovereign there is nothing to compel them to do so.

**IMPLICATIONS FOR INTERNATIONAL POLITICS**

The finding that states armed with second-strike nuclear forces are less vulnerable to conquest and less likely to attack other states than erstwhile great powers have been, indicates that there is something to be said for the proposition that more nuclear states “may be better.”

But whether less powerful states decide that going nuclear is best for them will depend on what today’s nuclear states do with the deterrence dividend. If they eschew the temptation to spend it on efforts to expand their power and are more mindful of less powerful states’ concern with survival and prosperity than historical great powers have been, less powerful states will continue to enjoy the benefits of deterrence dominance, and nuclear weapons will spread slowly, if at all. But if even one nuclear state, like its great power predecessors, embarks on conquest and other efforts that imperil the survival of less powerful states while its nuclear peers rest comfortably in the knowledge that they are more secure than the most powerful states in the defense- and offense-dominant eras ever were, less powerful states will perceive that deterrence dominance is doubly dangerous—making them, at once, more attractive targets than nuclear-armed great powers and less important allies than their counterparts in offense- and defense-dominant eras. In this case, the spread of nuclear weapons is likely to accelerate.

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93 Clausewitz, *On War*, p. 91.
If the state that spends the deterrence dividend on expansion is the most powerful state in the system and those waiting idly by are the states most capable of balancing its power, deterrence dominance will not only increase the insecurity of nonnuclear states. It will also delay the emergence of a new balance of power capable of mitigating their insecurity. At present, this seems to be what is happening. China, Russia, France, and other nuclear states, knowing that their homelands are secure from attack and conquest by the most powerful state in the system, are sitting on the sidelines, criticizing the U.S. conquest of Iraq. Meanwhile, the United States prepares to pursue other preemptive whims, and less powerful states redouble their efforts to go nuclear so they can avoid becoming targets.  

The more the United States expands, the more it will threaten the political and economic interests of other nuclear states. Thus, a new balance of power will surely form somewhere down the road. When it does, nonnuclear states should once again enjoy the benefits of deterrence dominance. But when this balance will form, how many states will decide that the best way to provide for their security in the meantime is to obtain nuclear weapons, and how far the United States will go in trying to maintain and extend its power remain to be seen.