Sources, Data, Methods: The Project Mars Codebook Version 1.0

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Summary

This codebook outlines Project Mars' conceptual framework, coding procedures, and operationalization of its variables. It has four broad sections:

1. General coding principles, scope conditions, and a comparison to the Correlates of War;
2. Discussion of all independent, dependent, and control variables; and
3. A description of coding procedures, including Project Mars' use of a Red/Blue team audit system and its structured, focused comparisons at the war and battle-level, as well as the mechanics of randomized case selection and matching
4. Robustness checks for statistical findings

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Contents

1 General Instructions for Coders **2**

2 Definitions and Scope Conditions **3**
2.1 How does Project Mars Compare with COW? 4
2.2 The Skeptic's Challenge: Not States, Not Wars 8
2.3 Additional Evidence: The Project Mars Image Repository 11

3 Variables: War and State IDs **13**

4 Independent Variables: The Military Inequality Coefficient **14**
4.1 Ethnic Groups 16
4.2 Prewar Regime Treatment 16
4.3 Ranges 17
4.4 Examples 17
4.5 Sources 18
4.6 Bands of Inequality 18
4.7 Exceptions and Difficult Cases 18
4.8 Exception #1: Colonial Armies and the Colonial Penalty 19
4.9 Exception #2: Independence Wars 19

5 Dependent Variable: Battlefield Performance **19**
5.1 Loss-Exchange Ratio 20
5.2 Mass Desertion 22
5.3 Mass Defection 23
5.4 Blocking Detachments 24
5.5 Battlefield Performance Index (BPI) 24

6 Variables: Additional Explanations **25**
6.1 Regime Type 26
6.2 Material Power/Preponderance 26
6.3 Army Type and Recruitment 29
6.4 Definitions 29
6.5 Distance 31
6.6 Initiator Status and Regime Type Interactions 32

7 Variables: Periodization **33**

8 Backwards Compatibility with Correlates of War **33**

9 Additional War Characteristics **33**

10 Treatment Indicators for Matched Analysis **34**

11 Variables: Fixed Effects **35**

12 Adversarial Quantitative Coding: Red and Blue Teams **36**
12.1 Data Reliability 38
12.2 Reestimating Base Models with Quality Control Measures 39

13 Adversarial Qualitative Coding: Historical Cases **44**
13.1 Structured, Focused Comparisons: Coding Procedures 45
13.2 Specific Research Questions for Each Case: Battlefield Performance 46
13.3 Specific Research Questions for Each Case: Key Battles 47
13.4 Specific Research Questions for Each Case: Contextual Information 49

14 How Were Cases Chosen? Mechanics of Paired Case Selection **50**
14.1 *Casefinder* Technical Notes 51

15 How Difficult Are These Tests? A Bayesian Approach **54**

16 Excluded Wars **55**

17 Robustness Checks **57**

18 Project Mars: List of Conventional Wars, 1800-2011 **75**

19 Project Mars: New Belligerents **76**

1 General Instructions for Coders

Your approach to identifying and recording the required information should follow the steps outlined below.

1. Familiarize yourself with the war. Many of the wars that we cover may be unfamiliar to you (and most scholars) and so it is worth spending some time understanding the basic issues and chronology of a given conflict. Most, though not all, of these wars are covered in the two standard reference works on the topic: Michael Clodfelter's *Warfare and Armed Conflicts* (3rd Edition, 2008) and Meredith Sarkees and Frank Wayman's *Resort to War, 1816-2007* (2010). More surprisingly, nearly all of these wars also have a dedicated Wikipedia page. While these cannot be used for scholarly citation, they often prove invaluable in providing quick overviews of a given war as well as pointers toward more sources. For more detailed sources that can act as a "starter kit," please see the Project Mars Bibliography.

2. Gather your materials. We use a 10 source "stopping rule" for this project. This means that you should search for the specified information (say, an estimate of the number of soldiers at a war's outset) in 10 quality sources before moving to the next task. If, after checking 10 sources, you cannot find the required information, mark a "." in the appropriate column and then move to the next task.

3. What sources should you use? We can break sources into four categories: (1) Scholarly books, that is, books published via university presses or other reputable sources; (2) Scholarly journal articles; (3) Newspaper articles; and (4) Contemporary sources, including books and newspaper articles from the time period in question but also including other works such as memoirs of participants

4. Where/how do I find these sources? (1) Key word searches via Yale's Orbis library portal; (2) Yale's e-resource catalogue for journals, including Project Muse, JSTOR, and Ebsco; (3) Google Books, which has digitized millions of out-of-print books—especially relevant for 19th century publications or works on more obscure wars which lack a mass market appeal; and (4) LexisNexis Academic, which is the go-to portal for newspapers stretching back as far as the 1880s. Finally, Amazon's search engine is excellent. Plugging in the names of wars, or even of key participants, has often yielded terrific sources more quickly than other sources.

   Since coverage varies by war and time period, you'll need to be creative about your search patterns. Please also ask if you are having trouble identifying sources; we don't want to lose time having you hunt fruitlessly in the stacks or on-line.

5. Record your data. When you have identified your data, please record it in the appropriate column and row of the spreadsheet. Be sure to check that you are using the appropriate units of measurement.

6. Discrepancies. Many of the data we are hunting, even seemingly mundane issues such as the number of soldiers who fought, will be inexact or will openly contradict itself. We have tried to address this issue in part by recording "high" and "low" estimates for many of these variables. In other cases, you will have to use your best informed judgement, derived from your 10 source search. Note that data you are collecting may also clash with data obtained by earlier coders. In this case, please alert me and we will reconcile the conflicting accounts together using our Red/Blue team framework.

7. Record bibliographic information, in two ways. First, add the source of the estimate to the "source" column in the spreadsheet for the relevant entry. Use author's last name, year, and page number format. Be sure also to enter your initials so we can determine which coder was responsible for the estimate. Second, add the book, article, etc., to the shared bibliographic document found on Google Documents ("Project Mars Bibliography"). Please use the same format for citations as already established in the document.

8. If you find yourself confused at any point in your investigation, let us know immediately. Open communication is key so that we don't waste time.

2 Definitions and Scope Conditions

The project rests on three core concepts: (1) conventional war; (2) a belligerent; and (3) an army. I take each in turn below.

Conventional War: Armed combat between the military organizations of two or more belligerents engaged in direct battle that causes at least 500 battlefield fatalities over the duration of hostilities. A conventional war has several defining properties: (1) states field armies that are clearly demarcated (i.e. they are wearing uniforms); (2) these armies engage one another in direct battle with clearly recognizable front lines; (3) these armies exhibit basic levels of military specialization, including possessing infantry (foot soldiers equipped with firearms), cavalry (mobile units, typically on horse back or, later, utilizing vehicles with internal combustion engines), and artillery (military branch devoted to the use of projectile weapons for indirect fire).

Belligerent: A political entity that claims control over, and authority within, a defined territory and population, and that can field a conventional army. To enter the dataset as a combatant, a state must have the following traits: (1) a political capital; (2) the ability to control and tax a fixed population; and (3) be able to muster a military in the immediate aftermath of a declaration of hostilities if a standing army does not exist. Moreover, a state must suffer at least 1% of a war's (or campaign's) overall casualties to be included or deploy at least 5% of the total forces. This excludes states that did not participate in the fighting (i.e. only declared war officially) or that played a minor role in the war. Note that civil wars that are fought along conventional lines are also included. That is, we do not

require that combatants be officially recognized by Britain or France (as COW does) to be included. It is the ability to fight a certain way, not diplomatic recognition, that governs inclusion in the dataset.

Armies: In addition, states must possess armies with certain characteristics to be included. Specifically, these militaries must (1) possess some degree of combined arms via military specialization (infantry/cavalry/artillery or modern equivalents); (2) be able to supply the majority of its soldiers with firearms; (3) seek concealment from the enemy via terrain, not by blending into the civilian population; and (4) are built along direct battle lines, that is, to engage and impose their will violently on the opponent's military machine.

2.1 How does Project Mars Compare with COW?

Scholars have traditionally relied on the Correlates of War's Inter-State War dataset to test their claims about military effectiveness. Indeed, it is no exaggeration to state the Correlates of War, now entering its fifth decade, has been one of the most important and productive data-collecting efforts in political science.[1] It has allowed scholars to generate, test, and refine their claims, all the while ensuring replicability and comparability since all (quantitative) studies are drawing from the same universe of belligerents and wars. Though originally designed to study war onset, not military effectiveness or war outcomes, nearly all leading quantitative studies of military effectiveness and war outcomes have relied at least in part on these data.[2] The latest version (4.0) of the Inter-State War dataset, released in 2010, contains information about the characteristics of 98 unique combatants fighting 95 wars (yielding 337 total observations) over the 1816-2003 time period.[3]

Yet this progress has a dark side. Unlike the now-burgeoning field of civil war studies, where multiple crossnational datasets now exist, scholars of interstate wars remain locked inside a COW Inter-State War monoculture. While there have been important recent efforts to update,[4] challenge,[5] or adopt a non-state-based logic of data collection[6], nearly all quantitative studies of war remain wedded to COW.[7] All monocultures are vulnerable by definition: there has been little progress in creating new independent variables or revising measures for ones that are now badly showing their age, for example. In particular, our measures of military power have remained almost entirely unchanged since the 1960s. In a literal sense, many of the statistical models we run today are identical, or nearly so, to

[1]Documentation is Sarkees and Wayman (2010) and website is found at: `http://www.correlatesofwar.org/`.

[2]Singer and Small 1972; Small and Singer 1982; Russett 1993; Stam 1996; Reiter and Stam 2002; Biddle 2004; Downes 2008; Weeks 2014; Morrow 2014.

[3]Note that nearly all quantitative studies of military effectiveness used Version 3.0 of the Inter-State War dataset (sometimes modified and extended). It contains data on 79 wars for the 1816-1991 time period (281 total observations.

[4]Reiter, Stam and Horowitz 2014.

[5]Fazal 2007.

[6]Wimmer 2013.

[7]PRIO's Data on Armed Conflict represents another departure by coding all cases with greater than 25 battle deaths for the 1946-2008 time period (UCDP/PRIO 2015).

models run 20 or 30 years ago. As a result, the political science community has largely strip-mined COW for insights; we have reached a point of diminishing returns.

Hence the reason for Project Mars. As Table 1 outlines, Project Mars considerably expands our coverage of wars and combatants compared to COW's Inter-State War 4.0 dataset. Project Mars has 825 combatant observations from 229 unique states fighting in 250 wars. In particular, there are notable new additions in China, Central Asia, South America, and Sub-Saharan Africa. Project Mars added 27 wars to China, including some of the largest conventional wars ever fought — the China Warlord period in the 1920s and early 1930s — and some of the bloodiest wars of the nineteenth century (the Taiping and Nien Rebellions). In Central Asia (roughly encompassing Kazakhstan, Uzbekistan, Tajikistan, Kyrgyzstan, and Afghanistan), for example, the COW Inter-State dataset recorded only six wars; Project Mars added another 25 wars, a four-fold increase, spanning the 1826-1946 period. We also witness a two-fold increase in the number of wars in South America; while COW included nine conflicts, Project Mars identified an additional 17 wars, including wars of independence that are excluded from COW's Inter-State dataset due to its time frame and coding rules. Excluding Ethiopia, there are only three wars (Angola, Uganda-Tanzania, and the War of the Aozou Strip) in the current COW Inter-State dataset. This is a remarkable gap in our empirical record; even the so-called "Great War in Africa," in which the Democratic Republic of the Congo became a battlefield for at least nine neighboring states, is excluded from COW's Inter-State War (it's classified as an intra-state war). By contrast, Project Mars identified 33 wars in sub-Saharan Africa. These differences are detailed in Figure 1.

As detailed above, these differences arise from four different factors. First, Project Mars adopts a different definition of a state, and thus its list of belligerents differs dramatically from that of COW. Second, its definition of conventional differs in several ways from the prevailing standard. Third, Project Mars includes all civil wars fought conventionally, while COW's Inter-State War dataset excludes these cases. Finally, Project Mars covers the 1800-2011 time frame and includes the Napoleonic Wars that are omitted due to COW's later start date (1816). Two points deserve closer scrutiny.

COW has a clear, if evolving, standard for membership in the international system: the state must have a population of at least 500,000 individuals and, crucially, must have received diplomatic accreditation at the level of charge d'affaires or higher from Britain and France in the 1816-1919 era. In the post-World War One era, a state must have 500,000 or more citizens and be a member of the League of Nations or the United Nations or possess accreditation from two Great Powers. These coding rules date back to the 1940s, especially Quincy Wright's classic *A Study of War*, and to early efforts in the 1960s to create the Correlates of War.[8] Additional requirements were introduced over time, including the maintenance of the state's independence and sovereignty, but the basic rules have largely remained unchanged for at least fifty years.[9] Project Mars, by contrast, drops the requirement of diplomatic recognition. As long as the state could govern its space,

[8]Singer and Small 1966; Russett, Singer and Small 1968; Singer and Small 1972; Small and Singer 1982.
[9]Sarkees and Wayman 2010, 17-19.

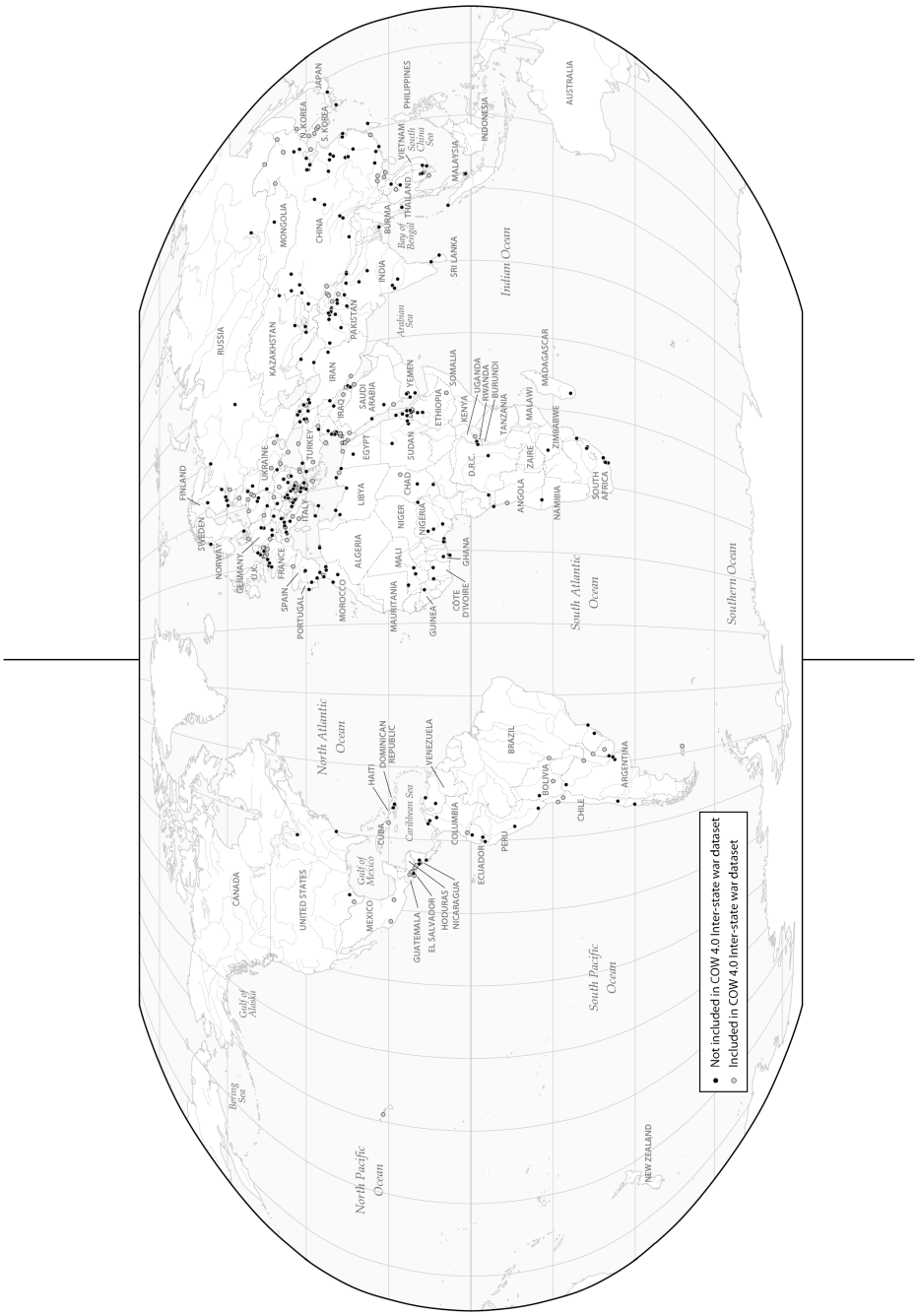


Figure 1: Conventional wars in Project Mars, 1800-2011 (n=250). Each war's first battle location is plotted.

Table 1: Data Comparison

	COW 4.0 Inter-State War *Interstate Wars*	Project Mars *Conventional Wars*
Wars	95	250[a]
Observations	337	825
Unique Combatants	98	229[b]
Years	1816-2003	1800-2011

Note: [a] These wars can be further divided in 322 campaigns if multi-front wars such as the Napoleonic Wars, World War One, World War Two, and the Vietnam War, among others, are treated as separate conflicts. This follows standard practice in the field (Reiter and Stam 2002; Downes 2008). [b] Many of these combatants (n=124) are not recognized as states by COW. In other cases (e.g., Iran, Nepal), the "entry" date for a state into the dataset was heavily modified from the official COW dataset, typically due to engagement in a war not recognized by COW.

had a defined capital and political system, and could fight conventionally, it was included. This more inclusionary coding rule has a key advantage: it does not introduce a selection effect into the data by only coding those states that survive their birth or that are strong enough to be recognized by the leading Powers. Project Mars thus incorporates weaker states without regard for their eventual success in wartime when seeking independence or, indeed, their survival until they received diplomatic recognition.[10]

Moreover, according to the canonical COW definition, an interstate war centers around sustained combat involving regular armed forces on both sides and at least 1,000 battle-related fatalities. Combatants were required to be territorial states approved by London and Paris or leading international institutions of the day (see below) and to incur either 100 fatalities or deploy a minimum of 1,000 military personnel to the battlefield. Wars in which a combatant was fighting a "non-system" member (e.g., one that lacked international recognition) were collected in separate datasets (typically the Extra-Systemic Wars dataset) and had a different loss threshold (1,000 battle-related fatalities annually for the system member). Civil wars were also grouping into a separate, Intra-State War, dataset. Recent efforts by COW now extend to nine different types of wars in four broad

[10]Remarkably, China is not considered a member of the COW system until 1860; Persia/Iran, until 1855; and Afghanistan, until 1920. It took decades for successor states in South America — Guatemala (1868), Paraguay (1846), Argentina (1841), and El Salvador (1875) — to be diplomatically recognized despite fighting major wars.

categories: Inter-State, Extra-State, Intra-State, and Non-State.[11] Project Mars adopts a lower threshold for inclusion into the dataset; only 500 casualties need be incurred between the belligerents during the war, expanding the number included substantially.

2.2 The Skeptic's Challenge: Not States, Not Wars

Skeptics might argue that these new belligerents and wars do not meet common sense understandings of modern war fought using combined arms approaches. Aren't these belligerents simply waging "primitive war," not modern war? And doesn't the technological imbalance that usually favored the West outweigh any meaningful comparison between them and non-Western belligerents? What, in the final analysis, can wars involving belligerents like the Rif Confederacy, the Sokoto Caliphate, or Kokand teach us about the high-intensity, capital-intensive nature of modern war?

Indeed, an earlier generation of scholars, including the intellectual forerunners of the COW project, were confident in their belief that non-European states largely practiced primitive warfare. Such warfare is marked by low casualties and stylized forms of raids and skirmishes that largely fulfill ritualistic rather than political ends. Belligerents in these wars are thought to be driven by prestige motives and honor rather than desire for economic or political domination. In terms of force employment, these wars are thought to be marked by poor mobilization, little to no logistical support, weak command and control, the absence of military specialization, and simple, often ineffective, tactics.[12] This view of warfare became a dividing line between civilized and non-civilized combatants, a distinction subsequently codified in Quincy Wright's influential 1942 list of wars and combatants that informed the basis of COW coding and data collection.[13] War is waged within, not across, civilizations, a viewpoint captured by COW's insistence on diplomatic recognition as the defining attribute of legal statehood.

We therefore proceeded with caution when constructing Project Mars. We ensured that belligerents fielded militaries with specialization (infantry, calvary, and artillery) and that could equip a large percentage of its soldiers with firearms. Candidate wars for inclusion were identified using multiple sources, including the broader Correlates of War datasets,[14], Wimmer (2013)'s dataset of wars, Fearon and Laitin (2003)'s list of civil wars, Kalyvas and Baicells (2010)'s list of multiple war types, along with region- or time-specific histories of warfare.[15] A total of 111 wars were dropped from our initial compilation for not meeting our inclusion criteria (see the "Excluded Wars" dataset). These conflicts were typically guerrilla wars, had insufficient casualties, or their belligerents failed to met one or more

[11]Small and Singer 1982; Singer and Small 1972; Sarkees and Wayman 2010, 39-47.

[12]Turney-High 1942; Richardson 1960; Keeley 1996, 11.

[13]Wright 1942, 9,13,304,636-40. This book was the capstone of the University of Chicago's "Cause of War" project directed by the Social Science Research Committee. A veritable who's who of famous political scientists — including William T.R. Fox, Bernard Brodie, Harold Lasswell, and Jacob Viner — served on this committee.

[14]Sarkees and Wayman 2010.

[15]Vandervort 1998; Elleman 2001; Reid 2012; Addington 1994; Barua 2005; Parker 2005; Scheina 2003.

of the statehood criteria, especially the possession of firearms. If, after exhausting all possible historical sources, we were still left uncertain about including a war or combatant, we elected to exclude it. We thus erred on the side of caution; while a credible case for including some of these cases might be made, we sought to ensure that the sample was a uniform one, and that we were certain all of the wars and combatants clearly met our coding criteria.

Borderline cases do exist. The post-2001 war in Afghanistan, for example, was marked by occasional pitched battles (as during Operation Medusa) against dug-in Taliban manning First World War-style trenches. For the most part, however, combat in Afghanistan has taken the form of hit-and-run strikes by insurgents, with the Taliban hiding among the local population. Similarly, the First Chechen War (1994-96) was initially marked by heavy urban fighting in Chechnya's capital, Grozny, between ill-prepared conventional Russian forces and entrenched Chechen rebels. But after these initial December 1994-January 1995 clashes, Chechen forces fell back into familiar patterns of guerrilla warfare, and the remainder of the war best characterized as an insurgency, not a conventional war.[16] Dataset of excluded cases and ones where we did not have sufficient data to proceed (still likely undercounting wars where non-European power was present).

Several related points bear emphasizing. First, firearms were far more readily available than "primitive war" narratives allow. Non-European states around the world were capable of obtaining advanced firearms, artillery, and training from various pathways. Closing down all avenues for technology transfers was not only impractical but also short-sighted; in many cases, weapons were given to these now-COW states by European states as part of broader diplomatic rivalries. As a result, all of the non-COW combatants possessed firearms. In some cases, firearms had been circulating in their areas for decades prior to the conflict.[17] Arms sales, often propelled by relentless European competition, along with trade (often slaves for weapons) and spoils from the battlefield, all contributed to stocking these combatants' arsenals. Similarly, the diffusion of weapons technology throughout Africa, Asia, and the Middle East during the Cold War helped reshape newly independent states in the image of their superpower patrons. These weapons transfers have a long history: the deserting Russian Army left enormous weapons caches behind for the nascent Armenian Corps of the Democratic Republic of Armenia in 1917, a practice repeated in Transnistria by withdrawing Russian forces in 1990.

Many of the non-COW recognized belligerents and their wars were also testing grounds for new weapons that would become the hallmarks of "modern" war. The American Civil War, for example, witnessed how the combination of static defenses and modern firearms could inflict frightening levels of casualties in short order. The Boshin War (1868-69) witnessed the first field use of the Gatling gun; the famed Maxim machine gun was first bloodied in campaigns against the Mahdi state (1886) before its violent unleashing at Omdurman in the Second Mahdi War (1896-99). The first two confirmed cases of

[16]On a personal note, these coding rules have the ironic side effect of excluding my own research in Chechnya and Afghanistan.

[17]Lorge 2008; Smaldone 1972; Inikori 1977; Caulk 1972; Holt 1970.

aerial bombardment using poison gas occurred during the Russian Civil War (by British forces in 1919) and Rif War (by Spanish and French forces, 1921-26).[18] Despite these important technological developments, none of the wars are included in COW's Inter-State War dataset.

Foreign advisers also played an important role in diffusing the skills of conventional warfare globally. The outflow of defeated Napoleonic commanders and soldiers, together with victorious British, Prussian, and, to a lesser extent, Russian officers, contributed to the steady adoption of modern practices by Ottoman, Persian, Chinese, and Japanese militaries. These armies in turn often trained and equipped neighboring armies, further accelerating the diffusion of skills. Yakub Beg, the ruler of Kashgaria, had Ottoman advisers;[19] Kokand had clandestine British ones, while the United Kingdom openly trained the Sultanate of Morocco's forces. Garibaldi commanded French, Spanish, and Italian legionnaires during the Uruguayan Civil War, including at the long-lived siege of Montevideo in 1843-51. In other cases, foreign-trained experts were forcibly impressed if captured on the battlefield; much of the Mahdiya's artillery corps, for example, was staffed by British-trained Egyptians.

There's little doubt that the quality of these advisors was uneven. Historians still debate the effectiveness of well-known advisors such as General Otto Liman van Sanders and his German Reform Mission to the Ottoman Empire decades later, for example.[20] And these advisors were also clearly enmeshed in their own political games, and may not have been at liberty to provide the best advice. Yet the practice of foreign advisors was widespread; more than 75 percent of the 124 non-COW belligerents in Project Mars had foreigners, typically European, in advisory and training roles.[21] It is difficult to argue that these belligerents were unfamiliar with European-style modern warfare when they were in direct contact with European or European-trained officers.

Finally, a narrow focus on the technological aspects of these wars also obscures more important questions about why and how these belligerents chose to embrace these practices wholesale while in other cases they did not. Many of the inefficiencies we associate with "primitive" war may in fact represent calculated decisions on the part of these combatants to work within the constraints of their political, societal, and cultural context. Rather than assume ignorance on the part of these armies, we should investigate why their patterns of military employment and technological uptake varied so widely across belligerents. Indeed, detailed treatments by historians often reveal that these combatants wrestled with battlefield issues that would be familiar to students of combined arms doctrine. In his magisterial account of the Sokoto Caliphate, Joseph Smaldone writes that a "fundamental tactical consideration in [19th Century] Sudanic warfare was the problem of integrating

[18]Reaching even further back in time, the 1848-49 war between Austria and Venice witnessed the first recorded use of balloon-dropped bombs on a city. Several Montgolfiere hot air balloons were launched from the Austrian Navy ship *Vulcano*, though results were decidedly mixed.

[19]Kim 2004, 149.

[20]Erickson 2007, 9-10.

[21]Project Mars coded whether foreign advisors were present in the prewar era or on the battlefield itself.

calvary and infantry units into a single battle force of mutually supporting elements."[22] The Asante Empire, too, understood conventional war, blending together specialized units and an extensive monitoring and sanctioning system — including whipping malingering soldiers and executing poor commanders — that instilled tremendous discipline, at least initially.[23]

2.3 Additional Evidence: The Project Mars Image Repository

To further support these claims, we compiled a visual record documenting the wartime practices of all 124 new belligerents added to Project Mars. In total, we collected over 600 images; these are stored in a searchable index on the book's website.[24] We paid particular attention to evidence, whether drawn from photographs, maps, artistic sketches, paintings, or textual descriptions that confirm these belligerents' ability to fight conventional wars. Evidence that soldiers possessed firearms and that the armies could deploy cannons were especially important to acquire. We also sought evidence that these armies were either capable of constructing fortifications (including castles) or storming them, indicating a familiarity with positional warfare. Perhaps most importantly, we trolled these materials for evidence that battlefield maneuvers were aimed at direct battle, that multiple branches of these armies were present, and that the clashing armies practiced some form, however rudimentary, of cover-and-concealment among the local terrain. Examples include charcoal sketches of maneuvering Ashanti infantry, along with paintings of the British defeat of the Asante Empire during the 1823-36 war;[25] Egypt's victory over the Mahdiya at Toski in 1889;[26] and the 1813 Battle of Cuch (Attock) between the Durrani and Sikh Empires.[27] The Battle of Tetuán is provided as an illustrative example below (Figure

Evidence sometimes appeared in unusual guises. We were able to obtain, for example, photographs of soldiers, including those from Kokand, parading and drilling with their weapons.[28] In some cases, we were even able to obtain receipts from foreign businesses selling firearms and artillery to these newly added belligerents, including Yakub Beg's forces at Kashgaria, which purchased artillery from Krupp.[29] These materials help make the case for a wider, more inclusive, dataset of belligerents and wars than currently employed in most studies of military effectiveness. They are not without flaws, however. There remain persistent gaps in the historical record that frustrate a detailed examination of these belligerents' war-fighting. We must also be careful not to assume that these images are

[22] Smaldone 1977, 80.

[23] Edgerton 1995, 264-65.

[24] Considerable effort was made to identify copyright holders, though most of these images are now in the public domain given their age.

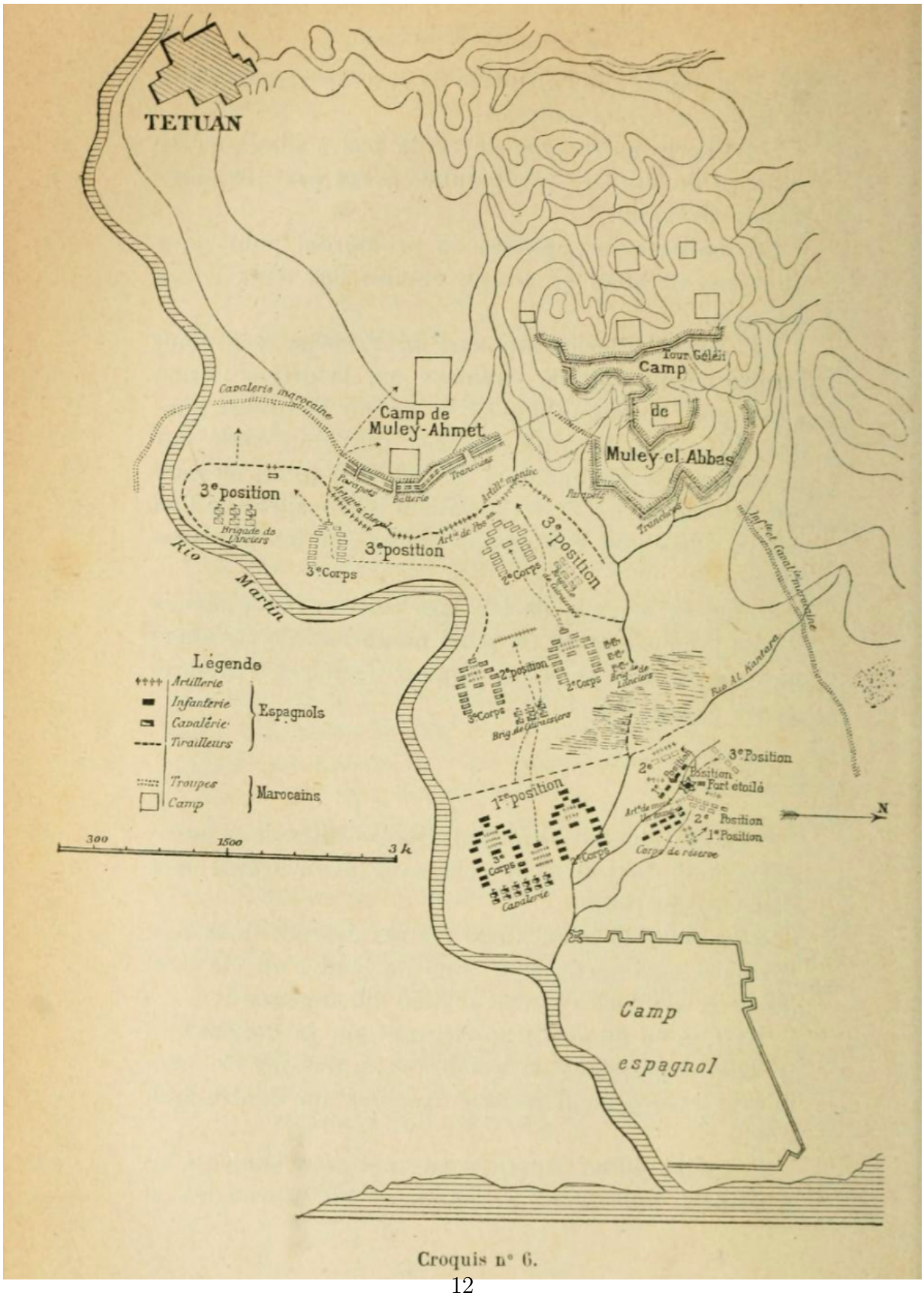
[25] Dighton, D. (1825). *Defeat of Ashantees by the British forces under the command of Colonel Sutherland, 11th July 1824.* [Painting]. London: National Army Museum.

[26] *The Defeat of the Dervishes—Birds Eye View of the Fight outside Toski on August 3* [Illustration]. *The Graphic*, 1889.

[27] *Battle of Chuch (Battle of Attock), 1813*, reproduced in Singh (1964).

[28] *Soldiers in front of Kokand Palace (c.1865-1872)* [Photo]. Retrieved from Library of Congress.

[29] Boulger 1878, 231.



Croquis n° 6.

Figure 2: Detail of the Battle of Tetuán, 4–6 February 1860. *Source*: Mordacq 1900, 80.

completely accurate representations. Embellishment by contemporary artists, sometimes decades removed from their subject matter, is a possible danger. That said, these images, when corroborated with textual descriptions, suggest that art and science of conventional war were far more widespread than most accounts in political science and history recognize.

3 Variables: War and State IDs

- ID: Unique id for each observation.
- WARCODE Unique ids for all wars; all campaigns of a larger divided war (Napoleonic, Venezuela War of Independence, Franco-Mandingan Wars, Franco-Dahomean Wars, WWI, WWII, Russian Civil War, Chinese Warlord Era) receive same warcode. Wars separated by 5 years or more were considered separate wars even if they have the same name (i.e. First, Second War of X).
- CAMPCODE Unique ids for all wars; all campaigns of a larger divided war receive their own codes.
- CCODE: Each combatant has a unique number. Three digit numbers are Correlates of War codes for each state. Four digit codes indicate that the state was not included in the original Correlates of War coding. A list of these new states/polities is provided at the end of this document.
- WARNAME: The war's name. Alternative names are provided in parentheses.
- STATENAME: The abbreviation for the state involved in the war. A list of abbreviations is appended to this document.
- YRSTART: The year the war began.
- YREND: The year the war ended.
- STARTDATE: The day of the first recorded armed encounter between hostile forces.
- STARTMONTH: The month of the first recorded armed encounter between hostile forces.
- STARTDAY: The day of the first recorded armed encounter between hostile forces.
- STARTYEAR: The year of the first recorded armed encounter between hostile forces.
- ENDDATE: The day of the last recorded armed encounter between hostile forces.
- ENDMONTH: The month of the last recorded armed encounter between hostile forces.
- ENDDAY: The day of the last recorded armed encounter between hostile forces.

- ENDYEAR: The year of the last recorded armed encounter between hostile forces.
- DUR: The war's duration, measured in days, generated from ENDDATE minus STARTDATE.
- LOGDUR: The war's duration (logged), measured in days, generated from ENDDATE minus STARTDATE.

4 Independent Variables: The Military Inequality Coefficient

We use two measures of the military inequality coefficient to test the argument: (MIC_MEAN and MIC_BANDS).

- MIC_MEAN is therefore the average of the low and high estimates of military inequality for each belligerent one year prior to war (or on eve of battle)
- MIC_BANDS is operationalized as Low (0), Medium (1), High (2), and Extreme (3), where Low (0-0.20), Medium (0.21-0.40), High (0.41-0.60) and Extreme ($\geq$0.61).
- MIC_BANDSREDUCED is a robustness check that collapses High and Extreme bands into a single High Band, creating a Low (0)–Medium (1)–High (2) comparison.
- MICPLACEBO: Randomly-generated military inequality coefficients for each belligerent as a robustness check.

Coding teams collected two types of data to construct military inequality coefficients for all 825 belligerent observations. First, we took snapshots of each army's ethnic composition by calculating the proportion represented by each group among ground forces on the eve of war. We included all ethnic groups that represented greater than one percent of the army's personnel. For standing armies, we timed our snapshot to one year before the war to minimize the chance that leaders, anticipating conflict, rigged their armies to avoid future problems among restive ethnic groups. For non-standing armies, as well as expeditionary forces constructed to deal with emergent threats, we measured ethnic composition on the eve of the war's first battle, as the opposing sides marshaled for armed combat.[30] In all cases, we include only ground forces in our calculations. We also incorporate colonial forces, auxiliaries, and volunteers from other states or groups if they served

[30]For example, we code the ethnic composition of General Gordon's Relief Expedition to Khartoum (1884-85) during the First Mahdi War, not the entire UK Army, using 1884 as a measurement benchmark. As a result, the same belligerent, usually a colonial power, can have sharply different military inequality coefficients depending on the location of hostilities. Staying with the UK example, its forces had radically different ethnic composition during the near simultaneous Boxer Rebellion (1900) in China and War of the Golden Stool (1900) against the Ashanti Empire.

under the belligerent's command. We cast our net wide, drawing on a variety of sources to construct these demographic data. These include official histories,[31] regimental narratives,[32] formal orders of battle and tables of organization for units at the opening battle,[33] casualty lists,[34] and contemporary reports on the composition of enemy forces by military intelligence,[35] participating soldiers,[36] and enterprising journalists on the battlefield.[37] To reduce imprecision arising from contradictory estimates and missing information, we identified high, low, and mean estimates of each ethnic group's demographic weight, expressed as a percentage of total forces.

Second, we coded the state's prewar treatment of each ethnic group according to the three-fold typology outlined in the theory chapter. Inclusion, defined as the absence of state-orchestrated group-based discrimination or violence, was assigned a 0 value. All forms of state-directed discrimination, including political, economic, and within the military itself, was given a 0.5 value. The use of collective coercion and violence by the state against a specific ethnic group was assigned a value of 1. If an ethnic group was subjected to multiple forms of collective punishment, we assigned a 1 value. We generated our narratives of state treatment from political histories of these belligerents. For the post-1945 era, we cross-validated our accounts of ethnic treatment with data contained in the Ethnic Political Relations (EPR) and Minorities at Risk (MAR) datasets. We did not impose a minimum threshold for collective violence. In practice, however, we are capturing bouts of collective violence large enough to be visible in primary documents or secondary sources. These events tend to skew toward large-scale state-directed campaigns rather than one-time events. We anchored our measurement of state treatment in the five years preceding the war; that is, we scanned for evidence of state treatment prior to the war but not in the distant past. This coding rule ensures that exposure to state discrimination or repression was recent (or still ongoing) for soldiers as they marched into battle. Consistent with the book's argument, we do not assume that intergenerational trauma is at work. Instead, it is the recent lived experience of these soldiers that matters for how they regard the terms of their military service and their willingness to fight and die for the regime.

With these two types of data in hand, the construction of the military inequality coefficient (*Military Inequality*) is straightforward. We simply interact each ethnic group's share of the army with its prewar treatment by the regime and sum the totals, creating a point estimate somewhere along a scale that ranges from 0 (perfect equality) to 1 (perfect inequality).[38] We do so for high and low estimates for each ethnic group, thereby

[31] See, for example, Airapetov 2014, 2015*a*,*b*.

[32] See, for example, Bruce 1906.

[33] See, for example, Haythornthwaite 2007.

[34] See, for example, Lopukhovsky and Kavalerchik 2017.

[35] See, for example, Burton 1908.

[36] See, for example, McCormick 1859.

[37] See, for example, Hardman 1860.

[38] The formula is $\sum_{i=1}^{n} pt_i$, where p is the ethnic group's share of an army's prewar strength, t represents the nature of the regime's prewar treatment of a specific group, where possible values are 0, 0.5, 1, representing

constructing high and low estimates of *Military Inequality* for each belligerent.

4.1 Ethnic Groups

"Ethnicity" is defined here as an identity category in which descent-based attributes are necessary for membership. More specifically, for coding purposes I adopt the AMAR ("All Minorities at Risk") definition of ethnic group. It has five traits:

1. Membership in the group is determined primarily by descent by both members and non-members.

2. Membership in the group is recognized and viewed as important by members and/or non-members. The importance may be psychological, normative, and/or strategic.

3. Members share some distinguishing cultural features, such as common language, religion, occupational niche, and customs.

4. One or more of these cultural features are either practiced by a majority of the group or preserved and studied by a set of members who are broadly respected by the wider membership for so doing.

5. The group has at least 100,000 members or constitutes one percent of a country's population.

We can use the AMAR dataset (available here: `http://www.mar.umd.edu/data/amar/amar_ethnic_groups_list_january_2015.xls`) as the template for possible ethnic groups within a belligerent's military. These data run from 1945. The AMAR website, with links to published work, is here: `http://www.mar.umd.edu/amar_project.asp`

The article of record is here: Birnir, Jhanna K., Jonathan Wilkenfeld, James D. Fearon, David Laitin, Ted Robert Gurr, Dawn Brancati, Stephen Saideman, Amy Pate, and Agatha S. Hultquist. 2015. "Socially relevant ethnic groups, ethnic structure and AMAR." *Journal of Peace Research* 52(1): 110-115.

- NGROUPS denotes the number of ethnic groups within the army at the eve of war with at least one percent representation in the army.

- LOGNGROUPS denotes the number of ethnic groups (logged) within the army at the eve of war with at least one percent representation in the army.

inclusion, discrimination, and repression, respectively, and n is the number of ethnic groups in the army.

4.2 Prewar Regime Treatment

Assign one of three values to each ethnic group within the military. Inclusion refers to the absence of any ethnic-based criteria for military service; all citizens all eligible to join the military and face no restrictions in their promotion or nature of their service. Marginalization describes a situation where an ethnic group is singled out by the state for discrimination along ethnic lines. An ethnic group's members may be barred from serving as officers; may be underrepresented in certain branches; or find themselves isolated in particular service branches (possibly in logistics units in the rear). Repression describes a situation where an ethnic group not only faces discrimination within the military but also has suffered in the recent past active violence by the state. That is, an ethnic group has been targeted for violence, including forced population movement, deliberate starvation, mass killing, and even genocide, within the past 5 years. This violence must be state-orchestrated.

Table 2: Prewar treatment of ethnic groups

Type	Details	
	Description	Value
Inclusion	No ethnic-based restrictions on military service	0.0
Marginalization	Ethnic-based discrimination within society (including military service)	0.5
Violence	Ethnic-based repression within society	1.0

4.3 Ranges

Note that it may not be possible to identify exact percentages for each ethnic group within the military. In that case, it is acceptable to provide a range of low and high estimates for an ethnic group's share of the overall military. In doing so, ensure that the overall totals for the military sum to 100% and that the military inequality coefficient is between 0 and 1. Coders must provide the estimated low and high military inequality coefficient; the names of each ethnic group; their estimated proportion of the military; and their regime treatment (inclusion, marginalization, or repression). Sources must be included as well.

4.4 Examples

1. Example: Army A is comprised of two ethnic groups that each represent 50% of the army in the year before the war; the regime has an inclusionary vision of the

national community and neither ethnic group is subjected to discrimination (within the military) or repression (within society). So: .50(0) + .50(0) = 0. This represents perfect inequality but is likely to be fairly rare in the dataset.

2. Example: Army is comprised of three ethnic groups. Group A is 50% of the army and is treated favorably by the regime; Group B is 30% and faces discrimination within the military; Group C is 20% of the military and harshly repressed by the government. So we calculate: .5(0) + .3(.5) + .20(1) = 0.35.

3. Example: Army is comprised of four ethnic groups: Group A is 20% and is favored by the regime; Group B is 15% and discriminated against; Group C is 50% and harshly repressed; and Group D is 15% and harshly repressed as well. So we calculate: .2(0) + .15(.5) + .5(1) + .15(1) = 0.725. This represents likely near the threshold for military inequality in a given army.

4.5 Sources

Coders should draw on scholarly monographs and published articles to find this information. Above all, the most useful sources are the military's own Tables of Organization. Specialized texts on the belligerent's army, rather than more general books about the war itself, are likely to prove useful and will make searches more efficient.

4.6 Bands of Inequality

To soften the issues arising from measurement difficulties, I constructed a second measure, *Bands of Inequality*, that assigns belligerents to one of four "bands" based on their *Military Inequality* coefficients. These bands are Low (0-0.20), Medium (0.21-0.40), High (0.41-0.60) and Extreme ($\geq$0.61). This simple classification scheme reduces bias from measurement era while providing a natural grammar for speaking about the magnitude of inequality across belligerents. I use *Bands* as both a sensitivity check for *Military Inequality* and a simple way of interpreting how each increase in the "dosage" of inequality affects battlefield performance.

4.7 Exceptions and Difficult Cases

We are interested only in the regular ground forces of each belligerent. Air forces, navies, and interior ministries (and other paramilitary formations) are excluded. Measurement of the military inequality coefficient must be taken one year prior to the war. There are three exceptions to that rule, all of which have the same solution:

1. Colonial armies that are recruited in the field from local populations rather than sent directly from the colonial metropole

2. Non-standing armies that are mustered for an offensive or to meet an invasion

3. New states that did not have a standing army a year prior to hostilities (often the case in wars of independence)

In these instances, coders should take the measurement at (or ideally before) the first major battle of the war. Coders should endeavor to include as much of the belligerent's army as possible. For example, coders should include not just the forces engaged in the battle but reserve formations and other forces that did not participate in that particular battle. This ensures that we have as representative a cut of the military as possible, avoiding possible selection bias in which formations were selected for the first battle.

4.8 Exception #1: Colonial Armies and the Colonial Penalty

Empirical reality is messy, of course, and often works to confound our tidy coding protocols. First, colonial armies, that is, formations staffed principally by soldiers drawn from colonies, pose a particular conceptual challenge, standing at odds with standard renditions of armies as national in character. Put simply, what to do with soldiers of empire? Should Senegalese *tirailleurs* in French service, Eritrean *askari* in Italian employ, and the diverse soldiers of British West Indies and Bengal Army regiments be treated as members of the political community? On the one hand, these soldiers, as second-class colonial subjects, clearly faced ethnic discrimination (or worse), including the inability to command their own units and, of course, access the upper reaches of political power. On the other hand, these soldiers, often volunteers, were usually drawn from groups that enjoyed a greater share of prestige ("martial races") and political power within the colonial possession, suggesting a relatively higher degree of inclusion than other, less favored, groups. To square this circle, I calculated the *Military Inequality* scores for these armies: once with colonial groups treated as included and assigned a 0 for state treatment, and once as discriminated against, with a 0.5 value assigned. This decision rule has the effect of adding a penalty for colonial status even if these soldiers were (relatively) privileged in their colonial political communities.

4.9 Exception #2: Independence Wars

Second, some belligerents declared their independence on the eve of war — indeed, it may have been the precipitating event — or during its opening days. As a result, these independence-seeking belligerents lack the political history necessary for evaluating their treatment of ethnic groups within their boundaries. When confronted with a belligerent fighting in the first few years (or days) of its existence, we sought to code its initial treatment of ethnic groups from its first days regardless of whether it survived the war. In doing so, we sought as much temporal separation between the state's treatment of its constituent ethnic groups and the war's opening as possible to prevent inequality being driven by wartime dynamics. We also designated these belligerents with an indicator variable (War Birth, see below) to demarcate them from the rest of the Project Mars universe for additional robustness checks.

5 Dependent Variable: Battlefield Performance

Following the book's conceptual and theoretical discussions of battlefield performance, I draw on five specific measures to test the relationship between military inequality and wartime outcomes. These include: (1) a belligerent's loss-exchange ratio and, specifically, whether its LER drops below parity; (2) the incidence of mass desertion and (3) mass defection; (4) the use of blocking detachments; and (5) a composite battlefield performance index (BPI) that aggregates these four measures into a single family index. I detail each below.

5.1 Loss-Exchange Ratio

Loss-exchange ratios are defined as the relative distribution of casualties inflicted versus suffered by a belligerent (or coalition) during a war. More specifically, loss-exchange ratios are calculated as the number of enemy soldiers killed by a belligerent divided by the number of soldiers lost by that belligerent to enemy fire.[39] A LER above one therefore indicates that a belligerent is inflicting greater losses than it is suffering; a one designates parity; and values below one denote that the belligerent's forces are suffering greater casualties than they are inflicting. Care was taken when collecting data to concentrate only on soldier fatalities. Wounded soldiers, prisoners of war, missing individuals, and deaths from disease, a particular problem during the early modern era, were excluded from these counts to the best of our abilities. Civilian deaths, too, were excluded; these ratios are meant as a measure of force-on-force killing, not as an index of the lethality of the war itself. We generated high, low, and mean LER estimates for each belligerent or coalition to reduce sensitivity to competing fatality claims and reporting inaccuracies.

In the analyses for *Divided Armies*, I rely on two measures: LOG_LERMEAN and BELOWPARITY to capture relative killing proficiency. I include a host of other measures as robustness checks or as additional variables.

- KIALOW: The number of soldiers killed in battle over the course of the war. Excluded from this total are missing soldiers as well as those who died from illness and/or disease. This is the low estimate of those who were killed. If the combatant was fighting across multiple fronts (i.e. Germany in WWII), disaggregate the total by front (i.e. Western, Eastern, etc.).

- KIAHIGH: The number of soldiers killed in battle over the course of the war. Excluded from this total are missing soldiers as well as those who died from illness and/or disease. This is the high estimate of those who were killed.

- LER_ LOW: In 2 combatant wars, simply A/B using the low estimate for KIA. In 2+ combatant wars, we estimate the KIA from the entire enemy coalition (B+C+D)/A,

[39] For coalitional wars, each coalitions's combined loss-exchange ratio is used instead of each belligerent's due to difficulties in assigning responsibility for inflicting casualties during a multiparty campaign or war.

where A equals the individual combatant (not A's coalition). Advantage is that it singles out the performance of A rather than combining its performance with other coalition members. Disadvantage? It assumes that A killed all the enemy soldiers in B+C+D, potentially seriously overestimating its combat effectiveness, especially if it was a relatively minor player in the war in terms of soldiers deployed or soldiers lost (or both); will lead to huge estimates of loss exchange ratios and, in some cases, positive LER (i.e. greater than 1) for all combatants in the war.

- LER_ HIGH: In 2 combatant wars, simply A/B using the high estimate for KIA. In 2+ combatant wars, we estimate the KIA from the entire enemy coalition (B+C+D)/A, where A equals the individual combatant (not A's coalition). Advantage is that it singles out the performance of A rather than combining its performance with other coalition members. Disadvantage? It assumes that A killed all the enemy soldiers in B+C+D, potentially seriously overestimating its combat effectiveness, especially if it was a relatively minor player in the war in terms of soldiers deployed or soldiers lost (or both); will lead to huge estimates of loss exchange ratios and, in some cases, positive LER (i.e. greater than 1) for all combatants in the war.

- LER_MEAN Average of LER_ LOW and LER_ HIGH.

- LOG_LERMEAN Average of LER_ LOW and LER_ HIGH, logged.

- CLER_LOW: Sometimes existing accounts do not separate KIA from wounded in action (WIA) or disease-inflicted casualties. Instead, they lump together these data in "casualty totals." Following KIALOW1000, record the lowest estimate for total fatalities from all causes during the war. If the combatant was fighting across multiple fronts (i.e. Germany in WWII), disaggregate the total by front (i.e. Western, Eastern, etc.).

- CLER_HIGH: Sometimes existing accounts do not separate KIA from wounded in action (WIA) or disease-inflicted casualties. Instead, they lump together these data in "casualty totals." Following KIALOW1000, record the highest estimate for total fatalities from all causes during the war. If the combatant was fighting across multiple fronts (i.e. Germany in WWII), disaggregate the total by front (i.e. Western, Eastern, etc.).

- CLER_ LOW: Treats coalitions as collective combatants, so LER is simply Coalition A/Coalition B using the low estimates of KIA. Advantage: far more reasonably LER. Disadvantages: Can bury a combatant's poor performance (or obscure an exceptional one) if it has good/bad allies.

- CLER_HIGH: Treats coalitions as collective combatants, so LER is simply Coalition A/Coalition B using the high estimates of KIA. Advantage: far more reasonably LER. Disadvantages: Can bury a combatant's poor performance (or obscure an exceptional one) if it has good/bad allies. These values are logged. low: Treats

coalitions as collective combatants, so LER is simply Coalition A/Coalition B using the low estimates of KIA. Advantage: far more reasonably LER. Disadvantages: Can bury a combatant's poor performance (or obscure an exceptional one) if it has good/bad allies.

- CLER_MEAN Average of CLER_ LOW and CLER_ HIGH.

- LOG_CLERMEAN Average of CLER_ LOW and CLER_ HIGH, logged.

- FLERALOW: Belligerent A KIA/Totally Deployed for Belligerent A divided by Belligerent A KIA/Totally Deployed for Belligerent A + Belligerent B KIA/Totally Deployed for Belligerent B. Weighted by total soldiers deployed (i.e. casualties as percentage of deployed forces for that combatant versus casualties as percentage of deployed forces of all combatants). This is the low estimate for fractional LER for a particular belligerent.

- FLERAHIGH: Belligerent A KIA/Totally Deployed for Belligerent A divided by Belligerent A KIA/Totally Deployed for Belligerent A + Belligerent B KIA/Totally Deployed for Belligerent B. Weighted by total soldiers deployed (i.e. casualties as percentage of deployed forces for that combatant versus casualties as percentage of deployed forces of all combatants). This is the high estimate for fractional LER for a particular belligerent.

- FLERBLOW: Coalition A KIA/Totally Deployed for Coalition A divided by Coalition A KIA/Totally Deployed for Coalition A + Coalition B KIA/Totally Deployed for Coalition B. Was FLERB(low and high). Weighted by total soldiers deployed (i.e. casualties as percentage of deployed forces for that coalition versus casualties as percentage of deployed forces of all coalitions). This is the low estimate for a particular belligerent.

- FLERBHIGH: Coalition A KIA/Totally Deployed for Coalition A divided by Coalition A KIA/Totally Deployed for Coalition A + Coalition B KIA/Totally Deployed for Coalition B. Was FLERB(low and high). Weighted by total soldiers deployed (i.e. casualties as percentage of deployed forces for that coalition versus casualties as percentage of deployed forces of all coalitions). This is the high estimate for a particular belligerent.

- BELOWPARITY: Denotes whether a belligerent experienced a loss-exchange ratio (as defined by LOG_LERMEAN) of <1.

- BELOWPARITY2: Denotes whether a coalition experienced a loss-exchange ratio (as defined by LOG_LERMEAN) of <1.

5.2 Mass Desertion

Desertion is defined here as the unauthorized wartime withdrawal of soldiers, including entire units, from the battlefield or adjacent rear area with the intention of permanently abandoning the fight. Withdrawal can take two forms. Soldiers may attempt to return to their prewar life by hiding among the civilian population to escape state authorities. Renegade soldiers may also resort to brigandage in rear areas, or even at home, without coordinating with enemy forces. This definition excludes several types of behavior often conflated with desertion. Temporary absences, as when soldiers head home to plant or harvest crops, usually with tacit official approval, but then return when these duties are discharged, are excluded. Such practices were routine among Confederate soldiers during the American Civil War, for example.[40] Trench mutinies, including those that swept through nearly half the French Army after the disastrous Second Battle of Aisne (1917), are also excluded, as soldiers rebelled in place but did not abandon their posts.[41] Refusals to serve, as well as collective protests, are also excluded from this conceptualization. I also distinguish between mass desertion and simply chaotic retreats, where formations collapse under enemy pressure and their soldiers scatter temporarily before reconstituting their units to continue fighting. Libyan forces fighting in the 1978-79 Uganda-Tanzania War were known for their disorganized retreats, for example. Far from home, however, these forces eventually regrouped rather than risk mass desertion among hostile local populations.[42] Note that the estimate is taken from the total deployed forces and that desertion need not occur in a single episode (e.g., it can be cumulative).

- Mass Desertion is therefore coded as occurring when $\geq$10 percent of an army's total deployed forces has decamped for home without authorization. This threshold is a pragmatic compromise designed to separate small-scale individual desertions that afflict nearly every army from large-scale desertion that can cripple war efforts. The variable takes one of two quantities: no mass desertion (0) and mass desertion (1).

5.3 Mass Defection

In similar fashion, I measure *Mass Defection* as a dichotomous variable indicating whether $\geq$10 percent of a belligerent's fielded force switched sides during the war with the intention of taking up arms against their former comrades. I exclude side-switching by prominent military commanders if they acted alone. While these defections are important, commanders can shift allegiance for a variety of motives — personal enrichment and safety among them — that do not necessarily apply to the rank and file. In this view, mass defection is a particularly difficult act to complete successfully. Would-be defectors must evade their own fellow soldiers and then cross enemy lines, risking sanction by both sides. For some wars,

[40]Enough soldiers deserted and remained absent, however, to exceed the 10 percent threshold for mass desertion. See Weitz 2005.

[41]Pedroncini 1983; Doughty 2008, 510.

[42]Pollack 2002, 373.

mass defection may not be a realistic proposition. Suspicious commanders can station potential defectors well away from frontlines while inflating the risks of defection, curbing enthusiasm. Enemy forces may not take prisoners or may treat them poorly, foreclosing this option. Desertion and defection are thus often substitutes, rather than complements, for at least some soldiers and wars. Indeed, consigning potential defectors to rear areas may reduce defection opportunities while increasing the odds of successful desertion.

- DEFECT: Mark a "1" in the column if some portion of an army (up to and including all of it) defect to the opposing side; mark a "0" otherwise. For the purposes of this study, we define "substantial" numbers of soldier as 10% of the total deployed force or greater.

5.4 Blocking Detachments

I also constructed a dichotomous measure, *Blocking Detachments*, that records whether a belligerent deployed specialized armed formations to monitor and sanction its own officers and soldiers during wartime. These formations have five properties. First, these units are formally authorized by senior commanders; they represent official policy even if their origins can be traced to informal practices adopted haphazardly by frontline officers. Second, blocking detachments are typically stationed in the immediate rear of deployed forces to prevent unauthorized withdrawal and to prod reluctant soldiers into attacking. These units do not normally engage enemy forces, instead saving their fire for fellow soldiers. Third, these units have the formal authorization and military capacity to threaten and punish soldiers on their own remit. Potential sanctioning mechanisms include the forced return of soldiers to their units, dragooning into penal battalions, and execution, oftentimes in front of a soldier's comrades. In some cases, blocking detachments have the capacity to punish soldiers' families. Fourth, these units act as barriers between soldiers and rear areas, inhibiting the flow of information about battlefield progress and homefront conditions. Finally, while exceptions do exist, these units are usually staffed by personnel chosen for their perceived loyalty. The Zhili Clique fielded a special unit of exclusively child soldiers (the *Du Jun Dui*) to shoot deserters with cannon fire in its 1925 war against the Fengtian Clique in China, for example.[43]

I did not impose a minimal requirement for personnel size or fatalities inflicted by blocking units. Instead, three criteria were used to decide whether armies deployed blocking units. First, formal orders creating these units were issued by senior political or military officials. Second, these units were actually deployed on the battlefield in at least one major engagement;. Third, these units executed soldiers, whether in a formal setting (i.e. a tribunal) or via shooting or bombardment during battle to stem desertion, block retreat, or drive soldiers forward.[44]

[43] Guo and Qingchang 2003, 316.

[44] Variation in the size, organization, and lethality of these units is an important area for future research.

Note that these are campaign specific codings: a belligerent might elect to field blocking detachments in one campaign but not in another. Codings should therefore reflect usage in a particular campaign.

- BLOCKING: Denotes the presence (1) or the absence (0) of wartime blocking detachments in a given belligerent's army.

5.5 Battlefield Performance Index (BPI)

I constructed a summary measure, *Battlefield Performance Index (BPI)*, that pools these four measures into a single index.

- BPI ranges from 0 to 1, where 1 denotes maximal battlefield performance, 0 indicates disastrous performance, and the presence of each of these four "pathologies" (*LER Below Parity*, *Mass Desertion*, *Mass Defection*, and *Blocking Detachments*) results in a 0.25 penalty subtracted from the belligerent's BPI score. Thus a 0.75 BPI value indicates the presence of one problem; a 0.50, two problems; a 0.25, three problems; and a 0, the presence of all four problems within the belligerent's army during the same war. More than simply a convenient summary index, *BPI* integrates elements of combat power and cohesion while capturing the intuition that these wartime behaviors may be correlated, at least partially, with one another.

- BPI50 range from 0 to 1, where 1 denotes that a belligerent had score a BPI value $\leq$.50 and a 0 that the belligerent had scored above a .5 on the BPI. This is a simple measure that denotes especially poor performance by a belligerent. It is used as a robustness measure that is less sensitive to coding decisions for each of the component measures of the BPI.

- INDEX: A simple count variable that records the number of "pathologies" (*LER Below Parity*, *Mass Desertion*, *Mass Defection*, and *Blocking Detachments*) present in a belligerent's army in a given war/campaign. It ranges from 0 to 4.

I also constructed a set of simple descriptive variables to track possible patterns in these pathologies:

- BELOWDESERT: An indicator variable denoting whether a belligerent experienced both *LER Below Parity* and *Mass Desertion* in the same war/campaign.

- BELOWDEFECT: An indicator variable denoting whether a belligerent experienced both *LER Below Parity* and *Mass Defection* in the same war/campaign.

- BELOWBLOCKING: An indicator variable denoting whether a belligerent experienced both *LER Below Parity* and *Blocking Detachment* in the same war/campaign.

- DESERTDEFECT: An indicator variable denoting whether a belligerent experienced both *Mass Desertion* and *Mass Defection* in the same war/campaign.
- DESERTBLOCKING: An indicator variable denoting whether a belligerent experienced both *Mass Desertion* and *Blocking Detachment* in the same war/campaign.
- DEFECTBLOCK: An indicator variable denoting whether a belligerent experienced both *Mass Defection* and *Blocking Detachment* in the same war/campaign.

6 Variables: Additional Explanations

Project Mars also built or extended measures to test leading competing explanations for battlefield performance.

6.1 Regime Type

- POL2: This 21-point scale (+10 for complete democracy, -10 for complete autocracy) is drawn from the pol2 indicator of the Polity IV dataset. For COW countries, the pol2 score is taken the year prior to the war's initiation. For non-COW countries, coding instructions are provided by the Polity IV manual and values for "democ" and "autoc" assigned. The 21-point scale is thus derived from the combination of the "democ" and "autoc" scores and is recorded the year prior to the war. In some instances, the government did not exist a year prior to the war, and so the measurement is taken as close to the war's initiation as possible. The Polity IV website is found here: `http://www.systemicpeace.org/polity/polity4.htm` and the coding manual is here: `http://www.systemicpeace.org/inscr/p4manualv2010.pdf`.
- DEMO7: A dummy variable where a "1" signifies that a belligerent has a POL2 value of $\geq$7; a "0" if otherwise.
- DEMO6: A dummy variable where a "1" signifies that a belligerent has a POL2 value of $\geq$6; a "0" if otherwise.
- AUTOC7: A dummy variable where a "1" signifies that a belligerent has a POL2 value of between -7 and -10; a "0" if otherwise.
- POL21: Reports the raw 21-point scale (+10 for complete democracy, -10 for complete autocracy) is drawn from the textscpol2 indicator of the Polity IV dataset. It is recorded to read from 0 (complete autocracy) to 21 (full democracy) following Reiter and Stam (2002).
- OPPDEMO7: A summy variable denoting whether a belligerent was fighting a democracy, defined here as a belligerent with a POL2 value of $\geq$7.

6.2 Material Power/Preponderance

- TMILPER: Total military personnel in a belligerent"s standing army, *in thousands*, and measured in the year prior to the war's beginning. In cases of a colonial army (i.e. East India Company, Dutch Colonial Army, Dutch East Indies Company), these forces should be considered part of the state's standing army. Note that if an army has 365,000 soldiers, it should be recorded as "365" in the dataset (i.e. in thousands).

- INITIALLY_DEPLOYED: Recored in thousands the number of soldiers deployed by an army at the outset ("AO" or "at outset") of the war. Note that this figure may be much smaller than tmilper (as in many colonial wars), it may be the same, or it may be larger (as armies ramp up to meet a threat). AO is measured between the time that hostilities are declared (if relevant) and the first major engagements begin, including all call-ups and reinforcements occurring before the first significant battle but NOT those occurring after it. Note that we provide both low and high estimates for each belligerent.

- TOTAL_ DEPLOYED: The aggregate number of soldiers, in thousands, who participated in the war. Note that we provide estimates for low and high numbers of total soldiers who fought in the war.

- RELPOWER: The percentage of *initially deployed forces* that belligerent A possesses of all deployed forces in that particular war or campaign. Formula:

$$\frac{A}{A+X}$$

  where: X = all other countries fighting in the war

  Note that we provide low and high estimates.

- RELPOWER2: The percentage of *total deployed forces* that belligerent A possesses of all deployed forces in that particular war or campaign. Formula:

$$\frac{A}{A+X}$$

  where: X = all other countries fighting in the war

  These two measures are closest in spirit to the operationalization in Reiter and Stam 2002 (41), which defined relative capabilities as "each actor's military and industrial

capabilities as its proportion of all the capabilities available to all the war's participants. We use COW's composite capabilities index as our indicator of national capabilities."

Note that we provide low and high estimates.

- ALLYPOWER: The percentage that Side A's *initially deployed forces* represent of all initially deployed forces in that particular war or campaign. Formula:

$$\frac{SideA}{SideA + SideB}$$

where *Side A* equals Combatant A and its allies;
where *Side B* equals Combatant B and its allies;

Note that we provide low and high estimates.

- ALLY POWER2: The percentage that Side A's *total deployed forces* represent of all total deployed forces in that particular war or campaign. Formula:

$$\frac{SideA}{SideA + SideB}$$

where *Side A* equals Combatant A and its allies;
where *Side B* equals Combatant B and its allies;

Note that we provide low and high estimates.

- RELPOWERLOW: initially deployed low of belligerents in this row/ sum initially deployed low of all belligerents in campaign
- RELPOWERHIGH: initially deployed high of belligerents in this row/ sum initially deployed high of all belligerents in campaign
- RELPOWERLOW2: totally deployed low of belligerents in this row/ sum totally deployed low of all belligerents in campaign
- RELPOWERHIGH2: totally deployed high of belligerent in this row/ sum TD high of all belligerents in campaign
- ALLYPOWERLOW: Initially deployed low of all belligerents in one coalition / initially deployed low of all coalitions

- ALLYPOWERHIGH: Initially deployed high of all belligerents in one coalition / initially deployed high of all coalitions
- ALLYPOWERLOW2: Total deployed (low estimate) of all belligerent in one coalition / totally deployed low of all coalitions
- ALLYPOWERHIGH2: Total deployed (high estimate) of all belligerents in one coalition / totally deployed high of all coalitions
- RELPOWERMEAN: Belligerent's relative share of initially deployed forces (mean estimate)
- RELPOWER2MEAN: Belligerent's relative share of total deployed forces (mean estimate)
- ALLYPOWERMEAN: Coalition's share of initially deployed forces (mean estimate). If belligerent fought alone, then this is the same as RELPOWERMEAN.
- ALLYPOWER2MEAN: Coalition's share of total deployed coalition forces (mean estimate). If belligerent fought alone, then this is the same as RELPOWERMEAN2.

6.3 Army Type and Recruitment

Project Mars also aimed to classify the type of military that each belligerent deployed in these conventional wars. This section provides an overview of the typology; the definitions for each type of army and how they should be measured; and a list of non-standard combatants (i.e. those who are "new" to this coding effort and are therefore less likely to be readily identified).

The project uses a 7-fold typology of militaries (see Table 3). There are three types of armies that recruited from the state's own population (*Internal Recruitment*). There are four types of armies that are recruited (or coercively mobilized) from outside the state's formal boundaries (*External Recruitment*).

6.4 Definitions

- Volunteer: Characterized by its reliance on volunteers, rather than conscripts or coerced individuals, to provide both the officer corps and the rank-and-file. Contract-based recruitment, including the use of attractive pay and benefits, is also considered a "voluntary" form of recruitment as long as coercion is not used to enforce volunteerism. The post-1973 US Army is one example of a voluntary army. There are two basic types of volunteer army: (1) an internally-recruited one, in which all or nearly all volunteers are drawn from the belligerent's own population; and (2) so-called auxiliary armies that are comprised of volunteers from a colonial possession (i.e. the *Gukhas* in today's British Army), a neighboring state or population (i.e.

Table 3: Typology of Armies, 1800-2011

*Internal Recruitment**		*External Recruitment†*	
Code	Type	Code	Type
1	Volunteer	4	Volunteer
2	Conscript	5	Conscript
3	Coerced	6	Coerced
		7	Mercenary

Note: * refers to recruitment that solely occurs within the confines of the belligerent state, thus excluding all colonial possessions unless these are politically and legally part of the metropole. † refers to recruitment that occurs within a colonial territory, among populations that neighbor the belligerents, or that are hired from third-party states.

the Eritrean *askari* that sided with the Italians against the Ethiopians in the Italo-Abyssinian War of 1935-36), or from interested third party groups or individuals who are attracted to a side for ideological cause (i.e. the International Brigades during the Spanish Civil War.)

- Conscript: Refers to a military that requires compulsory service for all or some subset of a state's population. The length of service, as well as its universal/selective nature, can be highly variable across this type of army. All, however, share the practice of mandating military service rather than relying on volunteers. Again, there are several types: (a) Mass conscription from within the belligerent's own population (i.e. Tsarist Russia's policy of 25-year conscript service), (b) the presence of legislation mandating the conscription of a certain age/gender bracket, or (c) conscription from colonial possessions and/or neighboring states who have "seconded" their forces to the principal belligerent's army (i.e the Italian Expeditionary Corps in Russia (CSIR) and the Italian Army in Russia (ARMIR) that were based on mass conscription and that allied with the Nazi effort on the Eastern Front in World War Two).

- Coercion: Refers to a military that relies on coercion to force individuals to join the military. Historically, this has taken several different forms, including: (1) feudal quotas, under which certain leaders (barons, dukes, etc.) are tasked with raising soldiers from "their" populations as contributions to the broader war effort (this is also known as a "fractal system" — see, for example, post-1860 Sokoto Caliphate, or much of Europe until Napoleon's introduction of the levee en masse); (2) slavery as a product of the political system itself or from raiding nearby populations for this purpose (i.e. 18th Century Ottoman practices); and (3) the use of captured

prisoners from earlier wars (i.e. the Mamluks). Again, there are two types: (1) internally mobilized forces, where coercion is directed solely against a state's own population; and (3) external mobilization, whereby these practices are used to levy forces from populations outside the state's political boundaries.

- Mercenary: Refers to an armed formation that is recruited from one or more parties (either state or non-state entities) on a contractual basis for a specific war and for specific political objectives. These soldiers, while professional, are motivated by profit rather than commitment to a particular cause. Note that they may be drawn from the same state that they are fighting on the battlefield. As such, the distinction between internal and external recruitment does not hold, and these groups are considered external for the purposes of this study. These groups may be identified by a specific name or by their leader's name. The archetype here is the Italian Condottieri.

- PRIMARY TYPE: Using Table 1, denote which army type best captures the manner in which the majority (or, if no strict majority, the plurality) of soldiers in the army are recruited. An army that recruits the bulk of its soldiers via a forced quota system from neighboring populations would receive a "6," for example.

- SECONDARY TYPE: If a substantial subset of the army's soldiers are recruited via other means than that designated under "primary type," then use Table 1 to identify this second form of recruitment. For our purposes, a "significant" subset of soldiers is defined as between 10% to 49% of the prewar military. Note: To be considered, these soldiers must have served under the same command structure as the "primary type" soldiers; otherwise, they are better recorded as observations for the specific country in question rather than a subset of another's army. If there is no secondary type — that is, the army only has one form of recruitment — then mark a "."

- STANDING ARMY: Mark a "1" in the column if the army was a standing force, that is, it was a regular army that was permanently staffed and was not simply mobilized on the eve of the war. A "0" denotes a military that was mobilized specifically for the conflict from scratch (for the express purpose of fighting this war, then disbands after the war itself). If a combatant does not have a standing army, then by definition its TMILPER is a "0."

- COMPOSITE ARMY: Mark a "1" in this column if the army has a "secondary type;" mark a "0" otherwise (that is, the army is composed of a primary type of recruitment only).

- FULLVOLUNTEER: A "1" denotes that the primary army type is volunteer (1) and that there is no secondary type.

- DESCRIPTION: Provide a short description of the army's nature, including known composition of its forces (e.g. 60% Italian, 40% Eritrean) and its method of recruitment. This can be copied and pasted directly from the original source or paraphrased.

This can also function as a "notes" column if the note is relevant to the estimates that have been provided (e.g. "Danes mobilized 70 but only 47.389 on field at any one time").

6.5 Distance

- DISTANCEINKM: The distance in *kilometers* from the state's capital to the site of the first battle between the opposing armies. Here, STARTEVENT provides the information about where the first battle took place. GoogleEarth will calculate distances for you easily. First, open GoogleEarth (download it if you don't already have it). Next, click "Tools," then "Options." Under "Show Lat/Long," click "Decimal Degree." Under "Show Elevation," click "Meters, Kilometers." Then click "Okay." To measure distance, click the ruler on the top menu bar. Set the measurement to "Kilometers."

  To take a measurement, begin first with the capital city. Next, draw a line to the battlefield location indicated in the STARTEVENT column . Record the distance in the DISTANCE column, and in the TO/FROM column, mark the capital city and the site of the first battle. Finally, record the latitude and longitude of the battlefield location in the LAT and LONG columns. This information is provided for you in the lower right hand corner.

  Note, too, that you can use Google Earth's "fly to" function (top left corner) to "fly" to the battlefield, if you want. Just be sure that you are clear where the battle took place. Poland has moved three times in the last 200 years, for example, so be sure to look up the modern-day locations. In most cases, the capital cities have remained constant, but in some notable cases (Russia, for example), the capital city has moved, so be sure you have the right one. Again, Wikipedia and Clodfelter are your friends here.

  Let's try an example. Imagine a war that took place between the UK and France where the initial battle took place on the outskirts of Paris. Here, we begin with London and measure the distance to Paris (356 kilometers). In the TO/FROM column, we mark "London/Paris." Distance is "356." And the lat and long of the battlefield is 48.035 and -0.0625, respectively (note these are in decimal degrees, as set in the tools/options list). Note in this example that the correct answer for the France entry is *not* 356 but rather 1. That is, the distance from Paris to the battlefield would be 1km, not 356km.

- LOGDIST: The distance in logged kilometers from the state's capital to the site of the first battle between opposing armies.

6.6 Initiator Status and Regime Type Interactions

- INIT: Denote a "1" if the belligerent initiated the war; a "0" if otherwise. While it can be difficult to establish first-mover, we assign the "1" to the belligerent that openly attacked the other side and inflicted casualties; or that first moved across the border with the intent of seeking battle with the opponent's forces.

- JOINER: Following Downes (2009), a "1" denotes that the belligerent did not participate in the war's opening attacks but subsequently joined the war during its first ya

- DEMO7INIT: An interaction term between DEMO7 and INIT designed to test whether democratic initiators enjoy better battlefield performance.

- POL2INIT: An interaction term between POL2 and INIT designed to test whether more democratic initiators enjoy better battlefield performance.

- POL21INIT: An interaction term between POL2 and INIT designed to test whether more democratic initiators enjoy better battlefield performance.

- GP: Denote a "1" if the combatant was defined by the Correlates of War as a Great Power; a "0" if otherwise. The list of combatants and relevant time periods is recorded in Sarkees and Wayman 2010: 35 (Table 1.6, "Major Power system").

7 Variables: Periodization

- POST45: Denote a "1" if the war start year is 1945 or later; a "0" if otherwise.

- NAPWAR: Denote a "1" if the combatant observation is associated with the Napoleonic Wars; a "0" if not.

- WW1: Denote a "1" if the combatant observation is associated with World War One (1914-1918); a "0" if not.

- WW2: Denote a "1" if the combatant observation is associated with World War Two (1939-1945); a "0" if not.

- MODERN: We designate the "modern" era of warfare to begin in 1919. All observations from 1918 to 2011 should receive a "1;" all previous years will receive a "0."

8 Backwards Compatibility with Correlates of War

- NCOW3WAR: Mark a "1" if the war is not listed in the Correlates of War Interstate War Dataset, Version 3.0.

- NCOW4WAR: Mark a "1" if the war is not listed in the Correlates of War Interstate War Dataset, Version 4.0.

- NCOWCOMBT: Denote a "1" if the combatant is not a member of the COW classification scheme (that is, the combatant possesses a 4-digit ccode); a "0" if the combatant possesses a 3-digit ccode.

9 Additional War Characteristics

- CIVIL WAR: Denote a "1' if the war is between combatants who, prior to the war, were subject to the same political authority and where at least one side is either trying to establish political control of the metropole through violence or, alternatively, is attempting to secede from that political authority and establish its own state. The independence wars of South America during the 1810s-20s are one example; so, too, are the American Civil War, Russian Civil War, Spanish Civil War, and Chinese Civil War. All combatants who participate in a given civil war should been assigned a "1" value. I also include wars between two states that stemmed from a military intervention in one state's ongoing civil war. For example, Allied Intervention in the Russian Civil War; Syria intervening during Jordan's Black September; Lebanese War of 1982-84, Kosovo 1999, Russia-Georgia South Ossetia War 008. Minimum 500 battle deaths. Note that wars where the (potential) colonial power had a foothold but did not control the interior/periphery and then are attacked by the periphery are not considered civil wars (e.g., Boxer Rebellion, Mellila War). There are some borderline calls, especially with wars between two newly emergent states from a (third) collapsed empire (Russian, Austria-Hungary empires), so Polish-Ukraininan, Czech-Polish. Hungarian Adversaries War, Azeri-Armenian Wars don't count as civil wars but Lithuanian, Latvia, Estonian Wars of independence do (because they're fighting the old metropole). Soviet-Polish and Soviet-Georgia not included because Poland and Georgia already independent (not fighting for independence but acting as independent states).

- MULTIPARTY: Assigned a "1" if the war involved more than two belligerents.

- WARBIRTH: Assigned a "1" if the belligerent was in the process of state-building and war-fighting at the same time. This is often the case in wars of independence in which the declaration of secession/independence sparks a war. We operationalize WARBIRTH to denote a state fighting within two years of its formal declaration of independence.

- CASFLAG: Denote a "1" if evidence suggests that the war did not reach the 500 battle death standard imposed by CPW coding rules. All observations associated with the war should be assigned a "1."

- HIGHCAP: Assigned a "1" if the belligerent had few ground forces engaged in combat, relying instead on naval or air power to limit casualties. These high-capital strategies will affect both loss-exchange ratios and the possibility of desertion and defection by removing soldiers from the equation.

10 Treatment Indicators for Matched Analysis

For analysis using Coarsened Exact Matching (CEM) and two-control group comparison (see Figure 4.7, p.186), I divided the sample into treated and control groups:

- TREAT1: Compares low military inequality belligerents (as defined by MICBANDS to high + extreme belligerents. Low inequality are assigned a 0; high and extreme inequality belligerents are assigned a 1.
- TREAT2: Compares medium military inequality belligerents (as defined by MICBANDS to high + extreme belligerents. Medium inequality belligerents are assigned a 0; high and extreme inequality belligerents are assigned a 1.
- TREAT3 : Compares low + medium military inequality belligerents (as defined by MICBANDS to high + extreme belligerents. Low and medium inequality belligerents are assigned a 0; high and extreme inequality belligerents are assigned a 1.

11 Variables: Fixed Effects

- NAZI: Denote a "1" for all Nazi Germany observations; a "0" if otherwise.
- UK: Denote a "1" for all United Kingdom observations; a "0" if otherwise.
- FR: Denote a "1" for all France observations; a "0" if otherwise.
- USA: Denote a "1" for all USA observations; a "0" if otherwise.
- GER: Denote a "1" for all Germany observations; a "0" if otherwise.
- RUS: Denote a "1" for all Russia/Soviet Union observations; a "0" if otherwise.
- TUR: Denote a "1" for all Ottoman Empire/Turkey observations; a "0" if otherwise.
- REGIONAL DUMMIES: Regional dummy variables have been created for the following regions: Western Europe; Eastern Europe; Latin America; Sub-Saharan Africa; Asia; North Africa and the Middle East; and North America. Denote a "1" for the region where the bulk of the fighting took place for that particular war.
- DECADE DUMMIES: Decade dummies were created for every decade beginning in 1800-1810.

12 Adversarial Quantitative Coding: Red and Blue Teams

The construction of the Project Mars dataset went through two broad phases. First, a Blue Team of coders constructed initial estimates for all major variables using the procedures detailed below. Next, a Red Team, typically composed of a new set of coders, collected additional evidence and audited Blue Team's estimates.

Blue Team: We need to cast a wide net for sources to build Project Mars. Fortunately, we are aided in this ambitious endeavor by the digitalization of millions of books by GoogleBooks. Thousands of relevant volumes, many written by participants in these wars, help throw previously ignored or obscure wars and battlefield practices into sharper relief. Above all, we should be guided by a desire to draw on emerging historiographies about these belligerents and wars in non-English sources, a particular weakness of the existing Correlates of War dataset.

To the extent possible, we should conform to existing codebooks for certain variables to ensure compatibility. For example, we can use Polity IV for regime type[45] and Archigos[46] for leader turnover (1875-2004) for our new belligerents/wars. In some cases, this will be an uneasy compromise since these datasets did not necessarily anticipate the kinds of political regimes we encounter in Central Asian khanates, African confederacies, or in highly fluid newly independent states. In these cases, we will modify existing protocols to capture this diversity of regimes or of violent regime exit, to cite just two examples. In most cases, however, we will construct new variables that had no precedent. This is especially true for all our measures of battlefield performance, including mass desertion, defection, and the use of blocking detachments. This codebook outlines the procedures for recording these new data.

This codebook was initially constructed deductively. We then applied it inductively to a set of training documents designed to capture maximum variation across these variables. Once we were satisfied that the codebook was measuring the variable as intended, the "Blue Team" of coders moved through the documents to identify relevant information. We built a stopping rule into our plans; coders were asked to draw their estimates from 10 different sources before rendering judgment. For ordinal or continuous variables, the Blue team was asked to provide low, high, and mean estimates. All coders were blind to the book's core claims. Sources used to code these variables were inputting alongside their Project Mars entry to facilitate a subsequent round of fact-checking.

Red Team: Once the initial version of Project Wars was constructed, a "Red team" was tasked with auditing a random sample of entries for each variable. A minimum of 25 percent of all entries for a variable, and in some cases *all* entries, were cross-referenced by these teams. These adversarial coders probed for weaknesses in the sources, mistaken entries, misapplication of coding rules, and errors in interpretation. Table 4 outlines the variables and the depth of their audit.

[45] Jaggers and Gurr 2004.

[46] Goemans, Gleditsch and Chiozza 2009.

Table 4: Red Team Audit

Variable	% Randomly Audited
Military Inequality Coefficient	40%
Inclusion/Discrim./Repression	100%
Regime Type	50%
Killed in Action	40%
Mass Desertion	50%
Timing of Mass Desertion	50%
% Deserted	50%
Who deserted	50%
Mass Defection	50%
Timing of Mass Defection	50%
% Defected	50%
Who defected	50%
Blocking Detachments	40%

Audits continued until Blue and Red team coders reached 85 percent intercoder reliability on the selected cases. When teams disagreed, another round of data collection was often launched to reconcile competing codings. For example, an initial sweep of the evidence suggested that British and Egyptian officers may have used violence against their own soldiers to prevent desertion during the 1884-85 war against the Mahdiya. It was unclear from the collected materials, however, whether violence was a widespread practice, an isolated incident, or indeed if the incident actually occurred. We then dove into a new set of material solely for the purpose of answering this question. As it turned out, in this case the additional materials confirmed that British officers had used violence repeatedly, including during General Baker's defeat at El-Teb in 1884:

> The Egyptian calvary were the first to run... After shooting two of his men, Major General Sartorious succeeded in effecting a momentary halt; but the instant his back was turned they were off again in full flight... After having made his ineffectual effort to stop the calvary, Sartorious ordered Lieutenant Maxwell to gallop after them, already in full flight to Trinkitat, and try to rally them. Maxwell overtook them. He gave his instructions to the Egyptian officer in command. The latter would not even try to get his men together. He refused thrice. Maxwell then shot him through the head. He succeeded in

> rallying some forty or fifty men; but another band of fugitives coming up, swept them off as in a deluge. . . Officers were seen to shoot their own men for the sake of obtaining their horses. [At the river], many of the men waded into the sea in their eagerness to get off to the transports, and it was only by firing upon them with revolvers that the officers could induce them to return to shore, and wait for their turn to embark.[47]

12.1 Data Reliability

Of course, the depth and quality of data available is uneven across belligerents, wars, and time. Our evidence ranges from extremely detailed records compiled by a dedicated Bolshevik bureau about Red Army desertions (over two million) during the Russian Civil War to clipped passages referring to "widespread" or "endemic" desertion within a given army.[48] We sought to reduce measurement error for battlefield performance by triangulating across the belligerent's own estimates and those of the enemy to construct mean estimates of battlefield outcomes like desertion and defection.

Coders were also asked to assign one of the following four scores to the audited variables (see Table 5). These can be read as expressions of the collective confidence that the coders responsible for gathering and verifying these data jointly held. Coders were instructed to be conservative in their estimates of uncertainty.

Table 5: Data Reliability Scores

Score	Definition	Confidence
1	Limited evidence from secondary sources only; proportions are vague ("the majority of soldiers") or not otherwise available; estimates vary widely	Low
2	Some primary documentation but wide divergence in estimates	Medium
3	Extensive documentation from primary and secondary sources; convergence on general estimates of proportions but some differences remain	High
4	Official table of organization, service records, or census available; exact or nearly so estimates are available	Near certainty

We provided data quality assessments for the following variables:

[47] Royle 1886, 262-64.

[48] Compare, for example, Olikov (1926) and Mody (1988, 51-52) to see the wide divergence in evidence.

1. Military inequality coefficient: How confident are we in the MIC value? MIC_QC
2. Killed in action: How confident are we that the belligerent suffered above/below parity casualties? BELOWPARITY_QC
3. Desert: How confident are we that desertion ≥ 10 percent of deployed forces? DESERT_QC
4. Defect: How confident are we that defection ≥ 10 percent of deployed forces? DEFECT_QC
5. Blocking detachments: How confident are we that the belligerent deployed (or did not deploy) blocking detachments in the war? BLOCKING_QC

12.2 Reestimating Base Models with Quality Control Measures

Drawing on these quality control (QC) measures, we can reestimate the base models to check that the main results are robust to the exclusion of cases with questionable reliability.

In Table 6, I add MIC_QC to the full models used above. The central results hold in all specifications.

As a second robustness check, I reestimate these models but drop cases where MIC_QC equals 1 (Table 7), truncating Project Mars by removing the belligerents where we are least certain about the MIC score. In a third robustness check, I test for the sensitivity of the main findings by reestimating these models with only cases that scored $\geq$3 on the quality control index. In both cases, the central findings hold despite reducing the number of observations by 207 and 471, respectively.

In Table **??**, I reestimate full models with quality control measures for each of the four battlefield performance measures: BELOWPARITY, DESERTION, DEFECTION, and BLOCKING. I use two quality control measures for each dependent variable. I first drop all observations where the quality control index is 1 (indicating the lowest reliability observations for each measure). I also reestimate the models with only cases that scored $\geq$3 on the quality control index.

Table 8 reestimates all full models with additional quality control measures for each of the four dependent variables used. In Table 8, I reestimate all models in which observations have a $>$2 quality control score for each of the four dependent variables. In all models, MIC remains statistically significant and substantively important.

Table 6: Military Inequality and Battlefield Performance, 1800-2011: MIC Quality Control

	LER Below Parity	Mass Desertion	Mass Defection	Blocking Units	BP Index
	Model 1	Model 2	Model 3	Model 4	Model 5
MIC	$3.759^{\star\star\star}$	$5.512^{\star\star\star}$	$5.361^{\star\star\star}$	$4.188^{\star\star\star}$	$-0.812^{\star\star\star}$
	(0.651)	(0.578)	(0.639)	(0.728)	(0.066)
MIC_QC	0.066	−0.140	$-0.201^{\dagger}$	0.084	0.004
	(0.090)	(0.122)	(0.121)	(0.114)	(0.008)
Full Controls	✓	✓	✓	✓	✓
Constant	$-1.229^{\star}$	−0.655	$-3.237^{\star\star\star}$	$-2.867^{\star\star\star}$	$0.863^{\star\star\star}$
	(0.541)	(0.499)	(0.683)	(0.648)	(0.052)
Wald χ^2	$165.79^{\star\star\star}$	$167.25^{\star\star\star}$	$204.70^{\star\star\star}$	$106.49^{\star\star\star}$	
F Score					$28.76^{\star\star\star}$
(Pseudo) r^2	0.202	0.170	0.208	0.134	0.396
N	825	825	825	825	825

Note: Standard errors clustered on 229 belligerents. Models include all control variables used in full models. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 7: Military Inequality and Battlefield Performance, 1800-2011: Alternative MIC Quality Controls

	LER Below Parity		Mass Desertion		Mass Defection		Blocking Units		BP Index	
	QC >1 Model 1a	QC >2 Model 2a	QC >1 Model 3a	QC >2 Model 4a	QC >1 Model 5a	QC >2 Model 6a	QC >1 Model 7a	QC >2 Model 8a	QC >1 Model 9a	QC >2 Model 10a
MIC	3.849***	4.637***	5.989***	6.071***	5.214***	5.748***	4.554***	5.491***	−0.831***	−0.861***
	(0.862)	(1.101)	(0.701)	(0.983)	(0.790)	(1.173)	(0.839)	(1.146)	(0.085)	(0.098)
Full Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Constant	−1.619*	−2.169*	−1.812**	−1.263	−3.799***	−4.230***	−2.566***	−2.382***	0.939***	0.948***
	(0.677)	(1.034)	(0.601)	(0.844)	(0.682)	(1.054)	(0.682)	(1.027)	(0.060)	(0.080)
Wald χ^2	164.13***	138.70***	136.78***	84.24***	184.14***	123.57***	112.60***	113.28***		
F Score									26.21***	27.91***
(Pseudo) r^2	0.205	0.247	0.205	0.232	0.220	0.293	0.143	0.226	0.411	0.494
N	624	355	624	355	624	355	624	355	624	355

Note: Models retain all control variables. Standard errors clustered on 158 (QC >1) or 106 (QC >2) belligerents. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 8: Military Inequality and Battlefield Performance, 1800-2011: MIC Quality Control With Additional Quality Controls

	LER Below Parity	Mass Desertion	Mass Defection	Blocking Units
	Model 1	Model 2	Model 3	Model 4
MIC	$3.770^{\star\star\star}$	$5.542^{\star\star\star}$	$5.286^{\star\star\star}$	$4.055^{\star\star\star}$
	(0.658)	(0.604)	(0.652)	(0.942)
MIC_QC	0.050	−0.088	−0.197	0.121
	(0.089)	(0.129)	(0.122)	(0.115)
BELOWPARITY_QC	$0.374^{\star\star}$			
	(0.137)			
DESERT_QC		$-1.409^{\star\star\star}$		
		(0.176)		
DEFECT_QC			−0.207	
			(0.188)	
BLOCKING_QC				$-2.927^{\star\star}$
				(1.020)
FULL CONTROLS	✓	✓	✓	✓
Constant	$-2.703^{\star\star}$	$3.371^{\star\star\star}$	$-2.675^{\star\star\star}$	$-5.297^{\star\star\star}$
	(0.794)	(0.723)	(0.820)	(3.343)
Wald χ^2	$178.40^{\star\star\star}$	$190.32^{\star\star\star}$	$207.30^{\star\star\star}$	$170.20^{\star\star\star}$
(Pseudo) r^2	0.207	0.216	0.210	0.232
N	825	825	825	825

Note: Standard errors clustered on 229 belligerents. Models include all control variables used in full models. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 9: Military Inequality and Battlefield Performance, 1800-2011: With QC >2 Quality Controls for Each Dependent Variables

	LER Below Parity	Mass Desertion	Mass Defection	Blocking Units
	QC >2 Model 1a	QC >2 Model 2a	QC >2 Model 3a	QC >2 Model 4a
MIC	3.700***	5.502***	5.444***	3.889***
	(0.693)	(0.584)	(0.744)	(0.872)
Full Controls	✓	✓	✓	✓
Constant	−1.179*	−1.344**	−3.189***	−3.165***
	(0.594)	(0.509)	(0.668)	(0.676)
Wald χ^2	142.96***	165.27***	153.51***	103.49***
(Pseudo) r^2	0.202	0.176	0.199	0.122
N	717	747	671	782

Note: Models retain all control variables. Standard errors clustered on 192, 197, 188, or 223 belligerents, respectively. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

13 Adversarial Qualitative Coding: Historical Cases

The spirit of adversarial coding was also applied to research for the historical cases. I began with an exhaustive search of all relevant primary and secondary sources for each of the historical cases. I then randomly assigned case-specific materials to one of two categories: a training dataset (75% of all sources), in which I constructed the analytical narrative linking prewar military inequality; and a testing dataset (the remaining 25%), which were used to demonstrate whether I could recover the identified causal process in a second batch of documents. This A/B approach is now mirrored in quantitative forecasting research in which researchers are enjoined to build models on one set of randomly sampled textual material but to test it on a second, independent, dataset, to prevent overfitting.[49] The training dataset consumed the lion's share of the relevant sources due to my inherent conservatism; I wanted to ensure that I understood the causal process in all its dimensions as best as I could before moving to the testing phase, where I resisted the temptation to adjust the theory to fit new facts.

Between the training and testing phases of historical research, I tasked two independent coders for four cases to apply a 14-question standardized protocol to these same historical materials.[50] Typically post-doctoral or graduate students, these coders possessed the relevant language skills for these cases. They collected information on key facets of the case, including: the war's chronology; the basic attributes of the combatant, including their political regime and ideology; the nature of their military's prewar training, recruitment, and civil-military relations; and whether these combatants had experienced desertion and defection during the war. These questions are reproduced below. The coders were also tasked with describing the overall combat proficiency of these belligerents, including their tactical prowess, morale, and nature of the officer corps. Coders engaged in the historiography of the conflict, and were asked to identify contentious issues and key prior historical work or materials that had to be engaged. Finally, each coder advanced their own explanation for the belligerents' battlefield performance and for why these combatants ultimately won (or lost) their battles. Crucially, these coders were blind to the book's argument. As a result, they provided a welcome check on my own possible biases by assessing, and sometimes advocating, alternative explanations.[51]

With these independent accounts in hand, I then returned to the set-aside material. I set to work attempting to recapture the proposed causal process at work in these new documents and to address any issues of omission or interpretation arising from the coders' assessments. If this testing subset of material confirmed the existence of the proposed pathway and causal mechanisms, I folded these new texts into the narrative and ceased data collection. Simply put, I followed a Bayesian logic of inquiry: once repetition set in across (and within) the training and testing bundles, with the same pieces of evidence and anecdotes recycled across texts, the probative value of additional sources diminishes

[49] Egami et al. 2017.

[50] These cases are: Austria-Hungary, Ottoman Empire, Democratic Republic of the Congo, and Ethiopia.

[51] Lyall 2015, 191-94.

rapidly.[52] This stopping rule approximates the informal emphasis on repetition in more anthropological studies.[53] In other words, it would take a major reconsideration of the evidence at this point to overturn our (posterior) judgement, an unlikely event given the identification of a causal process in the original random sample of text, its challenging by independent coders, and its subsequent affirmation in a second, randomly drawn, body of material. The method is not infallible, of course. New research, including the discovery of new primary documents, may challenge my interpretations and the historiography that they are founded on.

13.1 Structured, Focused Comparisons: Coding Procedures

The questions outlined below are designed to direct attention to important trends/themes in the study of these combatants' performance in their respective wars. Please answer each question in as much/little detail as necessary. Please append your source at the end of your document in a separate section marked "Works Cited." One set of coders has already tried to answer these questions; please read their initial answers and consult their sources. We are, however, looking to draw on additional sources, so please use other sources.

In general, I'm looking for evidence to test different explanations of military effectiveness in conventional wars. "Effectiveness" here is defined in two terms: (1) how did they do on the battlefield itself and (2) whether they won their conflict or not. In terms of battlefield performance, I care about issues such as unit cohesion (how high was morale? did soldiers desert? defect?), relative loss exchange ratios (did soldiers from these combatants perform well relative to enemies? show initiative? have strong leadership?), and the nature of prewar training and recruitment.

For war outcomes, I'm interested in exploring how these battlefield indicators converge to help explain why the combatant ultimately won (or lost) the war. What role, for example, did relative troop strength, civil-military relations, or regime type play in explaining these eventual outcome? What role for the prewar nature of a regime's treatment of its internal population?

I'd also like to have an awareness of major disagreements (if any) in the historiography of these cases so I make sure I know what issues I have to address. While we should draw on all available sources (i.e. books, articles, newspaper sources), I am particularly interested in primary documents; that is, memoirs and archival materials from the belligerents and their soldiers. Particularly vivid examples of military (in)effectiveness are also especially useful. I'd like these chapters to be interesting to read for a wide audience, not just specialists.

Recommendation: It is helpful to read an overview of the war before trying to answer the questions below. Familiarize yourself with its basic chronology and combatants. And be sure to read the prior coder's materials.

[52] See Bennett 2014.

[53] Wood 2003; Hopf 2002; Ries 1997.

13.2 Specific Research Questions for Each Case: Battlefield Performance

1. Battlefield performance: Did the military (Austria-Hungary, Ottoman Empire, Democratic Republic of the Congo, or Ethiopia) ever use violence against its own soldiers? If so, how, and many soldiers were harmed/killed by such practices? Did these combatants have a surveillance apparatus designed to monitor and sanction their own soldiers?

2. Battlefield performance: Provide evidence of soldiers deserting (heading for the rear areas/home with no intention to continue fighting) or defection (joining the other side with the intent of fighting against one's former comrades). Clip the relevant passages out of these texts and provide the context (i.e. battle name, date, location)

3. Was the regime worried about a coup by its own military (a) before the war or (b) during the war?

4. Did the combatant have technological superiority over its enemies in terms of (a) tanks; (b) aircraft; (c) firearms?

5. How sophisticated were the tactics and operational art employed? Was your combatant able to coordinate different branches of the army (artillery, infantry, calvary) and conduct complicated attacks? Or was it forced to rely on simple tactics and operations like human wave assaults? Did the military seem to get better or worse over time?

6. Did the army abuse civilians during the war? If so, who? Did it, for example, engage in ethnic cleaning operations or forced population displacement?

7. If I asked you to make the case that your combatant's battlefield performance was due to its numerical preponderance (it had more soldiers than the other side) or that its technology was more advanced, could you do it?

8. Could you make a case that your combatant's performance was due to its more democratic political system?

13.3 Specific Research Questions for Each Case: Key Battles

I'd also like to gather additional evidence for specific battles within each of these historical cases. These battles are:

Austria-Hungary, Eastern Front, WWI

1. Battle of Tannenberg (August 1914)
2. Battle of Galicia (September 1914)
3. Battle of Gorlice-Tarnow Offensive (May 1915)
4. Brusilov Offensive (4 June to 20 September 1916)
5. Romanian Summer Campaign (July 1917–)

Ottoman Empire, Italo-Turkish War

1. Battle at Benghazi 23 October 1911
2. Battle at Benghazi 30 November 1911
3. Battle at Derna 3 March 1912
4. Battle at Derna 14 September 1912

DRC, Second Congo War, 1998-2002

1. 2 August 1998 revolt of the Banyamulenge in Goma
2. September 1998 Battle at Kinshasa
3. July 1999 Battle at Mbuji-Mayi
4. 9 August 2000 DRC offensive in Equateur Province (near Libenge)

Ethiopia-Eritrea War 1998-2000

1. Eritrean attack at Badme (6 May 1998)
2. Ethiopian attack at Badme (22 Feb 1999)
3. Ethiopian attack at Velessa (16 May 1999)
4. Ethiopian attack on Eritrean lines at Shambuko and Mendefera (12 May 2000, including capture of Zalambessa on 23 May)

For each of these battles for your respective case, please provide the following information:

1. The size of the belligerent armies;
2. A chronology of developments;
3. Battlefield performance, including desertion, defection, tactical and operational sophistication, and use of violence against combatant's own soldiers;
4. Outcomes, including casualties and equipped lost/destroyed on both sides;
5. The role of allies (if any).

13.4 Specific Research Questions for Each Case: Contextual Information

For each belligerent, please provide the following information:

1. Nature of the political system
2. Description of belligerent's ideology/vision regime for its society.
3. Were minorities or certain groups repressed? discriminated against?
4. Description of nature of military recruitment
5. Description of nature of prewar training. Ethnic or other tensions within the military? Was military allowed to practice large-scale training? Did regime impose restraints on the military out of fears of a coup?
6. Description of overall state of the belligerent's battlefield performance. How tactically proficient was its army? What was general state of morale? How good were its officers? How did it perform on these measures relative to its opponent(s)?
7. List of the core works that are most important for understanding this case study (most cited)
8. List of must-engage books/articles that detail this belligerent's performance?
9. Any especially contested claims in the historiography to be aware of
10. In your view, what is the most convincing explanation for why the belligerent won (or lost) the war?
11. Unique aspects of the case that stand out/worth mentioning

14 How Were Cases Chosen? Mechanics of Paired Case Selection

Case selection was executed using a purpose-built *R* script, *Casefinder*. I used a simple inclusion-discrimination-repression typology to designate treatment status. Repressive belligerents were assigned a "1" value; discriminatory and inclusive belligerents acted as possible controls ("0" values).

Matching was done on a 1:1 basis with replacement; in situations where treated cases had more than one available match, the control case was chosen via a random seed and the other controls dropped. Binary covariates included initiator status, democratic opponent, Great Power status, joiner status, several aspects of the combatant's military (volunteer; composite; and standing), a civil war indicator, a non-COW indicator, status as a democracy; and an indicator for whether the war occurred during the modern era or not. For continuous variables — Polity2 regime scores, military power, and distance from the capital to the battlefield — a caliper system was used, allowing for the available matches to "float" within a specified range of the treated observation's values for those variables. I also added a temporal restriction: all matches needed to occur within 15 years of each other (as measured from the onset of the war) to ensure the combatants were exposed to similar secular trends such as weapons technology or decolonization. Pairs could not straddle the early modern/modern historical divide.

Using matching to identify matched pairs for close range process-tracing has several advantages over standard methods of case selection. This case selection criteria is both transparent and reproducible: interested scholars can clearly understand which covariates were used for matching, how tight the "fit" between the cases, and whether a particular case had multiple control observations. In cases where multiple controls were present, the *R* package randomly selects one control, preventing the "cherry-picking" of a particular control observation. The *R* package is easily extendable, allowing scholars to change the tightness of the matching calipers (including turning off matching for one or more covariates) or to add new covariates as additional data becomes available. Perhaps most importantly, this framework for comparative analysis removes much of the discretion from the author's hands, generating new comparisons that are informed by the overall distribution of cases rather than specialized knowledge or interest in a particular set of cases.[54] Placing the responsibility for case selection mostly in the hands of the *R* script for matching requires a leap of faith but has substantial benefits.

It does impose a burden on the researcher, however. It is likely that the paired cases selected are farther away from her own areas of expertise than desirable or comfortable. Few researchers set out to compare the battlefield performance of the Sultanate of Morocco and Kokand by prior plan, for example. The danger exists that chosen cases have little or no (English-language) historiography or, conversely, have an extensive one that is inaccessible due to language or other bureaucratic hurdles. Scholars primed to assign certain

[54]Nielsen 2014; Weller and Barnes 2014, 88-103.

cases as "canonical" may judge these cases as insufficiently important or substantively interesting to justify detailed examination. A paired approach is also labor intensive, forcing authors to process trace both within and across cases; typically, process-tracing is only conducted within cases.[55] But the advantages are substantial, too. The paired design is not only transparent in its construction but also represents a high bar for causal inference for both the proposed explanations and alternatives that seek to explain observed patterns in battlefield performance.

Casefinder is included in the replication materials ("Casefinder.R").

14.1 *Casefinder* Technical Notes

Casefinder is a simple R program designed to facilitate historical case selection through matching. Specifically, it was designed to build paired comparisons for close-range analysis by matching belligerents across 14 covariates (outlined below). Each covariate had its own on/off toggle (for exact matching of binary covariates) or caliper (for specifying a range of good fit for continuous variables).

The treatment variable is specified by TREATMENT, with 1 designating the treated cases and a 0 denoting cases available as controls.

The list of covariates with dedicated true/false (T/F) toggles include: INITIATOR, OPPDEMO, GREAT POWER, JOINER, VOLUNTEER, COMPOSITE, STANDING, CIVIL WAR, NON-COW BELLIGERENT, DEMOCRACY, and MODERN. When the toggle is set to "T," the program exact matches on the value (0,1) of the designated covariate.

An example of the syntax:

```
# toggle matching on/off (T/F) for the following covariates: toggles <- list(
init=T,
oppdemo7=T,
gp=T,
joiner=T,
volunteer=T,
composite=T,
standing=T,
civilwar=T,
ncow=T,
demo7=T,
modern=T
)
```

Calipers were created for continuous variables, including REGIME TYPE, RELATIVE FORCES, DISTANCE, DURATION, and the REGIME TYPE*INITIATOR covariate. DURATION was originally meant to ensure that wars were of similar duration, thus reducing

[55] Bennett and Checkel 2014.

possible variance across belligerents in the opportunities their armies might have to desert or defect. Owing to post-treatment bias concerns, however, I elect not to match on this covariate when identifying pairs or for the broader empirical analysis in the book.[56]

For all these covariates, users can specify the tightness of matching by entering proportional values in an (-x,y) interval. For example, users can specify a (.75, 1.25) caliper range for Regime Type. This would find matches for a treated case in which a belligerent's Regime Type score must be within a range of 75% to 125% of the treated case. Since Regime Type itself ranges from -10 to 10, this would restrict matches between 4 and 6 for a treated belligerent with a Polity2 score of 5.

An example of the syntax:

```
# calipers.
# Syntax: NA = no matching on this covariate. c(-x, y): Match in (-x,y)
interval, enter values as proportions!
calipers <- list(
pol21=c(0.75,1.25),
power=c(0.9,1.1),
dist=c(0.75,1.25),
dur=NA,
pol21init=NA
)
```

Casefinder also allows users to specify the random seed for choosing the control observation in cases where multiple matches are available. Users can also specify whether matching occurs with or without replacement.

The syntax:

```
#
# set parameters for matching
#

# set random seed here
set.seed(42)
```

[56] I used calipers of pol21=c(0.75,1.25), power=c(0.9,1.1), and dist=c(0.75,1.25) to identify matched pairs.

```
# match with replacement (T/F)?
replacement <- T
```

Finally, *Casefinder* also allows users to specify the time between belligerent observations. We want to ensure that paired observations are occurring in roughly the same historical time period. This prevents identifying matches that are similar on many characteristics but nonetheless are fighting their wars in eras marked by different historical processes and trends, including the lethality of weapons, prevailing ideas (i.e. nationalism or decolonization), or weapons technology more generally. A caliper is used to designate the maximum time (in years) between treated and control observations, with the measurement point specified by the year that war began (YRSTART).[57]

The syntax:

```
# control time passed between treatment and control (in years). Set to NA to
turn off.
max.time <- 20
```

I employed an early version of Project Mars (Version 0) to select cases in *Divided Armies*. This version had the full set of belligerent and war observations contained in the released Version 1.0 of Project Mars but relied on a cruder dichotomous variable of inequality than the eventual *Military Inequality Coefficient* used in the book. More specifically, my treatment variable was coded 1 if state-organized violence was used against least one ethnic group in the prewar era (defined as 5 years before the war began). Control observations included belligerents that had state-organized discrimination (but not violence) and inclusion. This treatment variable most closely approximates TREAT3 used in the robustness checks for the main empirical findings in the book. Revisions to the values of matched variables, as well as the nature of the random seed, may affect the construction of matched pairs when using Casefinder with Project Mars Version 1. Nonetheless, Casefinder helps make matching decisions transparent and replicable. It can also be extended to take account of new variables and so hopefully provides a template for other scholars interested in using a similar approach for their case selection and subsequent process-tracing.

[57]For the book, I used a random seed set at 42, matched with replacement, and used a 20 year maximum time difference (in years) between treated and control observations).

15 How Difficult Are These Tests? A Bayesian Approach

Should we view the case comparisons in Chapters 5-7 as exploratory "straw-in-the-wind" tests that only update our confidence in these findings a modest amount? Or should we view them as something more concrete, perhaps "smoking gun" style tests that increase our confidence significantly if the evidence suggested by the theory is present in the high inequality belligerent, weakly present in medium inequality belligerents, and absent in inclusive belligerents? Bayesian analysis offers one means for determining how difficult these tests are for the proposed identity explanation. More specifically, we can use three pieces of information to estimate how much these tests increase our updated confidence in the likely truth of the proposed theory: the prior probability that the theory is correct before examining the evidence ("prior probability"); information on the likelihood that we will find evidence k if the theory is true (positive rate); and information on the likelihood that we find evidence k when the explanation is false (the "false positive rate").

Armed with these three pieces of information, we can calculate how high of a set of hurdles these paired comparisons pose for the proposed argument. Following Bayes' Theorem, we calculate:

$$\Pr(A|B) = \frac{\Pr(B|A)\Pr(A)}{\Pr(B|A)\Pr(A) + \Pr(B|\neg A)\Pr(\neg A)} \tag{1}$$

I set the prior probability ($\Pr(A)$) that the proposed argument is true at a low initial level (.2 for Chapter 5), then gradually increase it (.3 for Chapter 6 and .4 for Chapter 7) as evidence accumulates across chapters. I estimate the likelihood ratio across three quantities of interest: loss-exchange ratios that are below parity, indicating that a belligerent is losing more soldiers than it is killing; the incidence of mass desertion; and the incidence of mass defection. I derive estimates about the positive and false positives from the crossnational dataset using the difference between high and low inequality belligerents as the benchmark.

After several simple calculations, we find that all three paired comparisons met the threshold for the strictest possible tests: the doubly-decisive test.[58] These are tests that strongly raise our posterior beliefs if passed but significantly lower them if failed. In each Chapter, the process-tracing is uncovering evidence that it consistent with high inequality belligerents and that is not associated with inclusive belligerents. As a result, these doubly decisive tests should increase our confidence in the likelihood that the propositions suggested by the book's military inequality argument are correct.

[58] Humphreys and Jacobs 2015.

16 Excluded Wars

We cast a large net when seeking to expand our catalogue of wars and belligerents beyond the traditional Correlates of War Inter-State Dataset. Over time, we constructed a new list of wars and belligerents from multiple sources, including the other COW datasets (details), battle and war anthologies (such as Clodfelter 2008 and numerous civil war datasets (including Lyall and Wilson 2009; Fearon and Laitin 2003; Kalyvas and Baicells 2010; UCDP/PRIO 2015). Though we eventually converged on the rough outlines of Project Mars, our investigations into new non-COW wars and belligerents inevitably uncovered new conflicts. Not every conflict met our criteria for inclusion. Indeed, we considered, but ultimately omitted, 90 of these wars from Project Mars. In many cases, these wars met some, but not all, of our inclusion criteria. And so we elected to err on the side of conservatism and excluded them. In an effort to be transparent about our coding efforts, a dataset of these excluded wars has been placed in the replication materials ("ProjectMarsV1_ExcludedWars").

For each war, we provided a justification for its exclusion. More specifically, we outlined six reasons for a case's possible exclusion. These include:

1. Guerrilla tactics, not modern combined arms approaches, was the dominant form of warfare during the war. Some wars exhibited both types of war. In these instances, we dropped the case if the majority of the war (as measured by its duration) was fought according to guerrilla war principles

2. Combined casualties failed to exceed the $\geq$500 threshold for total losses for all sides.

3. The war's historiography was not robust enough to deduce any conclusions about a belligerent's battlefield performance (as measured by loss-exchange ratios, mass desertion and defection, and the use of extrajudicial battlefield violence against one's own soldiers).

4. The war's historiography was so thin that we could not make a reliable judgement about *how* the war was fought. Here, references to a war were often oblique and consisted of a few sentences buried in broader narratives about a belligerent's history of war. This was a relatively common occurrence for wars involving non-Correlates of War belligerents.

5. One or more belligerents failed to meet the Project Mars definition of a "state." Militia that did not control territory, for example, were fairly common in these excluded cases.

6. One or more belligerents did not field a firearm-equipped army. In some cases, the existing evidence suggested that only a handful of soldiers possessed weapons by war's end. To ensure comparability across armies, we imposed a coding rule that armies had to field armies where most of their soldiers had firearms by the war's conclusion (see above).

Table 10 details the frequency of these six reasons for excluding cases. Wars (and belligerents) could be dropped for multiple reasons. Among the most difficult cases to judge involved conflict between two or more non-COW belligerents. These cases often lack detailed historiographies, particularly if the belligerent was destroyed during the war. But these missing cases are also part of the fabric of a more global military history. Additional research on these wars and their associated belligerents by historians and other academics will permit a reevaluation of whether they should be included in future versions of Project Mars.

Table 10: Omitted Wars and Reasons for Exclusion

Reason for Exclusion	Frequency
Guerrilla War	47 (52%)
$\leq$500 KIA	27 (30%)
Insufficient Battlefield Performance Evidence	25 (28%)
Insufficient Evidence of Modern War	23 (26%)
Non-State Belligerent	21 (23%)
Insufficient Firearms	14 (16%)

Note: 90 wars failed to meet one or more conditions for inclusion in Project Mars. Frequency does not total 90 since wars could be dropped for multiple reasons.

17 Robustness Checks

Table 11: Battlefield Performance in the Early Modern Era (1800-1917): COW Belligerents Only

	LER Below Parity		Mass Desertion		Mass Defection		Blocking Units		BP Index	
	Alone Model 1a	Full Model 2a	Alone Model 3a	Full Model 4a	Alone Model 5a	Full Model 6a	Alone Model 7a	Full Model 8a	Alone Model 9a	Full Model 10a
Military Inequality	5.125***	3.737***	5.571***	4.819***	5.162***	4.728***	4.421***	4.683***	−0.912***	−0.701***
	(0.757)	(0.725)	(0.785)	(0.882)	(1.121)	(0.796)	(0.901)	(1.074)	(0.091)	(0.093)
Regime Type		−0.067		−0.073		−0.011		0.032		0.005†
		(0.043)		(0.025)		(0.037)		(0.032)		(0.003)
Initiator		0.005		0.191		−0.436		−0.699†		0.024
		(0.268)		(0.360)		(0.345)		(0.380)		(0.024)
Regime Type*Initiator		−0.011		0.042		−0.021		−0.074		0.001
		(0.041)		(0.036)		(0.059)		(0.058)		(0.003)
Democratic Opponent		0.690		0.445		−0.146		0.159		−0.053
		(0.377)		(0.423)		(0.671)		(0.451)		(0.054)
Joiner		−1.401†		0.003		0.406		0.454		0.007
		(0.623)		(0.499)		(0.535)		(0.651)		(0.044)
Relative Forces		0.837		−0.595		−0.109		−0.469		0.015
		(0.529)		(0.581)		(0.872)		(0.819)		(0.059)
Great Power		−0.502†		0.011		0.393		0.545		0.008
		(0.257)		(0.346)		(0.349)		(0.2411)		(0.024)
Distance to Battle		−0.246**		−0.066		−0.005		0.059		0.010
		(0.066)		(0.136)		(0.092)		(0.144)		(0.009)
Standing Army		1.361		−0.937		−0.355		−2.006**		0.076
		(0.383)		(0.652)		(0.782)		(0.699)		(0.051)
Volunteer Army		−0.381		1.443*		1.035		−0.905†		−0.062
		(0.426)		(0.632)		(0.641)		(0.732)		(0.048)
Composite Army		−0.144		0.705*		0.266		0.106		−0.036
		(0.239)		(0.343)		(0.341)		(0.530)		(0.030)
Civil War		0.141		1.316***		1.480***		0.601		−0.171***
		(0.339)		(0.347)		(0.376)		(0.382)		(0.033)
Multiparty War		−0.803**		0.505†		−0.221		−0.206		0.018
		(0.253)		(0.297)		(0.388)		(0.371)		(0.134)
War Birth			.			0.924		−0.704		−0.071
			.			(1.671)		(1.491)		(0.134)
Constant	−1.973***	−1.461	−1.694***	−1.256	−2.822***	−2.952*	−2.848***	−1.256	0.933***	0.800***
	(0.289)	(1.151)	(0.168)	(0.981)	(0.240)	(1.368)	(0.302)	(0.872)	(0.016)	(0.083)
Wald χ^2	28.37***	167.57***	50.31***	131.99***	42.46***	211.83***	24.04***	86.29***		
F Score									100.88***	50.85***
(Pseudo) r^2	0.121	0.226	0.137	0.209	0.119	0.206	0.087	0.132	0.327	0.416
N	352	348	352	348	352	352	352	352	352	352

Note: Standard errors clustered on 57 belligerents. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 12: Battlefield Performance in the Modern Era (1918-2011): COW Belligerents Only

	LER Below Parity		Mass Desertion		Mass Defection		Blocking Units		BP Index	
	Alone Model 1b	Full Model 2b	Alone Model 3b	Full Model 4b	Alone Model 5b	Full Model 6b	Alone Model 7b	Full Model 8b	Alone Model 9b	Full Model 10b
Military Inequality	5.689***	4.411**	6.574***	5.981***	4.224**	4.239***	6.058**	5.770***	−1.015***	−0.838***
	(1.230)	(1.422)	(1.199)	(1.114)	(1.376)	(1.338)	(1.641)	(1.402)	(0.206)	(0.158)
Regime Type		−0.037		0.003		−0.033		−0.108*		0.005†
		(0.032)		(0.026)		(0.039)		(0.051)		(0.003)
Initiator		−0.451		−0.146		0.585		0.191		0.004
		(0.357)		(0.291)		(0.384)		(0.380)		(0.026)
Regime Type*Initiator		−0.005		−0.032		−0.003		0.094*		−0.000
		(0.045)		(0.044)		(0.416)		(0.047)		(0.003)
Democratic Opponent		−1.014*		−0.467		−0.007		−0.781		−0.009
		(0.443)		(0.466)		(0.608)		(0.654)		(0.047)
Joiner		−2.258*		−0.776		−1.099		−0.100		0.104**
		(1.111)		(0.732)		(1.103)		(0.798)		(0.037)
Relative Forces		0.646		−0.138		−0.717		0.186		−0.025
		(0.765)		(0.665)		(0.857)		(1.050)		(0.074)
Great Power		0.393		−0.419		0.445		0.586		−0.024
		(0.376)		(0.389)		(0.489)		(0.550)		(0.034)
Distance to Battle		−0.138		0.011		−0.046		−0.051		0.007
		(0.096)		(0.090)		(0.099)		(0.133)		(0.007)
Standing Army		0.543		0.389		0.034		.		−0.111
		(0.781)		(0.695)		(0.122)		.		(0.104)
Volunteer Army		−0.088		−0.606		−0.217		−0.325		0.040
		(0.463)		(0.514)		(0.557)		(0.630)		(0.041)
Composite Army		0.245		0.284		0.836*		0.577		−0.056
		(0.297)		(0.309)		(0.416)		(0.548)		(0.033)
Civil War		−0.280		0.485		1.242**		0.108		−0.052†
		(0.380)		(0.394)		(0.458)		(0.349)		(0.030)
Multiparty War		−0.752*		0.197		0.626		0.250		−0.000
		(0.330)		(0.293)		(0.371)		(0.447)		(0.030)
War Birth		0.801		1.094*		0.779		2.2244**		−0.204**
		(0.644)		(0.514)		(0.673)		(0.738)		(0.074)
Constant	−1.648***	−1.295	−2.064***	−2.395**	−2.629**	−3.697*	−2.860***	−3.387*	0.931***	1.026***
	(0.309)	(1.012)	(0.300)	(0.861)	(0.317)	(1.464)	(0.380)	(1.334)	(0.028)	(0.121)
Wald χ^2	20.07***	109.73***	30.020***	69.41***	9.43**	72.99***	8.53*	55.69***		
F Score									24.37***	8.40***
(Pseudo) r^2	0.101	0.214	0.133	0.181	0.060	0.169	0.121	0.205	0.285	0.377
N	280	280	280	280	280	280	280	280	280	280

Note: Standard errors clustered on 79 belligerents. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 13: Battlefield Performance in the Early Modern Era (1800-1917): COW Wars Only

	LER Below Parity		Mass Desertion		Mass Defection		Blocking Units		BP Index	
	Alone Model 1a	Full Model 2a	Alone Model 3a	Full Model 4a	Alone Model 5a	Full Model 6a	Alone Model 7a	Full Model 8a	Alone Model 9a	Full Model 10a
Military Inequality	4.720***	4.154**	4.018***	3.585**	4.294***	4.073*	4.949***	4.606**	−0.766***	−0.626***
	(1.307)	(1.449)	(1.161)	(1.267)	(1.239)	(1.889)	(1.513)	(1.744)	(0.135)	(0.144)
Regime Type		−0.048		−0.126*		−0.190**		−0.160*		0.014***
		(0.066)		(0.056)		(0.061)		(0.068)		(0.004)
Initiator		−0.039		−0.717		0.204		−2.154*		0.070†
		(0.628)		(0.559)		(0.812)		(0.881)		(0.035)
Regime Type*Initiator		0.000		0.017		0.132		−0.012		−0.007
		(0.083)		(0.076)		(0.112)		(0.104)		(0.005)
Democratic Opponent		1.069†		0.164		−1.501		0.159		0.016
		(0.640)		(0.568)		(1.384)		(0.451)		(0.062)
Joiner		−0.935		0.003		0.554		0.931		−0.105
		(1.103)		(0.769)		(1.181)		(1.087)		(0.082)
Relative Forces		−0.960		−1.653†		−0.226		−2.486†		0.166
		(2.114)		(0.976)		(1.622)		(1.279)		(0.152)
Great Power		−0.431		0.011		0.075		1.512*		−0.287
		(0.489)		(0.532)		(0.437)		(0.691)		(0.044)
Distance to Battle		−0.349		0.182		−0.161		0.202		0.004
		(0.291)		(0.232)		(0.272)		(0.361)		(0.024)
Standing Army		0.487		−0.055		.		.		0.018
		(0.291)		(1.673)		.		.		(0.091)
Volunteer Army		−1.452		0.846		2.252†				−0.023
		(1.116)		(0.906)		(1.251)				(0.071)
Composite Army		−0.538		0.337		1.181		0.435		−0.034
		(0.502)		(0.486)		(0.755)		(0.726)		(0.047)
Civil War		0.754		0.508		−0.044		.		−0.023
		(0.749)		(0.673)		(1.349)		.		(0.054)
Multiparty War		−1.288**		0.453		−0.325		0.801†		0.022
		(0.495)		(0.405)		(0.686)		(0.459)		(0.040)
Constant	1.911***	2.436	−1.427***	−2.424	−2.750***	−3.431	−2.996***	−4.366	0.912***	0.787***
	(0.383)	(2.838)	(0.282)	(1.906)	(0.396)	(2.243)	(0.586)	(2.788)	(0.025)	(0.202)
Wald χ^2	13.05***	51.61***	11.96***	42.46***	12.02***	45.53***	10.70***	80.02***		
F Score									32.04***	10.79***
(Pseudo) r^2	0.106	0.226	0.078	0.209	0.084	0.222	0.109	0.278	0.242	0.351
N	143	143	143	143	143	138	143	125	143	143

Note: Standard errors clustered on 48 belligerents. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 14: Battlefield Performance in the Modern Era (1918-2011): COW Wars Only

	LER Below Parity		Mass Desertion		Mass Defection		Blocking Units		BP Index	
	Alone Model 1b	Full Model 2b	Alone Model 3b	Full Model 4b	Alone Model 5b	Full Model 6b	Alone Model 7b	Full Model 8b	Alone Model 9b	Full Model 10b
Military Inequality	5.721***	4.206**	6.247***	6.195***	2.781†	2.605	4.850**	4.640*	−0.900***	−0.756***
	(1.259)	(1.578)	(1.059)	(1.154)	(1.484)	(1.767)	(1.880)	(1.949)	(0.171)	(0.193)
Regime Type		−0.038		−0.008		−0.080		−0.116**		0.006*
		(0.032)		(0.034)		(0.042)		(0.045)		(0.003)
Initiator		−0.972**		0.039		1.015		0.039		0.020
		(0.360)		(0.475)		(0.692)		(0.443)		(0.033)
Regime Type*Initiator		−0.013		−0.011		0.062		0.077		−0.002
		(0.044)		(0.053)		(0.055)		(0.053)		(0.004)
Democratic Opponent		1.574***		−0.547		0.781		−0.586		−0.045
		(0.457)		(0.546)		(0.689)		(0.674)		(0.054)
Joiner		.		0.079		.		−0.201		0.106*
		.		(0.812)		.		(0.769)		(0.037)
Relative Forces		−0.419		0.043		−1.270		−0.961		0.058
		(1.032)		(0.861)		(1.208)		(1.143)		(0.088)
Great Power		0.605		−0.237		0.007		0.423		−0.024
		(0.445)		(0.445)		(0.749)		(0.641)		(0.034)
Distance to Battle		−0.149		−0.076		0.067		0.139		0.004
		(0.109)		(0.100)		(0.122)		(0.143)		(0.009)
Standing Army		0.397		0.020		−1.258		.		−0.033
		(0.783)		(0.849)		(1.127)		.		(0.107)
Volunteer Army		−0.019		−0.086		0.274		.		0.040
		(0.543)		(0.622)		(0.629)		.		(0.053)
Composite Army		0.207		0.048		0.737		0.108		−0.023
		(0.372)		(0.473)		(0.607)		(0.627)		(0.048)
Civil War		−0.253		0.873		1.017		0.761		−0.077
		(0.513)		(0.542)		(0.717)		(0.547)		(0.053)
Multiparty War		−0.947**		−0.138		−0.089		−0.184		0.046
		(0.369)		(0.371)		(0.450)		(0.531)		(0.039)
Constant	−1.568***	−0.357	−1.963***	−1.457	−2.491***	−2.494†	−2.591***	−3.077*	0.911***	0.865***
	(0.298)	(1.094)	(0.299)	(1.110)	(0.357)	(1.447)	(0.380)	(1.385)	(0.026)	(0.118)
Wald χ^2	20.66***	71.71***	34.77***	49.95***	3.51†	15.97	6.66**	20.02†		
F Score									27.65***	6.93***
(Pseudo) r^2	0.101	0.218	0.122	0.156	0.025	0.120	0.080	0.151	0.226	0.282
N	195	182	195	195	195	182	195	164	195	195

Note: Standard errors clustered on 68 belligerents. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 15: Battlefield Performance in the Early Modern Era (1800-1917): Great Power FE

	LER Below Parity		Mass Desertion		Mass Defection		Blocking Units		BP Index	
	Alone Model 1b	Full Model 2b	Alone Model 3b	Full Model 4b	Alone Model 5b	Full Model 6b	Alone Model 7b	Full Model 8b	Alone Model 9b	Full Model 10b
Military Inequality	3.719***	3.917***	5.084***	5.381***	5.756***	6.067***	4.105***	4.203***	−0.851***	−0.795***
	(0.728)	(0.766)	(0.691)	(0.732)	(0.924)	(0.838)	(0.790)	(0.998)	(0.067)	(0.067)
Ottoman Empire	0.178	0.177	0.684***	0.568**	−0.694***	−1.311***	0.559***	0.882***	−0.040*	−0.028
	(0.151)	(0.208)	(0.141)	(0.208)	(0.183)	(0.246)	(0.168)	(0.262)	(0.015)	(0.021)
UK	−1.578***	0.121	−0.143	0.760*	0.462*	0.961**	0.181	−0.165	0.062***	−0.064†
	(0.163)	(0.388)	(0.160)	(0.354)	(0.202)	(0.363)	(0.247)	(0.427)	(0.014)	(0.034)
France	−0.592***	0.876***	−0.031	0.729**	0.272	0.684**	−0.631*	−0.916*	0.034*	−0.069*
	(0.179)	(0.290)	(0.172)	(0.278)	(0.217)	(0.249)	(0.262)	(0.410)	(0.015)	(0.030)
USA	−0.379**	0.790	0.656***	1.223**	0.107	0.675	0.174	0.260	−0.017	−0.114**
	(0.146)	(0.490)	(0.146)	(0.439)	(0.160)	(0.589)	(0.199)	(0.446)	(0.013)	(0.039)
Russia	−0.864***	−0.365	−0.067	0.592	−0.284	0.017	0.921***	1.794***	0.034*	−0.045
	(0.162)	(0.379)	(0.158)	(0.449)	(0.201)	(0.399)	(0.248)	(0.502)	(0.018)	(0.039)
Germany	−1.558***	−0.865**	0.622**	1.433***	0.316	1.160**	.	.	0.027	−0.074†
	(0.213)	(0.326)	(0.207)	(0.628)	(0.281)	(0.404)	.	.	(0.020)	(0.040)
Constant	−1.108***	−1.429*	−1.676***	−1.173†	−3.088***	−3.570***	−2.720***	−1.943*	0.897***	0.859***
	(0.242)	(0.696)	(0.299)	(0.628)	(0.323)	(1.012)	(0.352)	(1.385)	(0.020)	(0.064)
Wald χ^2	.	.	.	.	.	.	.	.		
F Score									.	.
(Pseudo) r^2	0.136	0.241	0.139	0.185	0.154	0.242	0.098	0.160	0.215	0.209
N	482	482	482	482	482	482	469	469	482	482

Note: Standard errors clustered on 138 belligerents. Full models are identical to those used throughout the book but coefficients are omitted for presentation. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 16: Battlefield Performance in the Modern Era (1918-2011): Great Power FE

	LER Below Parity		Mass Desertion		Mass Defection		Blocking Units		BP Index	
	Alone Model 1b	Full Model 2b	Alone Model 3b	Full Model 4b	Alone Model 5b	Full Model 6b	Alone Model 7b	Full Model 8b	Alone Model 9b	Full Model 10b
Military Inequality	4.105***	4.204***	6.234***	5.972***	5.400***	5.635***	4.734***	5.289***	−0.945***	−0.875***
	(1.011)	(1.163)	(1.091)	(1.048)	(1.301)	(1.368)	(1.239)	(1.266)	(0.126)	(0.121)
Ottoman Empire	−1.162***	−02.238	0.007	0.174	.	.	1.115***	1.292**	0.071**	0.080*
	(0.164)	(0.353)	(0.176)	(0.366)	.	.	(0.214)	(0.459)	(0.020)	(0.039)
UK	−0.908***	−0.812	0.441*	1.025*	−0.216	0.195	.	.	0.056**	0.012
	(0.162)	(0.564)	(0.187)	(0.473)	(0.193)	(0.448)	.	.	(0.017)	(0.055)
France	−0.187	0.146	−1.305***	−0.914***	0.989***	1.130***	.	.	0.047**	0.012
	(0.160)	(0.278)	(0.170)	(0.184)	(0.195)	(0.210)	.	.	(0.017)	(0.039)
USA	.	.	−0.610**	0.166	.	.	.	.	0.161***	0.092
	.	.	(0.146)	(0.490)	.	.	.	.	(0.017)	(0.059)
Russia	0.069	0.182	0.133	0.182	−0.408	−0.654	2.074***	2.559**	−0.104***	−0.111*
	(0.178)	(0.428)	(0.196)	(0.340)	(0.271)	(0.522)	(0.212)	(0.849)	(0.018)	(0.042)
Germany	−0.685	−0.865**	.	.	0.179	0.753†	0.295	(0.249)	0.052**	0.026
	(0.188)	(0.488)	.	.	(0.224)	(0.414)	(0.303)	(0.961)	(0.018)	(0.040)
Constant	−1.234***	−1.102	−1.917***	−1.129	−2.603***	−4.387***	−2.656***	−4.046*	0.902***	0.859***
	(0.251)	(0.868)	(0.280)	(0.692)	(0.307)	(1.079)	(0.393)	(1.099)	(0.025)	(0.044)
Wald χ^2	.	.	.	.	.	.	.	.		
F Score									.	.
(Pseudo) r^2	0.076	0.181	0.147	0.173	0.110	0.228	0.172	0.222	0.344	0.383
N	328	328	327	327	323	323	300	300	343	343

Note: Standard errors clustered on 124 belligerents. Full models are identical to those used throughout the book but coefficients are omitted for presentation. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 17: Battlefield Performance in the Early Modern Era (1800-1917): Placebo MIC

	LER Below Parity		Mass Desertion		Mass Defection		Blocking Units		BP Index	
	Alone Model 1a	Full Model 2a	Alone Model 3a	Full Model 4a	Alone Model 5a	Full Model 6a	Alone Model 7a	Full Model 8a	Alone Model 9a	Full Model 10a
Placebo MIC	0.039	0.232	$-0.623^{\star}$	-0.427	-0.686	-0.373	$-0.147^{\star\star\star}$	0.213	0.066	0.020
	(0.280)	(0.343)	(0.294)	(0.307)	(0.495)	(0.546)	(0.464)	(0.457)	(0.041)	(0.034)
Full Controls	.	✓	.	✓	.	✓	.	✓	.	✓
Constant	$-0.459^{\star}$	$-1.108^{\dagger}$	$-0.096^{\star\star\star}$	-0.392	$-1.108^{\star\star\star}$	$-2.576^{\star\star}$	$-1.464^{\star\star\star}$	$-1.432^{\dagger}$	$0.676^{\star\star\star}$	$0.774^{\star\star\star}$
	(0.221)	(0.642)	(0.224)	(0.623)	(0.396)	(0.964)	(0.272)	(0.771)	(0.032)	(0.078)
Wald χ^2	0.02	$128.55^{\star\star\star}$	$4.49^{\star}$	$61.93^{\star\star\star}$	$1.92^{\star}$	$70.80^{\star\star\star}$	0.10	$31.07^{\star}$		
F Score									2.68	$12.65^{\star\star\star}$
(Pseudo) r^2	0.000	0.185	0.001	0.081	0.006	0.123	0.000	0.077	0.005	0.207
N	482	482	482	482	482	482	482	482	482	482

Note: Standard errors clustered on 138 belligerents. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 18: Battlefield Performance in the Modern Era (1918-2011): Placebo MIC

	LER Below Parity		Mass Desertion		Mass Defection		Blocking Units		BP Index	
	Alone Model 1a	Full Model 2a	Alone Model 3a	Full Model 4a	Alone Model 5a	Full Model 6a	Alone Model 7a	Full Model 8a	Alone Model 9a	Full Model 10a
Placebo MIC	−0.241	−0.207	0.095	−0.350	−0.743†	−1.166*	−0.042	−0.165	0.037	0.054
	(0.380)	(0.411)	(0.394)	(0.423)	(0.429)	(0.539)	(0.416)	(0.423)	(0.043)	(0.042)
Full Controls	.	✓	.	✓	.	✓	.	✓	.	✓
Constant	−0.498*	−0.044	−0.854***	0.095	−1.188***	−2.222*	−1.464***	−2.471*	0.728***	0.702***
	(0.221)	(0.772)	(0.241)	(0.710)	(0.235)	(0.887)	(0.315)	(1.042)	(0.027)	(0.100)
Wald χ^2	0.40	69.14***	0.06	31.063*	2.99†	73.60***	0.01	20.88		
F Score									0.748	5.59***
(Pseudo) r^2	0.001	0.138	0.000	0.070	0.007	0.160	0.000	0.082	0.002	0.162
N	343	343	343	343	343	343	343	343	343	343

Note: Standard errors clustered on 124 belligerents. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 19: Battlefield Performance in the Early Modern Era (1800-1917): Alternative Political Regime Measure

	LER Below Parity		Mass Desertion		Mass Defection		Blocking Units		BP Index	
	Alone Model 1a	Full Model 2a	Alone Model 3a	Full Model 4a	Alone Model 5a	Full Model 6a	Alone Model 7a	Full Model 8a	Alone Model 9a	Full Model 10a
MIC	4.373***	3.950***	5.056***	5.196***	5.260***	5.789***	4.099***	3.959***	−0.874***	−0.791***
	(0.757)	(0.756)	(0.621)	(0.683)	(0.772)	(0.765)	(0.706)	(0.853)	(0.065)	(0.067)
Demo7	−1.075†	−0.409	−0.857	−0.427	−1.077	−1.268	−0.333	−0.419	0.097*	0.074
	(0.589)	(0.714)	(0.562)	(0.536)	(1.163)	(1.180)	(0.578)	(0.587)	(0.048)	(0.049)
Initiator	0.071	0.159	−0.109	−0.104	−0.214	−0.358	−0.146	−0.324	0.017	0.018
	(0.197)	(0.207)	(0.218)	(0.253)	(0.212)	(0.247)	(0.256)	(0.279)	(0.019)	(0.019)
Demo7*Initiator	0.411	−0.038	0.825	0.935	0.914	0.700	−2.585***	0.357	−0.072	−0.033
	(0.584)	(0.678)	(0.595)	(0.626)	(1.165)	(1.297)	(0.577)	(0.942)	(0.059)	(0.048)
Full Controls	.	✓	.	✓	.	✓	.	✓	.	✓
Constant	−1.444***	−1.092	−1.556***	−0.998†	−2.798***	−3.414***	−2.585***	−1.967**	0.898***	0.843***
	(0.281)	(0.684)	(0.198)	(0.602)	(0.296)	(0.936)	(0.310)	(0.726)	(0.017)	(0.063)
Wald χ^2	44.09***	124.63***	70.03***	115.44***	58.98***	166.65***	38.60***	68.20***		
F Score									54.19***	31.40***
(Pseudo) r^2	0.115	0.221	0.135	0.176	0.151	0.233	0.092	0.137	0.370	0.419
N	482	482	482	482	482	482	482	482	482	482

Note: Demo7 is a binary indicator that denotes a 1 when Pol2 value ≥7; otherwise, 0. Full models retain all control variables. Standard errors clustered on 138 belligerents. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 20: Battlefield Performance in the Modern Era (1918-2011): Alternative Political Regime Measure

	LER Below Parity		Mass Desertion		Mass Defection		Blocking Units		BP Index	
	Alone Model 1a	Full Model 2a	Alone Model 3a	Full Model 4a	Alone Model 5a	Full Model 6a	Alone Model 7a	Full Model 8a	Alone Model 9a	Full Model 10a
MIC	$3.986^{\star\star\star}$	$4.111^{\star\star\star}$	$6.063^{\star\star\star}$	$6.288^{\star\star\star}$	$5.077^{\star\star\star}$	$5.269^{\star\star\star}$	$5.122^{\star\star\star}$	$5.622^{\star\star\star}$	$-0.974^{\star\star\star}$	$-0.908^{\star\star\star}$
	(1.016)	(1.148)	(1.136)	(1.077)	(01.243)	(1.146)	(1.429)	(1.413)	(0.147)	(0.132)
Demo7	−0.657	−0.598	−0.012	0.057	$-0.871^{\dagger}$	−0.733	$-2.245^{\star}$	$-2.494^{\star}$	$0.084^{\star\star}$	$0.074^{\star}$
	(0.404)	(0.478)	(0.349)	(0.430)	(0.525)	(0.595)	(1.015)	(1.167)	(0.030)	(0.036)
Initiator	−0.107	−0.394	−0.069	−0.052	0.284	0.495	−0.000	0.137	−0.006	−0.001
	(0.280)	(0.394)	(0.286)	(0.281)	(0.304)	(0.337)	(0.309)	(0.336)	(0.027)	(0.029)
Demo7*Initiator	−0.530	−0.561	0.052	0.092	0.649	0.336	1.174	1.642	−0.011	−0.001
	(0.741)	(0.760)	(0.472)	(0.481)	(0.563)	(0.627)	(1.215)	(1.262)	(0.046)	(0.048)
Full Controls	.	✓	.	✓	.	✓	.	✓	.	✓
Constant	$-1.125^{\star\star\star}$	−1.020	$-2.028^{\star\star\star}$	$-1.220^{\dagger}$	$-2.626^{\star\star\star}$	$-3.886^{\star\star\star}$	$-2.407^{\star\star\star}$	$3.681^{\star\star\star}$	$0.898^{\star\star\star}$	$0.903^{\star\star\star}$
	(0.320)	(0.884)	(0.326)	(0.728)	(0.351)	(0.995)	(0.295)	(1.052)	(0.029)	(0.903)
Wald χ^2	$32.27^{\star\star\star}$	$95.35^{\star\star\star}$	$39.75^{\star\star\star}$	$65.93^{\star\star\star}$	$23.27^{\star\star\star}$	$38.19^{\star\star}$	$16.07^{\star}$	$68.20^{\star\star\star}$		
F Score									$16.84^{\star\star\star}$	$12.85^{\star\star\star}$
(Pseudo) r^2	0.092	0.193	0.147	0.180	0.118	0.2133	0.149	0.194	0.331	0.374
N	343	343	343	343	343	343	343	343	343	343

Note: Demo7 is a binary indicator that denotes a 1 when Pol2 value ≥7; otherwise, 0. Full models retain all control variables. Standard errors clustered on 124 belligerents. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 21: Military Inequality and Loss-Exchange Ratios (LER)

	1800-1917		1918-2011	
	Alone Model 1a	Full Model 2a	Alone Model 3a	Full Model 4a
MIC	$-4.216^{\star\star\star}$	$-2.191^{\star\star\star}$	$-5.338^{\star\star\star}$	$-3.080^{\star\star\star}$
	(0.674)	(0.555)	(0.928)	(0.738)
Full Controls	.	✓	.	✓
Constant	$1.518^{\star\star\star}$	$1.102^{\dagger}$	$1.831^{\star\star\star}$	0.612
	(0.274)	(0.575)	(0.306)	(0.578)
F Score	$39.12^{\star\star\star}$	$27.67^{\star\star\star}$	$33.08^{\star\star\star}$	$23.73^{\star\star\star}$
(Pseudo) r^2	0.133	0.432	0.114	0.373
N	482	482	343	343

Note: Uses the logged average loss-exchange ratio rather than a binary measure for below parity. Full models retain all control variables. Standard errors clustered on 124 belligerents. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 22: Military Inequality and Battlefield Performance, 1800-2011: Decade FE

	LER Below Parity	Mass Desertion	Mass Defection	Blocking Units	BP Index
	Model 1	Model 2	Model 3	Model 4	Model 5
MIC	$4.238^{\star\star\star}$	$5.547^{\star\star\star}$	$5.233^{\star\star\star}$	$5.018^{\star\star\star}$	$-0.824^{\star\star\star}$
	(0.701)	(0.595)	(0.591)	(0.862)	(0.064)
Full Controls	✓	✓	✓	✓	✓
Decades	✓	✓	✓	✓	✓
Constant	$-0.498^{\star}$	-0.347	$-3.2104^{\star\star\star}$	$-3.599^{\star\star\star}$	$0.859^{\star\star\star}$
	(0.221)	(0.669)	(0.722)	(0.827)	(0.064)
Wald χ^2	$231.98^{\star\star\star}$	$263.09^{\star\star\star}$	$323.09^{\star\star\star}$	$199.52^{\star\star\star}$	
F Score					$28.64^{\star\star\star}$
(Pseudo) r^2	0.216	0.197	0.243	0.188	0.417
N	825	825	825	825	825

Note: Decade fixed effects; 1810 as referent. Standard errors clustered on 124 belligerents. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 23: Military Inequality and Battlefield Performance, 1800-2011: Region FE

	LER Below Parity	Mass Desertion	Mass Defection	Blocking Units	BP Index
	Model 1	Model 2	Model 3	Model 4	Model 5
MIC	$4.149^{\star\star\star}$	$5.806^{\star\star\star}$	$5.371^{\star\star\star}$	$4.483^{\star\star\star}$	$-0.843^{\star\star\star}$
	(0.694)	(0.622)	(0.593)	(0.717)	(0.065)
Full Controls	✓	✓	✓	✓	✓
Regions	✓	✓	✓	✓	✓
Constant	-0.883	-0.638	$-3.270^{\star\star\star}$	$-3.242^{\star\star\star}$	$0.847^{\star\star\star}$
	(0.621)	(0.471)	(0.729)	(0.737)	(0.052)
Wald χ^2	$183.45^{\star\star\star}$	$187.50^{\star\star\star}$	$223.60^{\star\star\star}$	$167.95^{\star\star\star}$	
F Score					$33.54^{\star\star\star}$
(Pseudo) r^2	0.204	0.190	0.223	0.153	0.411
N	825	825	825	825	825

Note: Region fixed effects; Western Europe as referent. Regions drawn from Fearon and Laitin 2003. Standard errors clustered on 124 belligerents. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 24: Military Inequality and Battlefield Performance, 1800-2011: Excluding High-Capital Wars

	LER Below Parity	Mass Desertion	Mass Defection	Blocking Units	BP Index
	Model 1	Model 2	Model 3	Model 4	Model 5
MIC	3.817***	5.421***	5.204***	4.185***	−0.815***
	(0.656)	(0.561)	(0.629)	(0.722)	(0.069)
Full Controls	✓	✓	✓	✓	✓
Constant	−1.155*	−0.893*	−3.699***	−2.399***	0.861***
	(0.509)	(0.436)	(0.604)	(0.541)	(0.045)
Wald χ^2	153.76***	162.55***	186.29***	87.89***	
F Score					33.48***
(Pseudo) r^2	0.193	0.163	0.203	0.117	0.382
N	813	813	813	813	813

Note: Standard errors clustered on 229 belligerents. Models include all control variables used in full models. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 25: Military Inequality and Battlefield Performance, 1800-2011: Excluding "War Birth" Belligerents

	LER Below Parity	Mass Desertion	Mass Defection	Blocking Units	BP Index
	Model 1	Model 2	Model 3	Model 4	Model 5
MIC	3.885***	5.484***	4.679***	4.163***	−0.771***
	(0.684)	(0.588)	(0.663)	(0.769)	(0.064)
Full Controls	✓	✓	✓	✓	✓
Constant	−1.441*	−1.073*	−3.118***	−1.704***	0.836***
	(0.509)	(0.530)	(0.710)	(0.604)	(0.052)
Wald χ^2	162.63***	149.07***	147.60***	72.27***	
F Score					32.77***
(Pseudo) r^2	0.222	0.167	0.176	0.119	0.376
N	746	746	746	746	746

Note: These regression omit all belligerents that fought wars within the first two years of their existence. Standard errors clustered on 229 belligerents. Models include all control variables used in full models. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 26: Military Inequality and Battlefield Performance, 1800-2011: Controlling for Ethnic Diversity Without MIC

	LER Below Parity	Mass Desertion	Mass Defection	Blocking Units	BP Index
	Model 1	Model 2	Model 3	Model 4	Model 5
Number of Ethnic Groups (Logged)	.474*	0.605***	0.358*	0.664*	−0.087***
	(0.185)	(0.180)	(0.170)	(0.327)	(0.022)
Full Controls	✓	✓	✓	✓	✓
Constant	−1.135†	−0.992*	−3.217***	−2.758***	0.868***
	(0.519)	(0.497)	(0.648)	(0.789)	(0.067)
Wald χ^2	148.61***	91.11***	105.02***	48.85***	
F Score					15.09***
(Pseudo) r^2	0.157	0.077	0.119	0.074	0.200
N	825	825	825	825	825

Note: These regression omit all belligerents that fought wars within the first two years of their existence. Standard errors clustered on 229 belligerents. Models include all control variables used in full models. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

Table 27: Military Inequality and Battlefield Performance, 1800-2011: Ethnic Diversity and MIC

	LER Below Parity	Mass Desertion	Mass Defection	Blocking Units	BP Index
	Model 1	Model 2	Model 3	Model 4	Model 5
Number of Ethnic Groups (Logged)	0.097	0.081	−0.210	0.288	−0.002
	(0.187)	(0.194)	(0.211)	(0.321)	(0.018)
MIC	3.745***	5.372***	5.419***	4.026***	−0.815***
	(0.670)	(0.595)	(0.688)	(0.667)	(0.066)
Full Controls	✓	✓	✓	✓	✓
Constant	−1.240*	−1.092*	−3.560***	−2.912***	0.879***
	(0.543)	(0.521)	(0.695)	(0.787)	(0.057)
Wald χ^2	159.97***	172.64***	202.94***	100.50***	
F Score					30.76***
(Pseudo) r^2	0.200	0.168	0.207	0.130	0.393
N	825	825	825	825	825

Note: These regression omit all belligerents that fought wars within the first two years of their existence. Standard errors clustered on 229 belligerents. Models include all control variables used in full models. *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ † $p < 0.10$.

18 Project Mars: List of Conventional Wars, 1800-2011

Note that these tables correct a few spelling mistakes and add the Russo-Turkish War of 1877-78 back to the table (deleted due to copyediting mistake).

19 Project Mars: New Belligerents

Table 28: Conventional Wars, 1800-2011

War	Belligerents	Included in COW Ver. 4.0?	Civil War?
Napoleonic: Second Coalition, 1800	Austrian Empire v. France	No	No
Napoleonic: Second Coalition (Naval), 1801	UK v. France, Denmark	No	No
Tripolitan War, 1801-1805	Barbary States v. USA	No	No
War of the Oranges, 1801	France, Spain v. Portugal	No	No
Russo-Persian War, 1803-1813	Russia v. Persia	No	No
Second Maratha War, 1803-1805	UK v. Maratha Confederacy	No	No
First Serbian Uprising, 1804-1813	Serbia v. Ottoman Empire	No	Yes
Napoleonic: Third Coalition (Bavaria), 1805	France v. Austrian Empire, Russia	No	No
Napoleonic: Third Coalition (Italy), 1805	Austria v. France	No	No
Asante-Asin-Fante-UK War, 1806-1807	Ashanti Empire v. Asin Confederacy, Fante Confederacy, UK	No	No
Napoleonic: Prussian Campaign, 1806	Prussia v. France	No	No
Napoleonic: Russian Campaign, 1806-1807	Russia v. France	No	No
Russo-Turkish War, 1806-1811	Ottoman Empire v. Russia	No	No
Anglo-Turkish War, 1807-1809	UK v. Ottoman Empire	No	No
Napoleonic: Finnish War, 1808-1809	Russia v. Sweden	No	No
Napoleonic: Peninsular War, 1808-1814	France v. Spain, UK, Portugal	No	No
Napoleonic: Fifth Coalition, 1809	Austria v. France	No	No
Napoleonic: Walcheren Campaign, 1809	UK v. France	No	No
Argentine War of Independence, 1810-1818	Junta of Buenos Aires v. Spain	No	Yes
Venezuelan War of Independence I, 1810-1812	First Republic v. Spain	No	Yes
Wahhabi War, 1811-1818	Egypt v. First Saudi State	No	No
Napoleonic: Russia, 1812	France v. Russia	No	No
Venezuelan War of Independence II, 1812-1814	Republic of Venezuela v. Spain	No	Yes
War of 1812, 1812-1815	USA v. UK	No	No
Chilean War of Independence, 1813-1820	Chile v. Spain	No	Yes
Durrani Empire-Sikh War, 1813	Durrani Empire v. Sikh Kingdom	No	No
Napoleonic: Sixth Coalition, 1813-1814	Russia, Austria, Prussia, Sweden v. France	No	No
Gurkha War, 1814-1816	UK v. Nepal	No	No
Napoleonic: Seventh Coalition, 1815	France v. Prussia, Russia, UK	No	No
Neapolitan War, 1815	Kingdom of Naples v. Austria	No	No
Venezuelan War of Independence III, 1815-1821	Spain v. Republic of Venezuela	No	Yes
Bombardment of Algiers, 1816	UK, Netherlands v. Algeria	No	No
Third Maratha War, 1817-1818	Maratha Confederacy v. UK	No	No
Durrani Empire-Sikh War II (Multan), 1818	Sikh Kingdom v. Durrani Empire	No	No
Fifth Cape Frontier War, 1818-1819	Xhosa v. UK	No	No
Durrani Empire-Sikh War III (Kashmir), 1819	Sikh Kingdom v. Durrani Empire	No	No
Ecuadorian War of Independence, 1820-1823	Ecuador v. Spain	No	Yes
Peruvian War of Independence, 1820-1824	Spain v. Peru	No	Yes
Greek War of Independence, 1821-1829	Greece v. Ottoman Empire	No	Yes

Table 29: Conventional Wars, 1800-2011, Continued

War	Belligerents	Included in COW Ver. 4.0?	Civ War
Turko-Persian War, 1821-1822	Ottoman Empire v. Persia	No	No
Brazilian War of Independence, 1822-1823	Portugal v. Brazil	No	Ye
Durrani Empire-Sikh War IV, 1822-1823	Durrani Empire v. Sikh Kingdom	No	No
Ashanti-British War, 1823-1826	UK v. Ashanti Empire	No	No
Franco-Spanish War , 1823	France v. Spain	Yes	No
First Anglo-Burmese War, 1824-1826	Burma v. UK	No	No
Argentine-Brazilian War, 1825-1828	Argentina v. Brazil	No	No
Siege of Bharatpur, 1825-1826	UK v. Bharatpur Princely State	No	No
Khoja Rebellion I, 1826-1827	Kokand (Khanate) v. China	No	Ye
Second Russo-Persian War, 1826-1828	Persia v. Russia	No	No
Vientiane-Siam War, 1827	Lao Kingdom v. Siam	No	No
Argentine Unitarian-Federalist War, 1828-1831	Liga del Interior v. Liga del Litoral	No	Ye
Gran Colombia-Peru War, 1828-1829	Gran Colombia v. Peru	No	No
Russo-Turkish, 1828-1829	Russia v. Ottoman Empire	Yes	No
French-Algerian, 1830	France v. Algeria	No	No
Khoja Rebellion II, 1830	Kokand (Khanate) v. China	No	Ye
November Uprising, 1831	Russia v. Congress Poland	No	Ye
First Turko-Egyptian, 1832	Egypt v. Ottoman Empire	No	Ye
Siamese-Vietnamese War, 1833-1834	Siam v. Kingdom of Cambodia, Vietnam	No	No
Farroupilha Revolution, 1835-1845	Piranti Republic, Juliana Republic v. Brazil	No	Ye
Texas Revolution, 1835-1836	Texas v. Mexico	No	Ye
Afghan-Persian (Siege of Herat), 1836-1838	Persia v. Herat	No	No
Afghan-Sikh War (Jamrud Campaign), 1837	Kingdom of Kabul v. Sikh Kingdom	No	No
War of the Confederation, 1837-1839	Peru-Bolivia Confederation v. Argentina, Chile	No	No
Uruguayan Civil War, 1838-1847	Argentina v. Uruguay, France, UK	No	Ye
First Anglo-Afghan War, 1839-1842	UK v. Kingdom of Kabul	No	Ye
First Opium War, 1839-1842	UK v. China	No	No
Second Turko-Egyptian, 1839-1840	Egypt v. Ottoman Empire	No	Ye
Bolivia-Peru War, 1841-1842	Peru v. Bolivia	No	No
Siamese-Vietnamese War II, 1841-1845	Siam v. Vietnam	No	No
Sino-Sikh War, 1841-1842	Jammu (Dogra Dynasty) v. China, Tibet	No	No
Anglo-Baluch, 1843	Sindh v. UK	No	No
Gwalior War, 1843	UK v. Gwalior	No	No
First Dominican War, 1844	Dominican Republic v. Haiti	No	No
Franco-Moroccan War, 1844	France v. Morocco	No	No
First Anglo-Sikh War, 1845-1846	Sikh Kingdom v. UK	No	No
Second Dominican War, 1845	Haiti v. Dominican Republic	No	No
Mexican-American War, 1846-1847	USA v. Mexico	Yes	No
Seventh Cape Frontier War, 1846-1847	Xhosa v. UK	No	No
Austro-Sardinian War, 1848	Austria v. France, Italy, Sardinia	No	No

Table 30: Conventional Wars, 1800-2011, Continued

War	Belligerents	Included in COW Ver. 4.0?	Civil War?
First Schleswig-Holstein War, 1848-1850	Prussia v. Denmark	Yes	No
Hungarian War of Independence, 1848-1849	Hungary v. Austria, Russia	No	Yes
Second Anglo-Sikh War, 1848-1849	Sikh Kingdom v. UK	No	No
Austro-Venetian War, 1849-1849	Austria v. Republic of Venice	No	Yes
Third Dominican War, 1849-1849	Haiti v. Dominican Republic	No	No
War of the Roman Republic, 1849-1849	Roman Republic v. Austria, France	Yes	Yes
Eighth Cape Frontier War, 1850-1852	UK v. Xhosa	No	No
First Egba-Dahomey War, 1851	Kingdom of Dahomey v. Egba Kingdom	No	No
La Plata (Ejército Grande), 1851-1852	Brazil, Entre Rios and Corrientes, Uruguay v. Argentina	Yes	No
Taiping Rebellion, 1851-1864	Taiping Heavenly Kingdom v. China	No	Yes
Montenegrin-Ottoman War, 1852-1853	Ottoman Empire v. Montenegro	No	No
Tukolor-Tamba War I, 1852-1853	Tukolor Kingdom v. Tamba Empire	No	Yes
Crimean War, 1853-1856	Russia v. Ottoman Empire, France, UK, Italy	Yes	No
Nien (Nian) Rebellion, 1853-1868	Nien Movement v. China	No	No
Fourth Dominican War, 1855-1856	Haiti v. Dominican Republic	No	No
Tibet-Nepalese War, 1855-1856	Nepal v. Tibet	No	No
Tukolor-Bambara War II, 1855	Bambara Empire v. Tukolor Kingdom	No	No
Anglo-Persian, 1856-1857	UK v. Persia	Yes	No
Central American National War, 1856-1857	Costa Rica, Guatemala, Honduras, El Salvador v. Nicaragua	No	No
Second Opium War, 1856-1860	UK, France v. China	No	No
Franco-Tukolor War, 1857-1859	Tukolor Kingdom v. France	No	No
Indian Rebellion, 1857-1858	Sepoy Movement v. UK	No	Yes
Hispano-Moroccan War, 1859-1860	Spain v. Morocco	Yes	No
Papal States, 1860-1860	Italy v. Papal States	Yes	No
Tukolor-Bambara War III, 1860-1861	Tukolor Kingdom v. Bambara Empire	No	No
Two Sicilies Insurrection, 1860	Italy v. Sicily	Yes	No
American Civil War, 1861-1865	Confederate States of America v. USA	No	Yes
Franco-Mexican, 1862-1867	France v. Mexico	Yes	No
Montenegrin-Ottoman War, 1862	Ottoman Empire v. Montenegro	No	Yes
Central American War, 1863	Guatemala v. Honduras, Nicaragua, El Salvador	No	No
Ecuadorian-Colombian, 1863	Colombia v. Ecuador	Yes	No
Paraguayan War (Lopez), 1864-1870	Paraguay v. Brazil, Argentina, Uruguay	Yes	No
Russia-Kokand War, 1864-1865	Russia v. Kokand	No	No
Second Egba-Dahomey War, 1864	Kingdom of Dahomey v. Egba Kingdom	No	No
Second Schleswig-Holstein, 1864	Prussia, Austria v. Denmark	Yes	No
Sino-Kuchean Muslim War, 1864-1865	Kuchea v. China	No	No
Russia-Bukhara Khanate War, 1865-1868	Russia v. Bukhara	No	No
Sino-Kokand War, 1865	Kokand v. China	No	No
Austro-Prussian War , 1866	Prussia, Italy v. Austria, Saxony, Wurttemberg, Hanover, Baden, Bavaria	Yes	No
Boshin War, 1868-1869	Japan v. Satsuma Prefecture	No	Yes
British Abyssinian Expedition, 1868	Abyssinia v. UK	No	No

Table 31: Conventional Wars, 1800-2011, Continued

War	Belligerents	Included in COW Ver. 4.0?
Sino-Jahriyya Order War I: Gansu, 1869-1871	China v. Jahriyya Order of Gansu	No
Franco-Prussian War, 1870	France v. Baden, Bavaria, Prussia, Wurttemberg	Yes
Kashgaria-Urumchi Dungan War, 1870-1872	Urumchi Dungans v. Kashgaria	No
Ottoman Conquest of Arabia, 1870-1871	Ottoman Empire v. 'Asir, Yemen	No
Second Ethiopian War, 1871	Abyssinia v. Tigray	No
Sino-Jahriyya Order War II: Hezhou, 1872	China v. Jahriyya Order of Hezhou	No
Aceh War, 1873-1874	Netherlands v. Aceh	No
Anglo-Ashanti War, 1873-1874	Ashanti Empire v. Fante Confederacy, UK	No
Russo-Khivan, 1873	Russia v. Khiva	No
Sino-Jahriyya Order War III: Suzhou, 1873	China v. Jahriyya Order of Suzhou	No
Egypt-Abyssinian, 1875-1876	Egypt v. Abyssinia	No
Russia-Kokand Khanate War, 1875-1876	Kokand v. Russia	No
First Central American, 1876	Guatemala v. Honduras, El Salvador	Yes
Montenegrin-Turkish War, 1876-1878	Montenegro v. Ottoman Empire	No
Sino-Kashgarian War, 1876-1877	China v. Kashgaria	No
Ninth Cape Frontier War, 1877-1878	Xhosa v. UK	No
Russo-Turkish War, 1877-1878	Russia v. Ottoman Empire	Yes
Satsuma Rebellion, 1877	Japan v. Satsuma Prefecture	No
Russo-Turkomen War, 1878-1881	Russia v. Teke Turkomen	No
Second Anglo-Afghan War, 1878-1880	UK v. Afghanistan	No
British-Zulu, 1879	UK v. Zulu Kingdom	No
War of the Pacific, 1879-1883	Chile v. Bolivia, Peru	Yes
First Mahdi War, 1881-1885	Mahdist State v. Egypt, UK	No
Anglo-Egyptian , 1882	UK v. Egypt	Yes
Sino-French (Tonkin) War, 1883-1885	France v. China	Yes
Ethiopian-Mahdi War, 1885-1889	Abyssinia v. Mahdist State	No
Second Central American , 1885	Guatemala v. El Salvador	No
Serbo-Bulgarian War, 1885-1886	Serbia/Yugoslavia v. Bulgaria	No
War of Dogali, 1887	Italy v. Abyssinia	No
Mahdi-Egyptian War, 1889	Mahdist State v. Sudan	No
Franco-Dahomean War: First Campaign, 1890	France v. Kingdom of Dahomey	No
Chilean Civil War, 1891	Congressist Junta v. Chile	No
Fifth Franco-Mandingo Campaign, 1891-1892	France v. Mandinka Empire	No
Congo Arab War, 1892-1894	Congo Arab Confederacy v. Belgium	No
Franco-Dahomean War: Second Campaign, 1892	France v. Kingdom of Dahomey	No
Bornu Empire-Rabah Empire War, 1893	Rabah Empire v. Bornu Empire	No
First Matabele War, 1893-1894	Kingdom of Ndebele v. UK	No
France v.Tukolor Empire, 1893	Tukolor Kingdom v. France	No
Mahdist-Italian War, 1893-1894	Mahdist State v. Italy	No
Melilla War, 1893-1894	Rif Confederacy v. Spain	No
First Sino-Japanese War, 1894-1895	Japan v. China	Yes

Table 32: Conventional Wars, 1800-2011, Continued

War	Belligerents	Included in COW Ver. 4.0?	Civil War?
First Italo-Abyssinian War, 1895-1896	Italy v. Abyssinia	No	No
Japanese Invasion of Taiwan, 1895	Japan v. Taiwan	No	No
Portugal v. Gaza Nguni, 1895	Portugal v. Gaza Empire	No	No
Second Franco-Hova War, 1895	Merina Kingdom v. France	No	No
British-Mahdi War, 1896-1899	UK v. Mahdist State	No	No
British-Sokoto Caliphate War, 1897	UK v. Sokoto Caliphate	No	No
Greco-Turkish War, 1897	Greece v. Ottoman Empire	Yes	No
Eighth Franco-Mandingo Campaign, 1898	France v. Mandinka Empire	No	No
Spanish-American, 1898	USA v. Spain	Yes	No
Franco-Rabah Empire War, 1899-1901	France v. Rabah Empire	No	No
Second Anglo-Boer War, 1899-1900	Boer Republic v. UK	No	No
Thousand Days' War, 1899-1902	Liberal Party of Colombia v. Colombia	No	Yes
Venezuelan Civil War, 1899	State of Táchira v. Venezuela	No	Yes
Boxer Rebellion, 1900-1901	Austria-Hungary, France, Germany, Italy, Japan, Russia, UK, USA v. China	Yes	No
Russo-Chinese (Manchuria), 1900	Russia v. China	Yes	No
War of the Golden Stool, 1900	Ashanti Empire v. UK	No	No
British Expedition to Tibet, 1904	UK v. Tibet	No	No
Russo-Japanese, 1904-1905	Japan v. Russia	Yes	No
Third Central American, 1906	El Salvador v. Guatemala	Yes	No
Fourth Central American, 1907	Nicaragua v. El Salvador, Honduras	Yes	No
Wadai War, 1908-1911	Ouaddai Empire v. France	No	No
Second Spanish-Moroccan War, 1909	Spain v. Morocco	Yes	No
Tripolitanian War, 1911-1912	Italy v. Ottoman Empire	Yes	No
Xinhai Revolution, 1911	Chinese Revolutionary Alliance v. China	No	Yes
First Balkan War, 1912	Bulgaria, Greece, Serbia/Yugoslavia v. Ottoman Empire	Yes	No
First Sino-Tibet War, 1912-1913	Tibet v. China	No	No
Second Balkan War, 1913	Bulgaria v. Greece, Romania, Ottoman Empire, Serbia/Yugoslavia	Yes	No
Second Revolution, 1913	Kuomintang v. China	No	Yes
WWI: Caucasian, 1914-1917	Ottoman Empire v. Russia	No	No
WWI: Eastern, 1914-1917	Austria-Hungary, Germany, v. Russia, Romania	Yes	No
WWI: Western, 1915-1918	Germany v. Belgium, UK, France, Australia, Canada, USA	Yes	No
WWI: Italian, 1915-1918	Italy v. Austria-Hungary, Germany	No	No
WWI: Salonika Front, 1916-1918	Bulgaria, Germany v. France, UK, Greece, Serbia/Yugoslavia	No	No
WWI: Serbian, 1914-1915	Austria-Hungary, Germany, Bulgaria v. Serbia/Yugoslavia, UK, France	No	No
WWI: Sinai-Palestine, 1915-1918	Ottoman Empire v. Australia, UK	No	No
National Protection War, 1915-1916	National Protection Army v. China	No	Yes
WWI: Mesopotamia, 1914-1918	UK v. Ottoman Empire	No	No
WWI: Mesopotamia (Russian Front), 1916	Russia v. Ottoman Empire	No	No
Estonian War of Independence, 1918-1920	Soviet Russia v. Estonia	Yes	Yes
Finnish Civil War, 1918	Red Finland v. Germany, Finland	No	Yes
Latvian War of Independence, 1918-1920	Soviet Russia v. Estonia, Latvia, Germany	Yes	Yes

Table 33: Conventional Wars, 1800-2011, Continued

War	Belligerents	Included in COW Ver. 4.0?
Lithuanian War of Independence, 1918-1919	Soviet Russia v. Lithuania	No
Polish-Ukrainian War, 1918-1919	West Ukrainian People's Republic v. Poland	No
Russian Civil War: Cossack, 1918-1920	White Don Army v. Soviet Russia	No
Russian Civil War: Southern Front, 1918-1920	White Volunteer Army/AF of South Russia v. Soviet Russia	No
Russian Civil War: Siberia, 1918-1920	White Siberian Army v. Soviet Union	No
Russian Civil War: North Russia, 1918-1919	UK, USA v. Soviet Russia	No
Second Sino-Tibet War, 1918	China v. Tibet	No
Czech-Polish War, 1919	Czechoslovakia v. Poland	No
Franco-Turkish War, 1919-1921	France v. Ottoman Empire	Yes
Hejaz War, 1919-1925	House of Saud v. Hashemite Kingdom	No
Hungarian Adversaries War, 1919	Hungary v. Czechoslovakia, Romania	Yes
Soviet-Polish War, 1919-1920	Poland v. Soviet Russia	Yes
Third Anglo-Afghan War, 1919	Afghanistan v. UK	No
Waziristan Campaign, 1919-1920	Waziristan v. UK	No
Azeri-Armenian War, 1920	Democratic Republic of Armenia v. Azeri Democratic Republic	No
Polish-Lithuanian War, 1920	Poland v. Lithuania	Yes
Russian Civil War: Outer Mongolia, 1920-1921	Bogd Khanate v. China	No
Turkish-Armenian War, 1920	Democratic Republic of Armenia v. Ottoman Empire	No
Warlord Era: Anhui-Zhili War, 1920	Anhui v. Fengtian Clique, Zhili Clique	No
Rif War, 1921-1926	Spain, France v. Republic of the Rif	No
Russian Civil War: Outer Mongolia, 1921	Bogd Khanate v. Soviet Union	No
Soviet-Georgia War, 1921	Soviet Russia, Turkey v. Georgia	No
Warlord Era: First Zhili-Fengtian War, 1922	Fengtian Clique v. Zhili Clique	No
Warlord Era: Second Zhili-Fengtian War, 1924	Fengtian Clique v. Zhili Clique	No
Warlord Era: Anti-Fengtian War, 1925	Guominjun v. Fengtian Clique, Zhili Clique	No
Warlord Era: Northern Expedition, 1926-1928	Kuomintang, Guominjun v. Fengtian Clique, Five Province Army, Zhili Clique	No
Sino-Soviet Conflict (CER—Manchuria), 1929	Soviet Union v. China	Yes
Warlord Era: War of the Central Plains, 1930	China v. Guangxi Clique, Guominjun, Shanxi Clique	No
Second Sino-Japanese War, 1931-1932	Japan v. China	Yes
Battle of Shanghai, 1932	Japan v. China	No
Chaco War, 1932-1935	Paraguay v. Bolivia	Yes
Kashgar War of Sinkiang, 1933-1934	Tungan 36th Division v. China, Soviet Union	No
Kashgar-FET War, 1933-1934	Tungan 36th Division v. First East Turkestan Republic	No
Saudi-Yemeni War, 1934	Mutawakkilite Kingdom of Yemen v. Saudi Arabia	Yes
Second Italo-Abyssinian, 1935-1936	Italy v. Abyssinia	Yes
Spanish Civil War, 1936-1939	Nationalists, Germany, Italy v. Spain, Soviet Union	No
Third Sino-Japanese, 1937-1945	Japan v. China	Yes
Battle of Lake Khasan (Changkufeng), 1938	Japan v. Soviet Union	Yes
Battle of Khalkhin Gol (Nomanhan), 1939	Japan v. Soviet Union	Yes
WWII: Poland, 1939	Germany, Soviet Union v. Poland	Yes

Table 34: Conventional Wars, 1800-2011, Continued

War	Belligerents	Included in COW Ver. 4.0?	Civil War?
WWII: Winter War, 1939-1940	Soviet Union v. Finland	Yes	No
WWII: Belgium, 1940	Germany v. Belgium	Yes	No
WWII: East African Campaign, 1940-1941	Italy v. UK	No	No
WWII: France, 1940	Germany, Italy v. France, UK	Yes	No
WWII: Greco-Italian War, 1940-1941	Italy, Germany v. Greece	No	No
WWII: Netherlands, 1940	Germany v. Netherlands	No	No
WWII: North Africa, 1940-1943	Italy, Germany v. UK, USA	No	No
WWII: Norway, 1940	Germany v. Norway	No	No
WWII: Vichy France-Thai, 1940-1941	Thailand v. France	Yes	No
Peruvian-Ecuadorian War, 1941	Ecuador v. Peru	No	No
WWII: Anglo-Iraqi War, 1941	Iraq v. UK	No	No
WWII: Continuation War, 1941-1944	Germany, Finland v. Soviet Union	No	No
WWII: German-Yugoslav, 1941	Germany v. Yugoslavia	No	No
WWII: Great Patriotic War, 1941-1945	Germany, Hungary, Romania, Italy, Bulgaria v. Soviet Union, Romania	Yes	No
WWII: Pacific, 1941-1945	Japan v. Australia, New Zealand, USA	Yes	No
WWII: Hong Kong, 1941	Japan v. Canada, UK	No	No
WWII: Malaya-Singapore, 1941-1942	Japan v. Australia, UK	No	No
WWII: Burma, 1941-1945	Japan v. China, UK	No	No
WWII: Syria-Lebanon Campaign, 1941	Australia, UK v. France	No	No
WWII: Sicilian/Italian Campaign, 1943-1945	Canada, UK, USA, Italy v. Germany, Italy	No	No
East Turkestan: Gulja Incident, 1944-1945	Second East Turkestan Republic v. China, Soviet Union	No	No
WWII: Lapland War, 1944-1945	Finland v. Germany	No	No
WWII: Operation Overlord, 1944-1945	Germany v. Canada, France, UK, USA	No	No
WWII: Soviet-Japanese War, 1945	Soviet Union v. Japan	No	No
Chinese Civil War, 1946-1949	China v. Communist Party of China	No	Yes
India-Pakistan War, 1947-1949	Pakistan v. India	Yes	No
1948 Palestine War, 1948-1949	Egypt, Iraq, Jordan, Syria v. Israel	Yes	No
Operation Polo, 1948	India v. Hyderabad	No	No
Korean War, 1950-1953	People's Republic of Korea, China v. UK, USA, Republic of Korea	Yes	No
First Taiwan Strait Crisis, 1954-1955	China v. Taiwan	Yes	No
Suez Crisis, 1956	France, Israel, UK v. Egypt	Yes	No
Second Taiwan Strait Crisis, 1958	China v. Taiwan	Yes	No
North Yemen Civil War, 1962-1969	Egypt, Yemen Arab Republic v. Mutawakkilite Kingdom of Yemen	No	Yes
Sino-Indian War, 1962	China v. India	Yes	No
Laotian Civil War, 1964-1973	Democratic Republic of Vietnam v. USA, Laos, Republic of Vietnam	No	Yes
India-Pakistan War, 1965	Pakistan v. India	Yes	No
Vietnam War, 1965-1973	USA, Republic of Vietnam, Cambodia v. Democratic Republic of Vietnam	Yes	No
Nigerian-Biafran War, 1967-1970	Nigeria v. Republic of Biafra	No	Yes
Six Day War, 1967	Israel v. Egypt, Jordan, Syria	Yes	No
Football War, 1969	El Salvador v. Honduras	Yes	No
War of Attrition, 1969-1970	Egypt v. Israel	Yes	No
Black September War, 1970	Syria v. Jordan	No	Yes
Bangladesh War, 1971	Pakistan v. India	Yes	Yes

Table 35: Conventional Wars, 1800-2011, Continued

War	Belligerents	Included in COW Ver. 4.0?	Ci W
Yom Kippur War, 1973	Egypt, Iraq, Jordan, Syria v. Israel	Yes	N
Turko-Cypriot War, 1974	Turkey v. Cyprus	Yes	Y
Angolan Civil War, 1975-2002	South Africa, UNITA, FNLA v. Cuba, MPLA	Yes	Y
Lebanese Civil War, 1975-1976	Lebanese National Movement v. Lebanese Front, Syria	No	Y
North Vietnam-South Vietnam, 1975	Democratic Republic of Vietnam v. Republic of Vietnam	No	N
Vietnamese-Cambodian War, 1975-1979	Cambodia v. Democratic Republic of Vietnam	Yes	N
Ogaden War, 1977-1978	Somalia v. Cuba, Ethiopia	Yes	Y
Uganda-Tanzania War, 1978-1979	Uganda v. Libya, Tanzania	Yes	N
First Sino-Vietnamese War, 1979	China v. Democratic Republic of Vietnam	Yes	N
Yemen Border War II, 1979	Yemen People's Republic v. Yemen Arab Republic	No	N
Iran-Iraq War, 1980-1988	Iraq v. Iran	Yes	N
Falklands War, 1982	Argentina v. UK	Yes	N
Lebanon War, 1982	Israel v. Syria	Yes	N
MNF in Lebanon, 1982-1984	France, Lebanon, USA v. Amal, Progressive Socialist Party, Syria	No	Y
Tigrean and Eritrean War, 1982-1991	Eritrea, Tigray v. Ethiopia	No	Y
Second Sino-Vietnamese, 1987	China v. Democratic Republic of Vietnam	Yes	N
Toyota War (Aozou Strip), 1987	Chad v. Libya	Yes	N
Iraq-Kuwait, 1990	Iraq v. Kuwait	No	N
Sri Lanka-Tamil War I, 1990-2002	LTTE v. Sri Lanka	No	Y
Croatian War of Independence, 1991-1995	Serbia/Yugoslavia v. Croatia	No	Y
Georgian-Ossetian War, 1991-1992	Georgia v. Russia, South Ossetia	No	Y
Persian Gulf War, 1991	Kuwait, UK, USA, Saudi Arabia, Egypt, v. Iraq	Yes	N
Bosnian War, 1992-1995	Serbia/Yugoslavia v. Bosnia-Herzegovina, Croatia	Yes	Y
Transnistria War, 1992	Moldova v. Russia, Transnistria	No	Y
Nagorno-Karabakh War, 1992-1994	Armenia v. Azerbaijan	Yes	N
Afghan War I, 1994-1996	Taliban v. Islamic State of Afghanistan	No	Y
Rwanda War, 1994	Rwandan Patriotic Front v. Rwanda	No	Y
Yemen Civil War, 1994	Yemen Arab Republic v. Democratic Republic of Yemen	No	Y
Afghan War II, 1996-2001	Islamic State of Afghanistan v. Taliban	No	Y
Ethiopian-Eritrean War (Badme), 1998-2000	Eritrea v. Ethiopia	Yes	N
Second Congo War, 1998-2002	Rwanda, Uganda v. Angola, DRC, Zimbabwe	Yes	Y
Kargil Conflict, 1999	Pakistan v. India	Yes	N
Kosovo War, 1999	Serbia/Yugoslavia v. USA	Yes	Y
US-Afghan, 2001-2002	USA v. Taliban	Yes	N
US-Iraq, 2003	USA v. Iraq	Yes	N
Israel-Hezbollah War, 2006	Hezbollah v. Israel	No	N
Georgia-Russia War, 2008	Georgia v. Russia	No	Y
Sri Lanka-Tamil War II, 2008-2009	Sri Lanka v. LTTE	No	Y
Libyan Civil War, 2011-2011	National Transitional Council, UK, USA, France v. Libya	No	Y

Table 36: Project Mars' Non-Correlates of War Belligerents

Belligerent	Contemporary Location
Aceh Sultanate	Indonesia
Amal (Movement of the Disinherited)	Lebanon
Anhui	China
Ashanti Empire	Benin, Ghana, Côte d'Ivoire
Asin Confederacy	Ghana
'Asir	Yemen
Azeri Democratic Republic	Azerbaijan
Bambara Empire of Karta	Mali
Bambara Empire of Segu	Mali
Bharatpur Princely State	India
Barbary States	Morocco, Algeria, Tunisia, Libya
Boer Republics	South Africa
Bogd Khanate	Mongolia
Bornu Empire	Chad, Niger, Nigeria, Cameroon
Bukhara	Uzbekistan
Chinese Revolutionary Alliance	China
Communist Party of China	China
Confederate States of America	United States
Congo Arab Confederacy (Tib Empire)	Democratic Republic of the Congo
Congress Poland	Poland
Congressist Junta	Chile
Democratic Republic of Armenia	Armenia
Democratic Republic of Yemen	Yemen
Durrani Empire	Afghanistan, Iran, Pakistan, NW India, Tajikistan, Turkmenistan, Uzbekistan
Egba Kingdom	Nigeria
Entre Ríos	Argentina
Fante Confederacy	Ghana
Fengtian Clique	NE China (Manchuria)
First East Turkestan Republic	China (Xinjiang)
First Republic of Venezuela	Venezuela
First Saudi State	Saudi Arabia
Five Provinces Alliance	China
National Liberation Front of Angola (NLFA)	Angola
Gaza Empire	N Mozambique, SE Zimbabwe, South Africa
Gran Colombia	Colombia, Venezuela, Ecuador, Panama, N Peru, W Guyana & NW Brazil
Guangxi Clique	China
Gwalior	India
Hashemite Kingdom	Saudi Arabia
Herat	Afghanistan
Hezbollah	Lebanon

Table 37: Non-COW Belligerents, Continued

Belligerent	Contemporary Location
House of Saud	Saudi Arabia
Hyderabad	India
Islamic State of Afghanistan	Afghanistan
Jahriyya Order of Gansu	China
Jahriyya Order of Hezhou	China
Jahriyya Order of Suzhou	China
Jammu (Dogra Dynasty)	India
Juliana Republic	Brazil
Junta of Buenos Aires	Argentina
Kashgaria	China (Xinjiang)
Khiva	W Uzbekistan, SW Kazakhstan, Turkmenistan
Kokand	Parts of Kazakhstan, Uzbekistan, Kyrgyzstan
Kingdom of Cambodia (Khmer Empire)	Laos, Thailand, S Vietnam, Cambodia
Kingdom of Dahomey	Benin
Kingdom of Kabul	Afghanistan
Kingdom of Naples	Italy
Kingdom of Ndebele	Zimbabwe, South Africa
Kucha Kingdom	China (Xinjiang)
Kuominchun/Guominjun	China
Kuomintang	China
Lao Kingdom of Vientiane	Laos, Thailand
Lebanese Front (Phalangist)	Lebanon
Lebanese National Movement	Lebanon
Liberal Party of Colombia	Colombia
Liga del Interio/Unitarians	Argentina
Liga del Litoral (Federal Pact)	Argentina
LTTE	Sri Lanka
Mahdist State (Mahdiya)	Sudan, Ethiopia
Mandinka Empire	SW Guinea
Maratha Confederacy	India, Pakistan, Bangladesh, Nepal, Afghanistan
Merina Kingdom	Madagascar
Montenegro	Montenegro
Mutawakkilite Kingdom of Yemen	Yemen
National Protection Army	China
National Transition Council	Libya
National Union for the Total Independence of Angola (UNITA)	Angola
Nationalists (Bando Nacional)	Spain
Nien Movement	China
Ouaddai Empire	Central African Republic, Chad
Peru-Bolivia Confederation	Bolivia, Peru

Table 38: Non-COW Belligerents, Continued

Belligerent	Contemporary Location
People's Movement for the Liberation of Angola (MPLA)	Angola
Piratini Republic	Brazil
Progressive Socialist Party	Lebanon
Rabah Empire	Chad
Red Finland	Finland
Republic of Biafra	Nigeria
Republic of Formosa	Taiwan
Republic of the Rif	Morocco
Republic of Venezuela	Venezuela
Republic of Venice	Italy
Rif Confederacy	Morocco
Roman Republic	Italy
Rwandan Patriotic Front	Uganda
Satsuma Prefecture	Japan
Second East Turkestan Republic	China (Xinjiang)
Sepoy Rebel Movement	India
Shanxi Clique	China
Siam	Cambodia, Laos, Malaysia
Sikh Kingdom	China, India, Pakistan
Sindh	Pakistan
Sokoto Caliphate	Burkina Faso, Cameroon, N. Nigeria, Niger
South Ossetia	South Ossetia
State of Táchira	Venezuela
Taiping Heavenly Kingdom	China
Taliban	Afghanistan
Tamba Empire	Senegal
Teke Turkomen	Turkmenistan
Texas	United States
Tibet	China
Tigray	Ethiopia
Transnistria	Transnistria
Tukolor Kingdom	Mali, Senegal
Tungan 36th Division	China (Xinjiang)
Urumchi Dungans	China (Xinjiang)
Vietnam (Indochina)	Vietnam
Waziristan	Pakistan
West Ukrainian People's Republic	Poland, Ukraine
White Don Army	Russia
White Siberian Army	Russia
White Volunteer Army	Russia
Xhosa	South Africa
Yemeni State (until 1872)	Yemen
Zhili Clique (Zhili Province)	China
Zulu Kingdom	South Africa

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