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War and state capacity in the long nineteenth  
century

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# War and state capacity in the long nineteenth century<sup>\*</sup>

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## Abstract

A great deal of literature has analyzed the relationship between warfare and state capacity in late-modern and contemporary times. While there is a consensus regarding the significant impact of mass warfare on fiscal expansion during the twentieth century, the interplay between warfare and fiscal capacity in the nineteenth century remains disputed. This paper sheds light on this issue by making use of novel datasets of international and civil wars and public finance from 1816 to 1913 in Europe and the Americas. Our results suggest that the type of wars that states fought in the nineteenth century mattered less than their intensity and duration. Public revenues increased in the aftermath of both international and civil wars when they were intensive enough. We argue, however, that overall wars had a weak effect on state-making in the nineteenth century precisely due to their limited intensity and duration compared to the total wars of the twentieth century.

Keywords: State capacity, fiscal capacity, warfare, nineteenth century, America, Europe

*Work in progress – very preliminary.*

# I Introduction

Research on the relationship between war and state formation has become a cottage industry that spans economic history, political sociology and the political economy of development. Most of this literature has focused on processes of state formation during the Early Modern period<sup>1</sup> or in the twentieth century,<sup>2</sup> but has rarely examined the relationship between war and state-making during the long-nineteenth century, from the end of the Napoleonic Wars (1816) to the eve of World War I (1913).

The few existing studies of this period reach opposite conclusions. Some scholars find a significant statistical association between states that fought more or more intense wars prior to 1913 and higher levels of fiscal extraction today (Besley and Persson 2008, 2011; Dincecco and Prado 2012; Queralt 2018). Others instead argue that nineteenth-century wars had a negligible impact on state-making for several reasons. First, most of these wars were “limited” in their severity and put little pressure on rulers and subjects to invest in state institutions (Centeno 2003). Second, industrialization and democratization had a greater effect on the administrative and financial structure of the state than mobilization for war, especially in Europe (Cardoso and Lains 2010; Hoffman 2015). Third, the new states that were born out of the Atlantic Revolutions, namely in Latin America, were ill-suited to fight the kind of interstate wars that trigger investments in state building and were instead trapped in constant civil conflicts that weakened the state (Kurtz 2013; Soifer 2015).

This article examines the effect of different kinds of warfare on state formation in Europe and the Americas from 1816 to 1913. The analysis is based on an original dataset with yearly observations of war and public revenues for 27 American and European countries. To our knowledge, this is the first time-series cross-section analysis of nineteenth-century state formation in these two regions, which have been central to the literature on the topic.<sup>3</sup> By relying on new panel data on military conflicts and public revenues, this paper seeks to contribute to that research agenda.

Our analysis shows that, in the nineteenth century, the type of wars that states fought mattered less than the intensity and duration of those conflicts. On average, neither civil nor international wars had a lasting effect on public revenues during the 19th century. We do not find robust evidence of any average

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<sup>1</sup> Hintze (1975); Tilly (1975, 1985); Downing (1993); Ertman (1997); Karaman and Pamuk (2013); Gennaioli and Voth (2015); Dincecco, Federico, and Vindigni (2011); Dincecco (2015); and Saylor and Wheeler (2017). Most recently, Abramson (2017) shows that state survival in 1100-1790 is *negatively* correlated with (territorial) size, arguing that variation in economic resources rather than changes in the production of violence explains this pattern.

<sup>2</sup> Rasler and Thompson 1985, 2017; Besley and Persson (2008); Besley, Ilzetzki, and Persson (2013); Scheve and Stasavage (2010, 2012); Thies (2004, 2005, 2006, 2007, 2010); Lu and Thies (2013); Thies, Chyzh, and Nieman (2015); Sabaté (2016); and Goenaga and von Hagen-Jamar (2018).

<sup>3</sup> Although see He (2013) for a comparison between European and Asian patterns of state making during the nineteenth century.

effect even if we use a more fine-grained typology of wars, sub-dividing international wars into conflicts between states (inter-state wars) and between states and non-state actors (extra-state wars), and classifying civil conflicts according to cleavage (wars between elites or between classes) or incompatibility (wars about secession, regime change, or other issues). A clear pattern appears, however, when we weight conflicts according to their intensity and duration. Public revenues increased in the aftermath of *both* international *and* civil wars when they were intensive enough, as measured by the number of battle-related deaths suffered by the state or by the duration of the conflict (in the case of civil wars). This effect holds across most of the sub-types of war that we analyzed.

These results help us resolve some of the disagreements in the literature. First, compared to other historical periods, nineteenth-century wars had on average a weaker effect on state-making because they tended to be more limited in their intensity and duration. However, cases of intense or protracted conflict did have a lasting impact, such as the civil wars of 1835 to 1845 in Brazil, the American Civil War, or the Franco-Prussian War. This result goes in line with the long-term effects that Mark Dincecco and Mauricio Prado (2012) associate with specific conflicts, as well as bellicist studies that emphasize the severity of war (Rasler and Thompson 2017).

Second, intensity mattered regardless of the type of war. This finding runs against the claim that international wars tend to foster investments in state capacity but civil wars generally have a negative impact on state making (Besley and Persson 2011). Instead, it joins other studies that argue that some internal conflicts can actually foster the strengthening of state institutions (Slater 2010; Rodríguez-Franco 2016). War intensity is particularly relevant to disentangle which wars mattered for state-making during the long-nineteenth century. For much of this period, non-state actors could mobilize military capabilities comparable to those of states. At the same time, the juridical sovereignty of states could still be challenged through military action by both external and domestic rivals. Consequently, the “technologies of rebellion” of the nineteenth century did not systematically differ from the military logistics, resources and intensity of international wars (Kalyvas and Balcells 2010, 418). It was only with the rise of industrial warfare, the centralization of military resources by states, and the consolidation of international norms of state sovereignty and territorial integrity—which began in the long-nineteenth century but only culminated after the two world wars—that the differentiation between civil and international conflicts became relevant for processes of state formation.

Third, more intense wars were associated with increases in public revenues in the Americas as much as in Europe. Even if American countries were less involved in international wars than their European counterparts (and were instead heavily involved in civil wars), both types of war were associated with increases in public revenues when they were intensive enough. Hence, long-term differences in public revenues between these two regions do not seem to be related to their respective experiences with warfare during the nineteenth century.

In what follows, we first summarize previous research on the effects of nineteenth century wars on state formation (section 2). Second, we discuss the transformations in warfare that make the nineteenth century different from other historical contexts and outline alternative theoretical expectations about the types of warfare that should be most relevant for state-making in this period (section 3). Third, we describe our new datasets (section 4). We then present the results of the statistical analyses (section 5) and discuss regional variation (section 6). In the concluding discussion, we set out possible avenues for future research (section 7).

## II War and State Formation

“Bellicist theory” initially grew out of case studies and small-n comparisons that sought to explain the rise of territorial sovereign states in Early Modern Europe.<sup>4</sup> In recent years, several quantitative studies have revisited those arguments and extended them to the twentieth century.<sup>5</sup> Most of this literature has consistently found a positive and significant effect of *external* or inter-state conflicts on state formation.

The scarcity of historical data on state capacity has thus far prevented similar cross-sectional time-series analyses for the long nineteenth century.<sup>6</sup> Relying only on between-country variation, some recent studies have found a significant statistical association between nineteenth century interstate wars and contemporary levels of taxation. In their seminal work on the long-term determinants of prosperity, Tim Besley and Torsten Persson argue that international wars tend to foster the emergence of “common interest states”, that is, states that raise more taxes and invest in the provision of broad public goods such as external defense (Besley and Persson 2011, 58). The authors show that countries that spent more years fighting international wars between 1816 and 1975 had on average higher tax ratios (taxes as a share of GDP) between 1976 and 2000 (Besley and Persson 2009, 1236). According to them, this result holds when looking only at the years at war from 1816 to 1900, suggesting that nineteenth century conflicts had an effect on the long-term development of fiscal capacity (Besley and Persson 2009, 1236).

Dincecco and Prado (2012) provide the most explicit argument about the effects of nineteenth-century wars on European state building. They present evidence of a strong statistical relationship between pre-1913 war casualties and

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<sup>4</sup> Hintze (1975); Tilly (1975, 1985); Downing (1993); Ertman (1997).

<sup>5</sup> Rasler and Thompson (1985, 2017); Besley and Persson (2008); Besley, Ilzetzki, and Persson (2013); Scheve and Stasavage (2010, 2012); Thies (2004, 2005, 2006, 2007, 2010); Lu and Thies (2013); Thies, Chyzh, and Nieman (2015); Sabaté (2016); and Goenaga and von Hagen-Jamar (2018), have extended bellicist theory to the study of the nineteenth and twentieth centuries.

<sup>6</sup> Dincecco has produced important insights on the topic (Dincecco 2009, 2011; Dincecco, Fenske, and Onorato 2016). However, those studies have relied on medium-n comparisons of only European countries.



two contemporary fiscal indicators: direct taxes as a share of total taxes and tax ratios. The effect is not only statistically significant but theoretically substantive: countries in the top-decile of war casualties from 1816 to 1913 have today fiscal capacities that are 22% higher than countries that experienced no war casualties during that period. According to the authors, this variation in contemporary levels of fiscal extraction is related to fiscal reforms that states implemented in the face of war during the long nineteenth century, such as the Napoleonic Wars (1803-1815), the American Civil War (1861-1865), the Austro-Sardinian War (1848-1849), the Franco-Austrian War (1859), and the Austro-Prussian War (1866) (Dincecco and Prado 2012, 175).

In ongoing work, Didac Queralt (2018) argues that participation in inter-state wars between 1816 and 1913 is associated with higher levels of fiscal capacity today (measured by the percentage of personal income tax to GDP, the size of the tax administration, value-added taxes, and modern census technologies). However, this association is conditional on having fought wars during periods when external sources of finance were foreclosed.

Queralt's conditional argument is a response to a series of case-studies and small-n comparative historical analyses that assert that international wars had, if anything, a negative impact on the development of non-European states, particularly in Latin America, during the nineteenth century. Miguel Ángel Centeno famously pointed out that wars triggered cycles of blood and debt in Latin America, weakening rather than strengthening the state (Centeno 2003). According to him, access to foreign credit and the initial weakness and fragmentation of Latin American states pushed them to fight "limited" rather than "total" wars, which did not pose the same pressures towards fiscal centralization and the expansion of state authority. Along these lines, Marcus Kurtz (2013) argued that the absence of prior pacts between Latin American states and economic elites interrupted the cycles of war and fiscal extraction that characterized European trajectories of state formation. More recently, Hillel Soifer (2015) evaluated these claims by looking at the relationship between wars and the size of the army of nineteenth-century Latin American states, finding no short-term effect. In fact, Soifer finds a *negative* association between the years a country spent at war and the share of the population enrolled in the army (Soifer 2015, 206).<sup>7</sup> He argues that if war did not increase the size of the army in the Latin American context, it is even less likely that it affected other aspects of the state such as tax revenues.

Historians have questioned the relevance of nineteenth-century wars even for the European cases. In an agenda-setting book, José Luís Cardoso and Pedro Lains argue that other factors, such as rapid economic growth, political reforms, and the shift of public expenditures away from defense spending towards other

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<sup>7</sup> Although see Arias and De la Calle (2018) for evidence of a long-term impact of participation in the Mexican War of Independence (1810-1821) on the number of civil servants by 1900 across Mexican municipalities.

types of social investments, drove the fiscal modernization of European states during the long nineteenth century. Even if war fostered fiscal expansion in certain circumstances, European fiscal history was shaped by a “century of peace” (Cardoso and Lains 2010). Similarly, Bartolomé Yun-Casalilla argues that the defense of property rights and internal order were much more important than warfare in developing the fiscal state in nineteenth-century Europe (Yun-Casalilla 2012).

Likewise, there is disagreement in the literature about the consequences of *internal* conflicts for state-making. The conventional wisdom in the literature is that whereas wars against external enemies create incentives for state building, internal conflicts weaken the state. Besley and Persson argue that civil wars by definition fragment the interests of the population, fracture the cohesiveness of political institutions, increase political instability, and thus hinder investments in state capacity and the provision of public goods (Besley and Persson 2011, 169–70). They find a negative association between the number of years that a country spent involved in a civil war between 1950 and 2005 and its fiscal and legal capacity at the end of the period (Besley and Persson 2011, 231). Indeed, a large body of research on twentieth century civil conflicts has shown that weaker states tend to be more likely to fight civil wars and that civil wars in turn weaken the state even further (e.g., Fearon and Laitin 2003; and most recently Ch et al. forthcoming). In a series of cross-national analyses, Cameron Thies, for example, has found that civil wars had a negative and significant effect on the tax ratios of Latin American countries from 1900 to 2000 (Thies 2005) and on a sample of 157 countries from 1960 to 1999 (Thies 2010).

This view has inspired the claim that the underdevelopment of Latin American states is related to the prevalence of civil conflict during the nineteenth century (Centeno 2003; Kurtz 2013; Soifer 2015). However, many of the wars that Dincecco (2009) and Dincecco and Prado (2012) associated with moments of fiscal centralization—e.g., the Revolutions of 1848, the American Civil War and the Satsuma Rebellion in Japan—were *internal* conflicts. Moreover, other authors argue that certain kinds of internal conflicts—namely, social revolutions driven by inter-class conflict—can strengthen the state in the long run (Skocpol 1979; Becker and Goldstone 2005; Slater 2010; Levitsky and Way 2013). Our new panel data opens the opportunity to systematically examine these competing claims about the effects of nineteenth-century civil and international wars in different parts of the world. Before presenting our data and analyses, however, it is necessary to point out the particularities of the long nineteenth century and why we could expect the relationship between war- and state-making to differ from other historical periods.

### III A bellicist theory for the long-nineteenth century

Contrary to the violent twentieth century, the years between the Congress of Vienna (1815) and the onset of World War I (1914) were characterized by a relative peace between European powers and a large number of colonial wars abroad. It was also a period of innovation in the practice of warfare, in which armies experienced dramatic transformations in terms of resources, organizational structure, and societal functions. Such changes were likely to affect the relationship between war- and state-making.

#### *A period of change in the practice of warfare:*

Universal conscription was introduced in 1793 in the context of the Revolutionary Wars and was slowly adopted by other countries over the course of the century, particularly during the US Civil War (1861-65) and the War of the Triple Alliance in Paraguay (1864-70). This new practice transformed the scope and intensity of military conflicts, preparing the terrain for the kind of mass-mobilizing “people’s war” of the twentieth century (Opello 2016, 105–8; Frevert 2009).

Along with mass conscription, the French Revolution brought reforms to the organizational structure of the military. Even though by the eighteenth century military administration was “relatively centralized, routinized, disciplined, homogenous and bureaucratic”, its professionalization lagged behind in two respects: personnel policy and standards of competence (Mann 1993, 424). Prior to the nineteenth century, access to officer ranks was still determined by aristocratic background and family connections rather than formal qualifications or job performance, while troops were subject to arbitrary corporal punishment and received little training. The Revolutionary and Napoleonic Wars were a turning point in the professionalization of European armies, spreading the abolition of corporal punishment and the adoption of meritocratic recruitment and promotion criteria to the states that Napoleon’s armies invaded.

The professionalization and mass-mobilization of the military was not as extensive in Latin America, with possibly the exception of Chile (Soifer 2015, 222–24). Latin American states were not only incapable of mobilizing troops effectively, but struggled to centralize control over military forces for most of the century (Soifer 2015, 212-15). In Mexico, for example, the troops that fought international wars against the United States (1845-1848) and France (1862-1867) were commanded by local and regional strongmen that often turned against each other after the end of those conflicts. Even under the centralizing regime of Porfirio Díaz (1877-1911), paramilitary forces under the command of regional *caudillos* doubled the size of the national army. In Colombia, anti-statist elites opposed the creation of a strong standing army for most of the nineteenth century, and challengers of state authority were often able to mobilize forces as powerful as those of the national government.

Military functions also changed during the long nineteenth century. The professionalization of internal security forces gradually limited military involvement in domestic matters to extreme cases of full scale repression (i.e., civil wars), although this process did not culminate until well into the twentieth century for Europe and the United States, and dragged even longer for Latin American states (Mann 1993, 408). The functional differentiation of police and military functions reflected not only the incremental monopoly of coercive resources by states, but also the slow consolidation of the norm of state sovereignty. Prior to WWII, domestic and external actors could challenge state sovereignty through military actions, and borders could be redrawn by force. As Robert Jackson and Carl Rosberg put it: “empirical” statehood trumped “juridical” sovereignty (Jackson and Rosberg 1982).

Finally, technological innovations also led to an impressive growth in the lethality of firearms and field artillery (Hoffman 2015, 183). More importantly, the invention of the railroad greatly expanded the projection of military power over land. The use of railways to deliver troops and supplies to the battlefield made possible the development of mass armies capable of mobilizing over 10 percent of a country’s population by the end of the nineteenth century (Onorato, Scheve, and Stasavage 2014, 450; Hoffman 2015, 202). Troops were no longer limited by the capacity of the land they crossed to feed them, since now food, weapons and ammunition could be supplied from the rear. This meant not only that the average size of European armies during war-years almost tripled compared to the eighteenth century<sup>8</sup>, but also that now a substantive part of the productive capacity of the country needed to be geared towards the war efforts in order to supply those armies. Railways were first used for military purposes in the Crimean War, but were central in the Franco-Austrian/Austro-Sardinian War of 1859, and later during the American Civil War and the Franco-Prussian War. Indeed, the defeat of the French armies in the latter created a strong push for the expansion of the railroad network during the Third Republic (Onorato, Scheve, and Stasavage 2014, 476).

These institutional and technological innovations were likely to affect state-making in important ways. They transformed the relationship between the state and society, as warfare was no longer an affair for the glory of monarchs and aristocrats but a force with the potential to touch everyone in the country (Opello 2016, 105–8). The rise of nationalism during those years further contributed to place the state at the steering wheel of a society that could be mobilized for mass warfare.<sup>9</sup>

These enhanced military capabilities, together with the new personal and economic incentives that political leaders faced in the event of war, made military conflicts costlier to the state and its population and less appealing to policy-

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<sup>8</sup> According to Onorato, Scheve, and Stasavage's calculations (2014, 459).

<sup>9</sup> See, for example, Clausewitz 2008[1832]; Posen 1993; Snyder 2000.

makers. European rulers became more likely to negotiate peaceful settlements and to only enter conflicts that they knew in advance they could win (Hoffman 2015).<sup>10</sup> By contrast, the slower adoption of the new military technologies and institutions by most American countries widened the disparity in military power between great powers and other states. Hence, the “armed peace” that prevailed in Europe was accompanied by a large number of imperial wars abroad, which were now possible thanks to the new capabilities of great powers to project military power across the globe (Sarkees, Wayman, and Singer 2003, 62). These asymmetries in the modernization of armed conflict determined the types of wars that different states were more likely to fight, and therefore created heterogeneity in the potential impact of warfare on state formation.

### *Disentangling the effects of nineteenth-century wars*

Based on the discussion above, which wars were likely to matter for nineteenth-century state-making? Bellicist theory offers several insights in this regard.

We start with the distinction between internal (or civil) and external (or international) conflicts. The prevalent view in the literature asserts that wars against external enemies unify the interests of rulers and subjects around investments in state institutions, while internal conflicts divide society, fracture political institutions, foster political instability, and erode state capacity (Fearon and Laitin 2003; Besley and Persson 2011).

However, as peace and conflict scholars have pointed out, the distinction between civil and international wars is blurrier than one may think (Sambanis 2004; Kristian Skrede Gleditsch, Salehyan, and Schultz 2008; Kalyvas and Balcells 2010). This was particularly the case in the nineteenth century. Rebels in many parts of the world could still organize military forces that were comparable in organization, discipline, resources and technology to state armies, while many states were unable to centralize and modernize their militaries for most of the century. As a result, many international wars resembled the low-intensity guerrilla warfare that became characteristic of twentieth-century civil conflicts, while some civil wars looked a lot like conventional wars between states (Kalyvas and Balcells 2010, 418). Furthermore, since the juridical sovereignty of states could be challenged through military might, internal and external conflicts could pose similar pressures on rulers. The threat of partition endangered the integrity of the state as much as the threat of conquest and annexation. Therefore, we would need a finer-grained typology of civil and international wars to assess which among them could potentially have a positive impact on state formation.

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<sup>10</sup> According to Philip Hoffman’s calculations, 11 Western European states (Austro-Hungary, Belgium, Britain, Denmark, France, Italy, the Netherlands, Portugal, Prussia, Spain, and Sweden) spent a total of 115 years at war (not including naval campaigns and colonial wars) per century between 1650 and 1815, with an average of 41,000 deaths per year. Between 1816 and 1913, this same group of European states spent 26 years at war, with 9000 battle deaths per year (Hoffman 2015, 188).

Starting with civil wars, they may differ in terms of the type of *cleavage* that motivates them, that is, whether they are primarily conflicts between different elites fighting for control of the state or conflicts between classes as subaltern populations take up arms against dominant groups. On the one hand, class conflict may foster solidarity among economic elites and state authorities and motivate investments in state capacity to protect their interests (Slater 2010; Rodríguez-Franco 2016). On the other hand, popular insurgencies are less likely to have access to military technology, infrastructure and expertise comparable to that of the state, while nineteenth-century elites often commanded their own naval forces, railroads, and well-trained military officers. Take for example, the Confederate railroads of the American Civil War. These factors should make conflicts between elites more likely to resemble wars between states and thus foster similar investments in state capacity.

Civil wars also differ in the *incompatibility* of interests between the warring parts. Since in the nineteenth century, violent partition represented as a much a threat to the survival of the state as foreign invasions, secessionist civil wars should have a similar impact on state formation as international conflicts. Civil conflicts over regime change would also pose a serious threat, if not on the survival of the state at least on the political (and possibly personal) survival of rulers and their agents. Consequently, conflicts over secession or regime change should be more likely to trigger increases in state capacity, compared to conflicts over the territorial autonomy of sub-national units or resistance against unpopular policies.

In relation to international conflicts, we follow the Correlates of War Project approach by distinguishing in terms of the type of actors involved. A distinctive feature of the nineteenth-century was that the global projection of military power of some states preceded the consolidation of a global state system. The colonial race meant that European powers increasingly fought non-state actors beyond their borders, from indigenous groups to militias led by local elites. Extra-state wars were generally highly asymmetrical, as they involved imperial powers with large power projection capabilities fighting much weaker enemies far from their own territory (Sarkees, Wayman, and Singer 2003, 56; Arreguín-Toft 2005, 20). Therefore, we expect inter-state wars, in which at least two states fight against each other, to have a positive impact on state making, while extra-state wars, in which a state fights against non-state actors outside its borders, should rarely have such an effect.

Alternatively, it may be the intensity or duration of war that determine its consequences for state making, rather than categorical differences in the type of cleavage, incompatibility or actors involved. Along these lines, Centeno distinguished between “total” and “limited” wars in his analysis of Latin America (2003). Similarly, Rasler and Thompson have recently argued that it was the intensity of war that drove increases in public revenues as a share of GDP prior to 1945, and it has been its decline in the post-war years that has weakened the effect of wars on state-making (Rasler and Thompson 2017). As we saw before, nineteenth century wars were on average less intensive compared to those from

previous centuries and obviously compared to the two world wars. Most conflicts were “limited”, both in terms of the destruction they unleashed and the resources they absorbed. Nevertheless, there were some wars that imposed massive human and material costs on the state and its population, regardless of whether they were external (e.g., the Franco-Prussian War, the War of the Triple Alliance) or internal conflicts (e.g., the American Civil War). Therefore, we would expect highly destructive conflicts to foster greater investments in state institutions compared to low-intensity conflicts that put weaker pressures on the state.

Finally, armed conflicts may be associated with state-making depending on their duration. States are slow organizations. Rulers are likely to need time to realize what kind of state investments are needed when a war breaks out, and even more time to successfully push forward those reforms. Moreover, lengthier wars tend to impose more financial and political costs on the state (Bennett and Stam 1996; Mason and Fett 1996; de Rouen and Sobek 2004). Therefore, short wars may not trigger major changes in state capacity, as they may erupt and conclude before rulers are able to bring about any significant changes in state capacity. Conversely, protracted conflicts that span several years may be more likely to have a noticeable impact on the state because they create larger pressures on state resources.

## IV Dataset

To analyze the long-term effects of military conflicts on fiscal capacity we have compiled a new dataset of wars and public revenues. The dataset includes the number of international and civil wars fought by European and American states since the end of the Napoleonic wars to the eve of World War I. In line with the hypotheses advanced in the previous section, these two types of wars are further disaggregated into several sub-categories. International wars are divided into inter-state wars (wars between two or more states) and extra-state wars (wars between at least one state actor and one or more non-state actors outside the state boundaries). Civil wars are divided based on the cleavages and the incompatibility of interests. The former differentiate between wars fought between elites and non-elites (what we call inter-class conflicts) and wars fought between elites (inter-elite conflicts). As for the latter, our dataset distinguishes between wars over secession (i.e., the creation of an independent state covering part of the territory of the current state), wars over regime change (i.e., to change the government in power), and wars over other kinds of incompatibilities (mainly conflicts over territorial autonomy or over specific policies such as tax increases or conscription).

Table 1. Wars in Europe and the Americas, c1816-c1913

|                              | <b>Obs.</b> | <b>Mean duration</b> | <b>Mean Bd<sup>a</sup></b> | <b>St.Dev. Bd<sup>a</sup></b> | <b>Min. Bd<sup>a</sup></b> | <b>Max. Bd<sup>a</sup></b> |
|------------------------------|-------------|----------------------|----------------------------|-------------------------------|----------------------------|----------------------------|
| International wars           | 158         | 2,5                  | 7.200                      | 19.937                        | 0                          | 152.000                    |
| Civil wars                   | 93          | 2,8                  | 15.861                     | 53.413                        | 80                         | 360.000                    |
| Total                        | 251         | 2,6                  | 8.732                      | 28.880                        | 0                          | 360.000                    |
| <i>International wars</i>    |             |                      |                            |                               |                            |                            |
| Inter-state wars             | 62          | 2,7                  | 10.854                     | 25.652                        | 13                         | 152.000                    |
| Extra-state wars             | 89          | 2,3                  | 4.216                      | 12.740                        | 0                          | 100.000                    |
| <i>Civil wars: cleavages</i> |             |                      |                            |                               |                            |                            |
| Inter-class civil wars       | 24          | 2,7                  | 5.069                      | 11.260                        | 80                         | 45.100                     |
| Inter-elite civil wars       | 69          | 2,8                  | 20.622                     | 63.401                        | 200                        | 360.000                    |
| <i>Civil wars: claims</i>    |             |                      |                            |                               |                            |                            |
| Over secession               | 16          | 4,3                  | 41.858                     | 101.503                       | 500                        | 360.000                    |
| Over regime change           | 51          | 2,2                  | 10.432                     | 23.032                        | 200                        | 90.000                     |
| Other civil wars             | 26          | 2,8                  | 1.887                      | 2.109                         | 80                         | 5.500                      |

Notes: All data from 1816 to 1913 (depending on data availability and year of independence). a) “Bd” stands for “battle deaths”. Source: own elaboration based on Wimmer and Min (2009); Sarkees and Wayman (2010); Gleditsch and Ward (1999); Dixon and Sarkees (2016). See the list of wars in Tables B1, B2 and B3.

The data on wars expands and updates the Correlates of War dataset (Sarkees and Wayman 2010) with three additional sources: Wimmer and Min (2009), Gleditsch and Ward (1999 and subsequent updates), and Dixon and Sarkees (2016). According to the Correlates of War Project a state must be recognized by both France and England to be included in the dataset, which leaves aside important wars that were likely to shape the development of already independent states in the early nineteenth century (e.g., Uruguay only appears in the COW dataset in 1882). We address this issue by, first, including all states since 1816 or the year in which they gained independence, following the list of independent states and wars compiled by Wimmer and Min (2009) and Gleditsch and Ward (1999). Second, we adjust the classification of inter-state and extra-state wars based on Gleditsch and Ward (1999). We also update the COW’s list of civil wars by adding new military conflicts recently included in Dixon and Sarkees (2016).

Table 1 presents the descriptive statistics for our war variables.<sup>11</sup> The dataset contains 158 international wars and 93 civil wars, for a total of 251 armed

<sup>11</sup> The countries included in Table 1 are: Argentina, Austria-Hungary, Belgium, Bolivia, Brazil, Canada, Chile, Colombia, Denmark, Finland, France, Germany, Italy, Mexico, Netherlands, Norway, Peru,



conflicts.<sup>12</sup> The majority of international conflicts were extra-state wars. European colonial wars, including the Latin American wars of independence against the Spanish and Portuguese kingdoms, constitute the bulk of military conflicts in this category. Inter-state wars were less frequent but deadlier, generating on average almost 11,000 thousand battle-related deaths.<sup>13</sup> Civil conflicts were, in turn, less frequent but more lethal than international wars (although this result is partially driven by the unparalleled death toll of the US Civil War in 1861-65). Most of these civil wars were inter-elite conflicts (69) whereas only a minority of them (24) was fought between classes. Similarly, a significant percentage of civil conflicts was primarily aimed at changing the government in power (51), while only 16 wars were fought over secessionist claims.

In addition to our data on nineteenth century wars, we have gathered a new longitudinal dataset of public finances in the long nineteenth century. In line with the previous literature, which has long considered the ability to implement and enforce innovative fiscal structures an inherent feature of state capacity (see, for instance, Besley and Persson, 2009), our main outcome variable measures total public revenues as a share of GDP for 27 American and European countries from c.1800 to 1913. It includes all kinds of public revenues (taxes, duties, monopolies, interests on assets, etc.) except for state borrowing. The dataset has been compiled from secondary sources and statistical yearbooks, giving priority to reliable long-term homogeneous series.<sup>14</sup>

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Portugal, Romania, Russia, Spain, Sweden, Switzerland, United Kingdom, United States, Uruguay, and Venezuela. Our dataset also contains information about wars for other European states (mainly former Italian and German states and the Ottoman Empire) and Central-American states that are not included in this paper due to the lack of public revenue data.

<sup>12</sup> Of these 158 international wars, 7 refer to civil wars that took place in other countries (mainly in Asia and Africa) but in which one or more states included in the dataset participated as foreign powers (and they are included neither in the inter-state nor the extra-state war categories). Additionally, France, Portugal and the United Kingdom participated in civil wars that took place in Spain and Portugal (namely, the First Carlist War and the Miguelite War). Even if these wars are counted as civil wars, the battle deaths suffered by these foreign powers are included in the number of battle deaths of international wars.

<sup>13</sup> The information on average battle deaths needs to be taken with a grain of salt, since the dataset does not contain data on battle deaths for a number of wars (21.6% of the country-war observations, particularly in the case of civil wars in Latin America in the early nineteenth century).

<sup>14</sup> Future iterations of this paper will provide an appendix with all the sources used to compile the public revenues/GDP dataset.

*Table 2. Countries and time periods included in our public revenues/GDP dataset*

| <b>Country</b>  | <b>First year</b> | <b>Last year</b> | <b>Country</b> | <b>First year</b> | <b>Last year</b> |
|-----------------|-------------------|------------------|----------------|-------------------|------------------|
| Argentina       | 1820              | 1913             | Netherlands    | 1807              | 1913             |
| Austria-Hungary | 1870              | 1913             | Norway         | 1850              | 1913             |
| Belgium         | 1835              | 1912             | Peru           | 1820              | 1913             |
| Bolivia         | 1882              | 1913             | Portugal       | 1837              | 1913             |
| Brazil          | 1823              | 1913             | Romania        | 1882              | 1907             |
| Canada          | 1870              | 1913             | Russia         | 1885              | 1913             |
| Chile           | 1817              | 1913             | Spain          | 1850              | 1913             |
| Colombia        | 1820              | 1913             | Sweden         | 1800              | 1913             |
| Denmark         | 1841              | 1913             | Switzerland    | 1851              | 1913             |
| Finland         | 1882              | 1913             | United Kingdom | 1801              | 1913             |
| France          | 1815              | 1913             | United States  | 1800              | 1913             |
| Germany         | 1872              | 1913             | Uruguay        | 1871              | 1910             |
| Italy           | 1862              | 1913             | Venezuela      | 1831              | 1913             |
| Mexico          | 1895              | 1910             |                |                   |                  |

Notes: Time periods depend on data availability and year of independence (or unification).

Table 2 presents the countries and time periods covered by the dataset. To the best of our knowledge, this is the most complete longitudinal dataset of actual resources mobilized by central governments in the nineteenth century, which allows us to explore the influence exerted by warfare on the evolution of public revenues using contemporaneous quality data.

Even if we consider our variable a reliable indicator of the state's access to public resources, it is important to note that most of the previous quantitative literature has relied on other indicators of fiscal capacity that are not available for the nineteenth century, such as the so-called tax ratio (tax revenues/GDP) or the share of direct taxes in total tax revenues (Besley and Persson 2009; Dincecco and Prado 2012; Queralt 2018). The differences between these indicators and our variable of interest (total public revenues, which includes both tax revenues and non-tax revenues) are indeed relevant. Above all, the domestic political costs of raising non-tax revenues dwarf compared to the costs associated with the implementation of new taxes. Whereas the latter compels the rulers to negotiate with its subjects, the former does not necessarily entail any similar bargaining process. As a consequence, non-tax revenues can be considered a low-hanging fruit that rulers can go after when they find themselves in need of additional resources, which "both contained and circumvented political resistance to demands for higher taxation" (O'Brien 2011, 417).

Having said that, we believe that if we interpret the public revenue ratios not as an indicator of a latent capacity to design and implement efficient fiscal policies but as an indicator of financial resources available to the state, these data tells us something important about the evolution of state capacity. Indeed, detailed historical studies have emphasized the important role of patrimonial domains and other sources of non-tax revenue in the public budgets of modern

states (O'Brien 2011; Nilsson 2017). Additionally, war-related displacement effects can be driven by both tax revenues and non-tax revenues, which makes the analysis of total public revenues a necessary complement to those studies that focus their attention exclusively on taxation. In any case, we have replicated our analysis using the tax ratios dataset compiled by Andersson (2017) and most of our results hold, which suggests that our conclusions travel to the world of taxation and not just to the domain of public revenues in general.

Table 3 presents the descriptive statistics of public revenue ratios in our sample.<sup>15</sup> It shows that Europe had, on average, higher ratios but also more intra-regional variation. Figure 1 complements this information by comparing the average level of public revenues as a share of GDP in 1830-1939 and in 1910-1913 for a sub-sample of our dataset. In general, we observe little to moderate changes in most cases, which confirms the fact that the fiscal transformations that fundamentally transformed public finances came later in the twentieth century. Regional differences also remained fairly constant during those years, and the American average continued to lag behind the European average by 1913. Nevertheless, some countries did deviate significantly from the 45-degree reference line. For instance, several Latin American and European countries, above all Chile, increased their public revenue ratios during the century, whereas the United Kingdom, the United States, Colombia, and the Netherlands experienced a decline in their ratios instead (mostly driven by increases in GDP rather than by a decline in revenue collection).

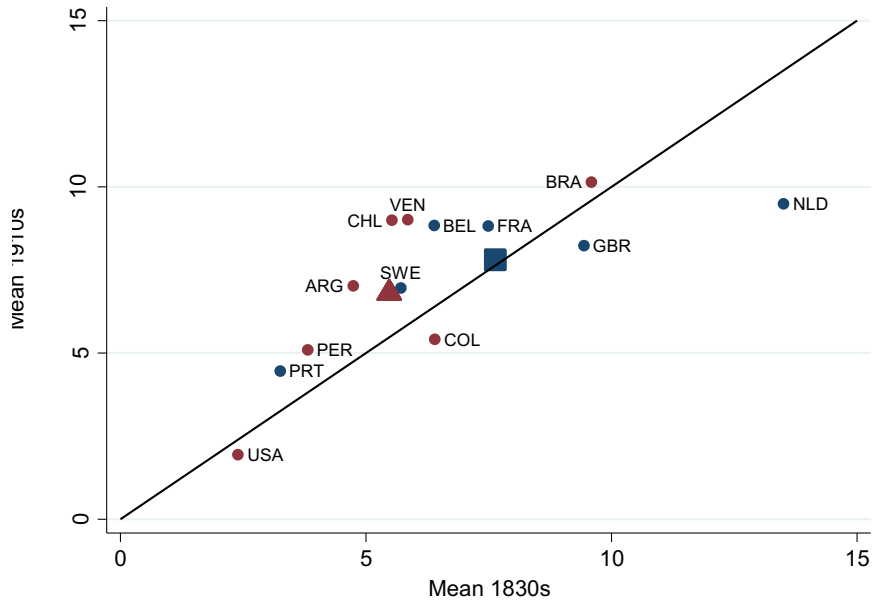
*Table 3. Descriptive statistics of public revenue ratios*

| <b>Variables</b>    | <b>Obs.</b> | <b>Mean</b> | <b>Std. Dev.</b> | <b>Min.</b> | <b>Max.</b> |
|---------------------|-------------|-------------|------------------|-------------|-------------|
| <i>Total</i>        |             |             |                  |             |             |
| Public revenues/GDP | 1,856       | 7,0         | 3,4              | 0,5         | 17,9        |
| <i>Europe</i>       |             |             |                  |             |             |
| Public revenues/GDP | 1.064       | 7,5         | 3,6              | 0,5         | 17,9        |
| <i>America</i>      |             |             |                  |             |             |
| Public revenues/GDP | 792         | 6,3         | 3.0              | 1,0         | 15,8        |

Notes: Public revenues/GDP data from 1800 to 1913. In all cases, the starting date depends on data availability and year of independence (or unification).

<sup>15</sup> Figure A1 in the appendix displays the annual evolution of public revenues/GDP for all countries in our sample.

Figure 1. Persistence during the nineteenth century, public revenues/GDP



Notes: Public revenues/GDP, averages 1830-1839 and 1910-1913. Red dots represent American countries, whereas blue dots represent European countries. Similarly, the red triangle represents the average of all American countries, while the blue square represents the average of all European countries. The dark line represents the 45-degree reference line.

## V Regression analyses

This section presents several econometric tests that analyze the interplay between wars and public revenues in the 19th century. The models in Table 4 gradually hone in on estimates that can be considered reasonable approximations of average treatment effects. We use a dummy variable for the incidence of war that takes a value of 1 during wartimes (regardless of intensity and typology) and 0 otherwise. We start with a naïve specification that only looks at a pooled time series cross-section model without any lags or controls. The results from such a model provide artificial evidence for a positive and significant effect of wars. The second and third models make a first correction by controlling for country fixed effects and year dummies, thus purging the regression estimates from the influence of country-specific features and common trends in public revenue collection. These corrections render the coefficient for wars negative but insignificant, the reason being that the previous results were probably driven by cross-regional and cross-temporal differences, with European countries such as France, the UK and the Netherlands waging multiple international wars and also collecting higher revenues (particularly in the last quarter of the century).

Table 4. Public revenue and war incidence, 1816-1913

| VARIABLES             | (1)<br>Model 1       | (2)<br>Model 2       | (3)<br>Model 3      | (4)<br>Model 4      | (5)<br>Model 5      | (6)<br>Model 6          |
|-----------------------|----------------------|----------------------|---------------------|---------------------|---------------------|-------------------------|
| War                   | 0.873***<br>(0.192)  | -0.227<br>(0.154)    | -0.142<br>(0.128)   | -0.199<br>(0.119)   | -0.186<br>(0.114)   | -0.135<br>(0.136)       |
| War <sub>t-5</sub>    |                      |                      |                     | 0.221<br>(0.169)    | 0.247<br>(0.165)    | 0.125<br>(0.188)        |
| PubRev <sub>t-5</sub> |                      |                      |                     |                     | 2.741***<br>(0.573) | 3.105***<br>(0.726)     |
| Default               |                      |                      |                     |                     |                     | -0.212<br>(0.148)       |
| GDPpc                 |                      |                      |                     |                     |                     | -0.000142<br>(0.000143) |
| Polyarchy             |                      |                      |                     |                     |                     | 0.0194<br>(2.310)       |
| Constant              | 6.804***<br>(0.0889) | 7.039***<br>(0.0330) | 8.977***<br>(1.198) | 9.023***<br>(1.228) | 5.001**<br>(1.836)  | 4.580*<br>(2.284)       |
| Observations          | 1,804                | 1,804                | 1,804               | 1,804               | 1,673               | 1,301                   |
| R-squared             | 0.011                | 0.003                | 0.085               | 0.088               | 0.314               | 0.343                   |
| Country FE            | NO                   | YES                  | YES                 | YES                 | YES                 | YES                     |
| Year FE               | NO                   | NO                   | YES                 | YES                 | YES                 | YES                     |
| Num. countries        | 27                   | 27                   | 27                  | 27                  | 27                  | 25                      |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

We further elaborate on this null finding by allowing for a more flexible time-window, in effect looking at whether wars occurred over the past 5-year period. Model 4 includes a new dummy variable that takes value 1 if a war took place from time  $t-5$  to  $t-1$  and 0 otherwise. Since we are interested in the state-building effect that wars have, this variable is meant to capture the legacy of wars in the short term and represents the main coefficient of interest for our purposes. The last two models look at changes rather than levels of the dependent variable by means of including the dependent variable lagged 5 years.<sup>16</sup> Model 6 additionally includes a set of control variables, namely whether a country was in default in a given year, the level of GDP per capita, and the level of democratization.<sup>17</sup> The coefficient for ongoing wars remains negative and insignificant, whereas the coefficient for past wars turns out to be positive but again insignificant.

Table 5 repeats Model 5 (which we consider our baseline model) with different time-lags, exploring 1, 3, 5 and 10-year lags of the dependent variable and the lagged independent variable. Results remain largely the same with the

<sup>16</sup> With a T of 70 years per country, on average, we are not worried about Nickell bias (Beck et al., 2014).

<sup>17</sup> Data on default years comes from Reinhart and Rogoff (2009), GDP per capita from the Maddison Project Database, version 2018, and polyarchy comes from Coppedge et al. (2018).

exception of Model 1 (1-year lag), in which ongoing wars become positive and significant and past wars negative and also significant. This suggests that wars had on average a negative effect as they transpired (albeit the results are not robust across model specifications) and a positive impact in the aftermath but *only* in the very short run (1 year after the war ended). Once larger time spans are taken into account, results vanish.<sup>18</sup>

Table 5. Public revenue and war incidence, 1816-1913 (several lags)

| VARIABLES         | (1)<br>Lag 1         | (2)<br>Lag 3         | (3)<br>Lag 5        | (4)<br>Lag 10        |
|-------------------|----------------------|----------------------|---------------------|----------------------|
| War               | -0.151**<br>(0.0722) | -0.199<br>(0.117)    | -0.186<br>(0.114)   | -0.230*<br>(0.118)   |
| War (lag)         | 0.219**<br>(0.0894)  | 0.143<br>(0.116)     | 0.247<br>(0.165)    | 0.181<br>(0.195)     |
| PubRev (lag)      | 0.822***<br>(0.0224) | 0.641***<br>(0.0492) | 2.741***<br>(0.573) | 0.385***<br>(0.0631) |
| Constant          | 2.241**<br>(0.857)   | 3.561<br>(2.187)     | 5.001**<br>(1.836)  | 6.595***<br>(1.377)  |
| Observations      | 1,777                | 1,723                | 1,673               | 1,556                |
| R-squared         | 0.728                | 0.503                | 0.314               | 0.280                |
| Num. of countries | 27                   | 27                   | 27                  | 27                   |
| Country FE        | YES                  | YES                  | YES                 | YES                  |
| Year FE           | YES                  | YES                  | YES                 | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

To examine the effects of different types of wars, we reproduce our baseline model (see Model 5 in Table 4) for a set of categories and sub-categories of war. Model 1 in Table 6 differentiates between international wars and civil wars, while Model 2 presents results for different types of international wars (inter-state and extra-state), and Models 3 and 4 focus on different types of civil wars according to cleavage and incompatibility, respectively.

<sup>18</sup> Figure A2 in the Appendix explores the sensitivity of the model to “pure” lags (from 1 to 10 lags). Only the model with a 1-year lag shows a positive and significant coefficient.

Table 6. Public revenue and different types of war, 1816-1913

| VARIABLES                             | (1)<br>Model 1      | (2)<br>Model 2      | (3)<br>Model 3      | (4)<br>Model 4      |
|---------------------------------------|---------------------|---------------------|---------------------|---------------------|
| International war                     | -0.0106<br>(0.0653) |                     | -0.0341<br>(0.0613) | -0.0114<br>(0.0667) |
| International war <sub>t-5</sub>      | 0.196<br>(0.187)    |                     | 0.207<br>(0.186)    | 0.189<br>(0.191)    |
| Civil war                             | -0.377<br>(0.234)   | -0.376<br>(0.227)   |                     |                     |
| Civil war <sub>t-5</sub>              | 0.228<br>(0.198)    | 0.225<br>(0.201)    |                     |                     |
| Inter-state war                       |                     | -0.159<br>(0.161)   |                     |                     |
| Extra-state war                       |                     | 0.0812<br>(0.166)   |                     |                     |
| Inter-state war <sub>t-5</sub>        |                     | 0.270<br>(0.167)    |                     |                     |
| Extra-state war <sub>t-5</sub>        |                     | 0.179<br>(0.308)    |                     |                     |
| Inter-class civil war                 |                     |                     | -0.294<br>(0.225)   |                     |
| Inter-elites civil war                |                     |                     | -0.461*<br>(0.256)  |                     |
| Inter-class civil war <sub>t-5</sub>  |                     |                     | -0.355<br>(0.299)   |                     |
| Inter-elites civil war <sub>t-5</sub> |                     |                     | 0.483**<br>(0.211)  |                     |
| Secession civil war                   |                     |                     |                     | -0.381<br>(0.329)   |
| Government civil war                  |                     |                     |                     | -0.542**<br>(0.229) |
| Other civil war                       |                     |                     |                     | -0.224<br>(0.256)   |
| Secession civil war <sub>t-5</sub>    |                     |                     |                     | 0.433<br>(0.873)    |
| Government civil war <sub>t-5</sub>   |                     |                     |                     | 0.0387<br>(0.182)   |
| Other civil war <sub>t-5</sub>        |                     |                     |                     | 0.121<br>(0.335)    |
| PubRev <sub>t-5</sub>                 | 2.755***<br>(0.573) | 2.752***<br>(0.574) | 2.778***<br>(0.571) | 2.755***<br>(0.572) |
| Constant                              | 4.930**<br>(1.821)  | 5.025**<br>(1.856)  | 4.892**<br>(1.813)  | 4.952**<br>(1.826)  |
| Observations                          | 1,673               | 1,673               | 1,673               | 1,673               |
| R-squared                             | 0.316               | 0.318               | 0.323               | 0.317               |
| Num. of countries                     | 27                  | 27                  | 27                  | 27                  |
| Country FE                            | YES                 | YES                 | YES                 | YES                 |
| Year FE                               | YES                 | YES                 | YES                 | YES                 |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

In contrast to some of the bellicist literature, we do not find any significant difference between international and civil wars. The presence of an international war is not systematically associated with changes in public revenues in our sample of countries. As for different types of civil wars, only conflicts between elites (inter-elites civil wars in Model 3) seem to be associated with increases in public revenue.<sup>19</sup> Some of these wars were intense military conflicts between regular armies that seriously threatened the status quo, unlike most civil wars between classes that were generally highly asymmetrical (see the number of battle deaths in Table 1). Even if inter-class wars could theoretically foster elite unity towards renewed state-making efforts, the reality of the 19th century warfare suggests that the intensity of wars between elites trumped other factors.

Our final models explore this issue further by taking into account not only the mere presence of wars but their intensity and duration. Table 7 repeats the previous models qualifying the war dummies with the number of battle-related deaths. When this proxy for the intensity of the conflict is taken into account, both international and civil wars appear to be significantly associated with lower public revenues during the conflict and higher public revenues in its aftermath (see Model 1). The positive effect of international wars seems to be primarily driven by inter-state wars (Model 2), which appear to be positively and significantly correlated with higher public revenues. By contrast, extra-state wars remain insignificant. The fact that most extra-state conflicts were low-intensity colonial wars (see Table 1), and in some cases (such as in the Spanish military interventions in Cuba and Santo Domingo) financed through colonial treasures, might explain this result.

Civil wars between elites remain significant and positive when controlling for the intensity of war (see Model 3), which points towards a robust interplay between inter-elite military conflicts and public revenues and reinforces the interpretation set forth above. Model 4 shows that the intensity of war renders civil wars over secession and regime change positive and significant in the long-term. Threats against the territorial integrity of the state and the government in power in a context of unstable territorial boundaries and loose state authority (particularly in Latin America) triggered intense civil wars that put a great deal of pressure on public finances. This effect is only observable, though, when the intensity of warfare is taken into account; the high level of heterogeneity within

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<sup>19</sup> The result for inter-elite civil wars is not robust to the inclusion of control variables (see Table A1 in the Appendix). Tables A2 to A5 in the Appendix replicate these same models with 1, 3 and 10-year lags of the dependent variable and the lagged independent variable. Results appear to be robust to different lags, with inter-elite civil wars having a positive effect in all models. Figures A3 to A6 explore the sensitivity of the models to “pure” lags. Even if civil wars and inter-state wars show some scattered positive results, only inter-elite civil wars present consistent results over time. Civil wars over secession present positive and significant results in the long-term (over 4 lags) but not in the short term.



these categories (evident from the relatively high standard deviations in Table 1) leaves the mere presence of wars insignificant.<sup>20</sup>

Hence, even if the bulk of 19th century military conflicts were limited in scope (at least compared to the so-called “total wars” of the 20th century), their intensity was relevant to understand the pressure put on the state to increase the capacity to collect public revenues. Wars per se are not associated with growing public revenues, but their intensity is. These results match some of our expectations in section 3, namely that only intense warfare fosters fiscal expansion. By contrast, we do not find clear-cut differences between international and civil wars, suggesting that not only intense international wars, but also intense civil wars, trigger state-making efforts. The typology of war seems to matter only when it comes to our sub-categories, but intensity remains essential to reveal their role too.

*Table 7. Public revenue and war intensity, 1816-1913*

| VARIABLES                             | (1)<br>Model 1      | (2)<br>Model 2       | (3)<br>Model 3       | (4)<br>Model 4     |
|---------------------------------------|---------------------|----------------------|----------------------|--------------------|
| International war                     | -0.640**<br>(0.307) |                      | -0.525<br>(0.386)    | -0.528<br>(0.365)  |
| International war <sub>t-5</sub>      | 0.431**<br>(0.157)  |                      | 0.522***<br>(0.165)  | 0.435**<br>(0.169) |
| Civil war                             | -0.338**<br>(0.163) | -0.341**<br>(0.164)  |                      |                    |
| Civil war <sub>t-5</sub>              | 1.026***<br>(0.128) | 1.029***<br>(0.131)  |                      |                    |
| Inter-state war                       |                     | -0.944***<br>(0.240) |                      |                    |
| Extra-state war                       |                     | 0.104<br>(0.486)     |                      |                    |
| Inter-state war <sub>t-5</sub>        |                     | 0.664***<br>(0.207)  |                      |                    |
| Extra-state war <sub>t-5</sub>        |                     | -0.324<br>(0.599)    |                      |                    |
| Inter-class civil war                 |                     |                      | -14.12***<br>(4.174) |                    |
| Inter-elites civil war                |                     |                      | -0.341**<br>(0.166)  |                    |
| Inter-class civil war <sub>t-5</sub>  |                     |                      | -10.69<br>(11.08)    |                    |
| Inter-elites civil war <sub>t-5</sub> |                     |                      | 1.050***             |                    |

<sup>20</sup> Results are robust to different lags and to the inclusion of control variables (see Tables A6 to A10 and Figures A7 to A10 in the Appendix). We repeat the same models using logged battle deaths in order to reduce the influence of outliers. Results remain the same except for international and civil wars, which become insignificant, the most likely reason being that the most intense wars in both categories (inter-state wars and inter-elite wars respectively) have less influence on the regressions (see Table A11). We also use the number of battle deaths per year as a share of total population to account for the relative intensity of wars in each country. Results are consistent with our previous findings (see Table A12).

|                                     |                     |                     |                     |                      |
|-------------------------------------|---------------------|---------------------|---------------------|----------------------|
|                                     |                     |                     | (0.136)             |                      |
| Secession civil war                 |                     |                     |                     | -0.205**<br>(0.0825) |
| Government civil war                |                     |                     |                     | -3.934<br>(2.334)    |
| Other civil war                     |                     |                     |                     | -13.40***<br>(4.710) |
| Secession civil war <sub>t-5</sub>  |                     |                     |                     | 0.955***<br>(0.0837) |
| Government civil war <sub>t-5</sub> |                     |                     |                     | 3.861***<br>(1.093)  |
| Other civil war <sub>t-5</sub>      |                     |                     |                     | -2.613<br>(7.474)    |
| PubRev <sub>t-5</sub>               | 2.803***<br>(0.574) | 2.807***<br>(0.577) | 2.813***<br>(0.579) | 2.847***<br>(0.577)  |
| Constant                            | 3.545*<br>(1.880)   | 3.527*<br>(1.885)   | 3.542*<br>(1.890)   | 3.469*<br>(1.901)    |
| Observations                        | 1,670               | 1,670               | 1,670               | 1,670                |
| R-squared                           | 0.331               | 0.333               | 0.336               | 0.338                |
| Num. of countries                   | 27                  | 27                  | 27                  | 27                   |
| Country FE                          | YES                 | YES                 | YES                 | YES                  |
| Year FE                             | YES                 | YES                 | YES                 | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Lastly, Table 8 addresses the effects exerted by the duration of wars. As argued above, duration not only approximates intensity but also takes into account the fact that relevant increases in public revenue collection require time to build up the necessary bureaucratic capacity. Model 1 suggests that this argument is only true for civil wars. Longer international wars are not associated to higher public revenues, most likely due to the fact that long international wars might simply reflect the lack of willingness to commit resources to secure a prompt military victory. Civil wars, by contrast, are more likely to mount pressure on the state as the war goes ahead even if policy-makers find difficulties in raising public revenues. Models 3 and 4 suggest that this is particularly the case for long-lasting inter-elite wars.<sup>21</sup>

<sup>21</sup> Once again, most results are robust to different lags (see Tables A14 to A17 and Figures A11 to A14 in the Appendix). Civil wars over secession seem to be slightly positively correlated with public revenues in the long-run while civil wars over regime change reflect a positive correlation in the short-term, but none of these effects are robust across different model specifications. The disaggregation of civil wars according to the incompatibility of interests also loses its statistical relevance with the inclusion of control variables (see Table A13).

Table 8. Public revenue and war duration, 1816-1913

| VARIABLES                                      | (1)<br>Model 1        | (2)<br>Model 2        | (3)<br>Model 3       | (4)<br>Model 4        |
|--|-----------------------|-----------------------|----------------------|-----------------------|
| Duration international war                     | -0.0138<br>(0.0246)   |                       | -0.0204<br>(0.0245)  | -0.0104<br>(0.0236)   |
| Duration international war <sub>t-5</sub>      | -0.0381<br>(0.0349)   |                       | -0.0354<br>(0.0326)  | -0.0331<br>(0.0365)   |
| Duration civil war                             | -0.206***<br>(0.0644) | -0.213***<br>(0.0650) |                      |                       |
| Duration civil war <sub>t-5</sub>              | 0.186**<br>(0.0882)   | 0.189**<br>(0.0864)   |                      |                       |
| Duration inter-state war                       |                       | -0.0643*<br>(0.0355)  |                      |                       |
| Duration extra-state war                       |                       | 0.0370<br>(0.0456)    |                      |                       |
| Duration inter-state war <sub>t-5</sub>        |                       | -5.60e-05<br>(0.0335) |                      |                       |
| Duration extra-state war <sub>t-5</sub>        |                       | -0.0498<br>(0.0530)   |                      |                       |
| Duration inter-class civil war                 |                       |                       | -0.0879*<br>(0.0444) |                       |
| Duration inter-elites civil war                |                       |                       | -0.148<br>(0.102)    |                       |
| Duration inter-class civil war <sub>t-5</sub>  |                       |                       | -0.0824<br>(0.0874)  |                       |
| Duration inter-elites civil war <sub>t-5</sub> |                       |                       | 0.223**<br>(0.100)   |                       |
| Duration secession civil war                   |                       |                       |                      | -0.141*<br>(0.0768)   |
| Duration government civil war                  |                       |                       |                      | -0.234*<br>(0.130)    |
| Duration other civil war                       |                       |                       |                      | -0.114***<br>(0.0347) |
| Duration secession civil war <sub>t-5</sub>    |                       |                       |                      | 0.131<br>(0.137)      |
| Duration government civil war <sub>t-5</sub>   |                       |                       |                      | 0.122<br>(0.111)      |
| Duration other civil war <sub>t-5</sub>        |                       |                       |                      | 0.0599<br>(0.122)     |
| PubRev <sub>t-5</sub>                          | 2.757***<br>(0.577)   | 2.753***<br>(0.574)   | 2.774***<br>(0.577)  | 2.761***<br>(0.574)   |
| Constant                                       | 3.532*<br>(1.859)     | 3.486*<br>(1.864)     | 3.511*<br>(1.859)    | 3.542*<br>(1.860)     |
| Observations                                   | 1,670                 | 1,670                 | 1,670                | 1,670                 |
| R-squared                                      | 0.322                 | 0.323                 | 0.326                | 0.320                 |
| Num. of countries                              | 27                    | 27                    | 27                   | 27                    |
| Country FE                                     | YES                   | YES                   | YES                  | YES                   |
| Year FE  | YES                   | YES                   | YES                  | YES                   |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

## VI Regional Differences

Can these results tell us something about the historical differences between Europe and the Americas? As noticed in section 4, public revenues changed moderately in both regions over the 19th century, with some American countries (such as Chile, Argentina or Venezuela) catching up with some of their European counterparts by the end of the century. Nineteenth-century wars had at best a modest impact on the long-term evolution of public revenues in both regions. Nevertheless, we can still explore the extent to which different warfare patterns in these regions gave place to dissimilar fiscal outcomes.

On average, European countries spent more years fighting international wars than countries in the Americas (17.2% and 9.9% respectively), with the United Kingdom and France being extreme outliers. Most of those conflicts generated relatively low numbers of battle deaths for European states compared to the death toll caused by twentieth-century wars, but the average number of fatalities was nonetheless far from trivial (particularly in the case of wars between state actors). Conversely, states in the Americas were less likely to be involved in international wars, but were heavily engaged in civil wars (with 12.9% of years at war), representing the vast majority of armed conflicts in the region between 1816 and 1913 (mostly wars between different elite factions). Due to the loose state authority of the newly American independent states over their territory and population, civil wars over secession and regime change were relatively abundant. Some of them, such as the Thousand Days' War in Colombia in 1899-1902 (not to speak about the US Civil War, often referred to as one of the first modern total wars), caused a high number of fatalities.

Our results suggest that not only international wars but also civil military conflicts might trigger fiscal expansion if wars are intensive enough. In our sample of countries, civil wars between elites (which proliferated in Latin America) were particularly relevant to this effect. Thus, the aforementioned divide in the experiences with warfare in the two regions should not be interpreted as the definitive impediment to the development of fiscal capacity in the Americas. Indeed, some civil wars can be related to major transformations in public revenues. The most glaring case is the US Civil War, which has been considered one of the few 'total wars' of late-modern times (Black 2006). The war efforts forced the US government to impose new unprecedented taxes (such as a Federal income tax, repealed several years later) and to increase public revenues almost fivefold in less than a decade (as shown in Figure 7, also see Mehrotra 2013). The Thousand Day's War in Colombia (1899-1902) was also exceptional in its intensity (the state suffered almost 50,000 battle deaths) and it produced a large—albeit short-lived—jump in public revenues in the years following the end of the conflict.

This is not to deny that civil wars exerted harmful effects on state-making processes in the Americas and elsewhere. In many occasions they were, indeed, the result of failed attempts to enforce state authority in rather weak institutional

setups. Nonetheless, our results suggest that the plain differentiation between international and civil wars has its limits in explaining regional variation, since both European and American countries experienced intense warfare that built up fiscal capacity (albeit in a lower degree than in previous and subsequent centuries). Warfare did not contribute to the strengthening of American states as much as early-modern wars and twentieth century mass mobilization did in Europe, but the dissimilar American and European experiences with warfare in the nineteenth century can hardly explain the differences in their fiscal histories.

## VII Conclusion

The long nineteenth century was a period of dramatic transformations in war- and state-making. It was also a century marked by contradictions, with a relative peace among great European powers and a large number of imperial and civil wars in the rest of the world. This article has sought to uncover how distinctive features of the nineteenth century shaped the impact of wars on state formation. Our new panel data of wars and public revenues for 27 American and European countries has allowed us to examine the contemporary effects of different types of war on the evolution of public revenues.

Whereas bellicist studies have noted that international wars had a positive effect on twentieth-century state-building while civil wars undermined state capacity, we show that this was not the case for the nineteenth century. Prior to WWI, civil and international conflicts did not systematically differ in their military logistics and technologies of war, due to weak norms of state sovereignty, the incomplete centralization of coercive resources by the state in many parts of the world, and the asymmetry resulting from the unequal modernization of state armies.

Rather than differences in the type of war, we find that it was the intensity and duration of conflicts that determined their impact on nineteenth-century state-formation. More lethal inter-state and civil conflicts, especially those between elites and those over secession or regime change, were associated with increases in public revenues. Similarly, longer civil conflicts were likely to lead to higher public revenue ratios.

This article has focused on disentangling how different wars affected state formation between 1816 and 1913. The exploration of two additional features of wars remains for future research: the asymmetry in mobilized resources by combatants and the role of war outcomes. Similarly, contextual factors are also likely to mediate the effect of wars on state formation, such as variation in the internal characteristics of states (e.g., regime type, economic policies, or the ideology of heads of state), as well as differences in the international context in which wars occur. Indeed, if nothing else, this article has made the case for taking historical specificities seriously if we want to understand how wars make states over time.

## VIII References

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## Appendix A

Table A.1 Public revenues and types of war, 1816-1913

| VARIABLES                             | (1)<br>Model 1          | (2)<br>Model 2          | (3)<br>Model 3          | (4)<br>Model 4          |
|---------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| International war                     | 0.0694<br>(0.0877)      |                         | 0.0428<br>(0.0835)      | 0.0652<br>(0.100)       |
| International war <sub>t-5</sub>      | 0.133<br>(0.247)        |                         | 0.156<br>(0.233)        | 0.134<br>(0.253)        |
| Civil war                             | -0.453*<br>(0.261)      | -0.427<br>(0.261)       |                         |                         |
| Civil war <sub>t-5</sub>              | 0.128<br>(0.303)        | 0.109<br>(0.304)        |                         |                         |
| Inter-state war                       |                         | -0.113<br>(0.173)       |                         |                         |
| Extra-state war                       |                         | 0.0658<br>(0.166)       |                         |                         |
| Inter-state war <sub>t-5</sub>        |                         | 0.282<br>(0.181)        |                         |                         |
| Extra-state war <sub>t-5</sub>        |                         | 0.250<br>(0.314)        |                         |                         |
| Inter-class civil war                 |                         |                         | -0.380<br>(0.314)       |                         |
| Inter-elites civil war                |                         |                         | -0.518*<br>(0.301)      |                         |
| Inter-class civil war <sub>t-5</sub>  |                         |                         | -0.535<br>(0.342)       |                         |
| Inter-elites civil war <sub>t-5</sub> |                         |                         | 0.481<br>(0.335)        |                         |
| Secession civil war                   |                         |                         |                         | 0.263<br>(0.480)        |
| Government civil war                  |                         |                         |                         | -0.628**<br>(0.243)     |
| Other civil war                       |                         |                         |                         | -0.169<br>(0.378)       |
| Secession civil war <sub>t-5</sub>    |                         |                         |                         | 0.623<br>(1.017)        |
| Government civil war <sub>t-5</sub>   |                         |                         |                         | -0.199<br>(0.212)       |
| Other civil war <sub>t-5</sub>        |                         |                         |                         | -0.0373<br>(0.497)      |
| Default                               | -0.205<br>(0.167)       | -0.196<br>(0.162)       | -0.191<br>(0.161)       | -0.246<br>(0.170)       |
| GDPpc                                 | -0.000152<br>(0.000145) | -0.000155<br>(0.000145) | -0.000150<br>(0.000143) | -0.000168<br>(0.000145) |
| Polyarchy                             | 0.0921<br>(2.334)       | -0.0335<br>(2.213)      | 0.0264<br>(2.315)       | 0.0448<br>(2.332)       |
| PubRev <sub>t-5</sub>                 | 3.100***<br>(0.712)     | 3.076***<br>(0.691)     | 3.131***<br>(0.684)     | 3.122***<br>(0.695)     |
| Constant                              | 4.543*<br>(2.241)       | 4.724**<br>(2.223)      | 4.490*<br>(2.188)       | 4.562*<br>(2.234)       |
| Observations                          | 1,301                   | 1,301                   | 1,301                   | 1,301                   |
| R-squared                             | 0.346                   | 0.351                   | 0.355                   | 0.354                   |
| Num. of countries                     | 25                      | 25                      | 25                      | 25                      |
| Country FE                            | YES                     | YES                     | YES                     | YES                     |
| Year FE                               | YES                     | YES                     | YES                     | YES                     |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.2 Public revenues and types of war, 1816-1913 (several lags)

| VARIABLES               | (1)<br>Lag 1         | (2)<br>Lag 3         | (3)<br>Lag 5        | (4)<br>Lag 10        |
|-------------------------|----------------------|----------------------|---------------------|----------------------|
| International war       | -0.0556<br>(0.0614)  | -0.0347<br>(0.0499)  | -0.0106<br>(0.0653) | -0.0232<br>(0.0904)  |
| Civil war               | -0.129<br>(0.172)    | -0.360<br>(0.238)    | -0.377<br>(0.234)   | -0.452**<br>(0.203)  |
| International war (lag) | 0.0986<br>(0.0902)   | 0.0792<br>(0.115)    | 0.196<br>(0.187)    | 0.182<br>(0.208)     |
| Civil war (lag)         | 0.279*<br>(0.158)    | 0.221<br>(0.179)     | 0.228<br>(0.198)    | 0.100<br>(0.232)     |
| PubRev (lag)            | 0.822***<br>(0.0223) | 0.642***<br>(0.0486) | 2.755***<br>(0.573) | 0.389***<br>(0.0617) |
| Constant                | 2.197**<br>(0.854)   | 3.507<br>(2.179)     | 4.930**<br>(1.821)  | 6.518***<br>(1.354)  |
| Observations            | 1,777                | 1,723                | 1,673               | 1,556                |
| R-squared               | 0.728                | 0.504                | 0.316               | 0.283                |
| Num. of countries       | 27                   | 27                   | 27                  | 27                   |
| Country FE              | YES                  | YES                  | YES                 | YES                  |
| Year FE                 | YES                  | YES                  | YES                 | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.3 Public revenues and types of war, 1816-1913 (several lags)

| VARIABLES             | (1)<br>Lag 1         | (2)<br>Lag 3         | (3)<br>Lag 5        | (4)<br>Lag 10        |
|-----------------------|----------------------|----------------------|---------------------|----------------------|
| Inter-state war       | -0.0644<br>(0.0755)  | -0.102<br>(0.0947)   | -0.159<br>(0.161)   | -0.115<br>(0.162)    |
| Extra-state war       | 0.0126<br>(0.0755)   | -0.00167<br>(0.116)  | 0.0812<br>(0.166)   | 0.0623<br>(0.146)    |
| Civil war             | -0.129<br>(0.172)    | -0.356<br>(0.237)    | -0.376<br>(0.227)   | -0.497**<br>(0.197)  |
| Inter-state war (lag) | 0.132*<br>(0.0753)   | 0.205<br>(0.121)     | 0.270<br>(0.167)    | 0.0709<br>(0.230)    |
| Extra-state war (lag) | 0.0193<br>(0.102)    | 0.0725<br>(0.223)    | 0.179<br>(0.308)    | 0.486<br>(0.316)     |
| Civil war (lag)       | 0.282*<br>(0.159)    | 0.222<br>(0.175)     | 0.225<br>(0.201)    | 0.0834<br>(0.219)    |
| PubRev (lag)          | 0.822***<br>(0.0224) | 0.642***<br>(0.0490) | 2.752***<br>(0.574) | 0.385***<br>(0.0609) |
| Constant              | 2.200**<br>(0.861)   | 3.547<br>(2.205)     | 5.025**<br>(1.856)  | 6.701***<br>(1.456)  |
| Observations          | 1,777                | 1,723                | 1,673               | 1,556                |
| R-squared             | 0.728                | 0.505                | 0.318               | 0.290                |
| Num. of countries     | 27                   | 27                   | 27                  | 27                   |
| Country FE            | YES                  | YES                  | YES                 | YES                  |
| Year FE               | YES                  | YES                  | YES                 | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.4 Public revenues and types of war, 1816-1913 (several lags)

| VARIABLES                   | (1)<br>Lag 1         | (2)<br>Lag 3         | (3)<br>Lag 5        | (4)<br>Lag 10        |
|-----------------------------|----------------------|----------------------|---------------------|----------------------|
| International war           | -0.0742<br>(0.0608)  | -0.0537<br>(0.0538)  | -0.0341<br>(0.0613) | -0.0531<br>(0.0880)  |
| Inter-class civil war       | 0.159<br>(0.369)     | -0.00610<br>(0.220)  | -0.294<br>(0.225)   | -0.216<br>(0.188)    |
| Inter-elite civil war       | -0.269*<br>(0.150)   | -0.505*<br>(0.253)   | -0.461*<br>(0.256)  | -0.450<br>(0.270)    |
| International war (lag)     | 0.107<br>(0.0862)    | 0.0779<br>(0.109)    | 0.207<br>(0.186)    | 0.197<br>(0.207)     |
| Inter-class civil war (lag) | -0.542<br>(0.381)    | -0.597<br>(0.433)    | -0.355<br>(0.299)   | -0.256<br>(0.260)    |
| Inter-elite civil war (lag) | 0.610***<br>(0.158)  | 0.614***<br>(0.148)  | 0.483**<br>(0.211)  | 0.226<br>(0.272)     |
| PubRev (lag)                | 0.822***<br>(0.0223) | 0.642***<br>(0.0487) | 2.778***<br>(0.571) | 0.391***<br>(0.0628) |
| Constant                    | 2.200**<br>(0.857)   | 3.501<br>(2.177)     | 4.892**<br>(1.813)  | 6.500***<br>(1.347)  |
| Observations                | 1,777                | 1,723                | 1,673               | 1,556                |
| R-squared                   | 0.732                | 0.514                | 0.323               | 0.286                |
| Num. of countries           | 27                   | 27                   | 27                  | 27                   |
| Country FE                  | YES                  | YES                  | YES                 | YES                  |
| Year FE                     | YES                  | YES                  | YES                 | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.5 Public revenues and types of war, 1816-1913 (several lags)

| VARIABLES                  | (1)<br>Lag 1         | (2)<br>Lag 3         | (3)<br>Lag 5        | (4)<br>Lag 10        |
|----------------------------|----------------------|----------------------|---------------------|----------------------|
| International war          | -0.0579<br>(0.0596)  | -0.0333<br>(0.0469)  | -0.0114<br>(0.0667) | -0.0121<br>(0.0995)  |
| Secession civil war        | -0.217<br>(0.539)    | -0.0979<br>(0.442)   | -0.381<br>(0.329)   | -0.572**<br>(0.260)  |
| Government civil war       | -0.187<br>(0.136)    | -0.587**<br>(0.277)  | -0.542**<br>(0.229) | -0.599**<br>(0.234)  |
| Other civil war            | -0.0253<br>(0.228)   | -0.128<br>(0.245)    | -0.224<br>(0.256)   | 0.0132<br>(0.206)    |
| International war (lag)    | 0.0956<br>(0.0874)   | 0.0834<br>(0.109)    | 0.189<br>(0.191)    | 0.129<br>(0.212)     |
| Secession civil war (lag)  | 0.0660<br>(0.810)    | -0.0483<br>(0.963)   | 0.433<br>(0.873)    | 1.075*<br>(0.605)    |
| Government civil war (lag) | 0.433***<br>(0.146)  | 0.257**<br>(0.117)   | 0.0387<br>(0.182)   | -0.202<br>(0.217)    |
| Other civil war (lag)      | 0.168<br>(0.151)     | 0.0908<br>(0.199)    | 0.121<br>(0.335)    | -0.178<br>(0.335)    |
| PubRev (lag)               | 0.822***<br>(0.0224) | 0.643***<br>(0.0492) | 2.755***<br>(0.572) | 0.388***<br>(0.0601) |
| Constant                   | 2.192**<br>(0.852)   | 3.502<br>(2.186)     | 4.952**<br>(1.826)  | 6.587***<br>(1.357)  |
| Observations               | 1,777                | 1,723                | 1,673               | 1,556                |
| R-squared                  | 0.729                | 0.506                | 0.317               | 0.302                |
| Num. of countries          | 27                   | 27                   | 27                  | 27                   |
| Country FE                 | YES                  | YES                  | YES                 | YES                  |
| Year FE                    | YES                  | YES                  | YES                 | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.6 Public revenues and war intensity, 1816-1913

| VARIABLES                             | (1)<br>Model 1          | (2)<br>Model 2             | (3)<br>Model 3          | (4)<br>Model 4          |
|---------------------------------------|-------------------------|----------------------------|-------------------------|-------------------------|
| International war                     | -0.618*<br>(0.312)      |                            | -0.474<br>(0.353)       | -0.559<br>(0.343)       |
| International war <sub>t-5</sub>      | 0.482*<br>(0.237)       |                            | 0.523**<br>(0.249)      | 0.419<br>(0.264)        |
| Civil war                             | -0.338*<br>(0.189)      | -0.340*<br>(0.192)         |                         |                         |
| Civil war <sub>t-5</sub>              | 1.114***<br>(0.137)     | 1.119***<br>(0.142)        |                         |                         |
| Inter-state war                       |                         | -9.32e-06***<br>(1.88e-06) |                         |                         |
| Extra-state war                       |                         | 6.76e-07<br>(4.39e-06)     |                         |                         |
| Inter-state war <sub>t-5</sub>        |                         | 7.31e-06***<br>(2.40e-06)  |                         |                         |
| Extra-state war <sub>t-5</sub>        |                         | -2.01e-06<br>(5.69e-06)    |                         |                         |
| Inter-class civil war                 |                         |                            | -15.38***<br>(3.065)    |                         |
| Inter-elites civil war                |                         |                            | -0.341*<br>(0.190)      |                         |
| Inter-class civil war <sub>t-5</sub>  |                         |                            | -6.359<br>(13.65)       |                         |
| Inter-elites civil war <sub>t-5</sub> |                         |                            | 1.133***<br>(0.142)     |                         |
| Secession civil war                   |                         |                            |                         | -0.195*<br>(0.110)      |
| Government civil war                  |                         |                            |                         | -3.981<br>(2.510)       |
| Other civil war                       |                         |                            |                         | -15.15***<br>(3.784)    |
| Secession civil war <sub>t-5</sub>    |                         |                            |                         | 1.033***<br>(0.0932)    |
| Government civil war <sub>t-5</sub>   |                         |                            |                         | 4.121***<br>(1.218)     |
| Other civil war <sub>t-5</sub>        |                         |                            |                         | 7.978***<br>(2.267)     |
| Default                               | -0.228<br>(0.159)       | -0.213<br>(0.159)          | -0.211<br>(0.176)       | -0.252<br>(0.165)       |
| GDPpc                                 | -9.91e-05<br>(0.000152) | -9.01e-05<br>(0.000149)    | -0.000103<br>(0.000152) | -9.98e-05<br>(0.000150) |
| Polyarchy                             | 0.0193<br>(2.286)       | -0.0263<br>(2.282)         | 0.0236<br>(2.288)       | 0.238<br>(2.301)        |
| PubRev <sub>t-5</sub>                 | 3.227***<br>(0.676)     | 3.237***<br>(0.680)        | 3.233***<br>(0.680)     | 3.284***<br>(0.671)     |
| Constant                              | 3.012<br>(2.385)        | 2.983<br>(2.397)           | 3.007<br>(2.392)        | 2.866<br>(2.409)        |
| Observations                          | 1,298                   | 1,298                      | 1,298                   | 1,298                   |
| R-squared                             | 0.374                   | 0.376                      | 0.377                   | 0.383                   |
| Num. of countries                     | 25                      | 25                         | 25                      | 25                      |
| Country FE                            | YES                     | YES                        | YES                     | YES                     |
| Year FE                               | YES                     | YES                        | YES                     | YES                     |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.7 Public revenues and war intensity, 1816-1913 (several lags)

| VARIABLES               | (1)<br>Lag 1          | (2)<br>Lag 3          | (3)<br>Lag 5        | (4)<br>Lag 10        |
|-------------------------|-----------------------|-----------------------|---------------------|----------------------|
| International war       | -0.340<br>(0.206)     | -0.593**<br>(0.218)   | -0.640**<br>(0.307) | -0.658*<br>(0.378)   |
| Civil war               | -0.227***<br>(0.0593) | -0.320***<br>(0.0797) | -0.338**<br>(0.163) | -0.508***<br>(0.127) |
| International war (lag) | 0.435*<br>(0.233)     | 0.607***<br>(0.176)   | 0.431**<br>(0.157)  | 0.569<br>(0.421)     |
| Civil war (lag)         | 0.506***<br>(0.0486)  | 0.746***<br>(0.0554)  | 1.026***<br>(0.128) | 0.904***<br>(0.122)  |
| PubRev (lag)            | 0.822***<br>(0.0230)  | 0.646***<br>(0.0494)  | 2.803***<br>(0.574) | 0.392***<br>(0.0626) |
| Constant                | 0.0141<br>(0.414)     | 1.900<br>(1.826)      | 3.545*<br>(1.880)   | 4.755***<br>(0.882)  |
| Observations            | 1,772                 | 1,720                 | 1,670               | 1,553                |
| R-squared               | 0.729                 | 0.514                 | 0.331               | 0.306                |
| Num. of countries       | 27                    | 27                    | 27                  | 27                   |
| Country FE              | YES                   | YES                   | YES                 | YES                  |
| Year FE                 | YES                   | YES                   | YES                 | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%



Table A.8 Public revenues and war intensity, 1816-1913 (several lags)

|                       | (1)                   | (2)                   | (3)                  | (4)                  |
|-----------------------|-----------------------|-----------------------|----------------------|----------------------|
| VARIABLES             | Lag 1                 | Lag 3                 | Lag 5                | Lag 10               |
| Inter-state war       | -0.437<br>(0.268)     | -0.802***<br>(0.139)  | -0.944***<br>(0.240) | -1.051***<br>(0.261) |
| Extra-state war       | 0.0840<br>(0.299)     | 0.0990<br>(0.424)     | 0.104<br>(0.486)     | 0.130<br>(0.358)     |
| Civil war             | -0.228***<br>(0.0597) | -0.325***<br>(0.0808) | -0.341**<br>(0.164)  | -0.508***<br>(0.130) |
| Inter-state war (lag) | 0.644**<br>(0.307)    | 0.865***<br>(0.123)   | 0.664***<br>(0.207)  | 0.840**<br>(0.393)   |
| Extra-state war (lag) | -0.130<br>(0.384)     | -0.189<br>(0.555)     | -0.324<br>(0.599)    | -0.607**<br>(0.234)  |
| Civil war (lag)       | 0.509***<br>(0.0493)  | 0.753***<br>(0.0580)  | 1.029***<br>(0.131)  | 0.917***<br>(0.126)  |
| PubRev (lag)          | 0.822***<br>(0.0231)  | 0.647***<br>(0.0496)  | 2.807***<br>(0.577)  | 0.394***<br>(0.0630) |
| Constant              | 0.0103<br>(0.416)     | 1.883<br>(1.830)      | 3.527*<br>(1.885)    | 4.723***<br>(0.893)  |
| Observations          | 1,772                 | 1,720                 | 1,670                | 1,553                |
| R-squared             | 0.730                 | 0.515                 | 0.333                | 0.311                |
| Num. of countries     | 27                    | 27                    | 27                   | 27                   |
| Country FE            | YES                   | YES                   | YES                  | YES                  |
| Year FE               | YES                   | YES                   | YES                  | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.9 Public revenues and war intensity, 1816-1913 (several lags)

|                              | (1)                   | (2)                   | (3)                  | (4)                  |
|------------------------------|-----------------------|-----------------------|----------------------|----------------------|
| VARIABLES                    | Lag 1                 | Lag 3                 | Lag 5                | Lag 10               |
| International war            | -0.318<br>(0.220)     | -0.496*<br>(0.275)    | -0.525<br>(0.386)    | -0.650<br>(0.422)    |
| Inter-class civil war        | -6.104<br>(5.577)     | -5.766*<br>(3.364)    | -14.12***<br>(4.174) | -3.331<br>(3.824)    |
| Inter-elites civil war       | -0.227***<br>(0.0587) | -0.329***<br>(0.0864) | -0.341**<br>(0.166)  | -0.504***<br>(0.127) |
| International war (lag)      | 0.491*<br>(0.250)     | 0.691***<br>(0.202)   | 0.522***<br>(0.165)  | 0.627<br>(0.425)     |
| Inter-class civil war (lag)  | -3.638<br>(8.266)     | -12.14<br>(13.38)     | -10.69<br>(11.08)    | -8.449**<br>(3.965)  |
| Inter-elites civil war (lag) | 0.514***<br>(0.0528)  | 0.770***<br>(0.0641)  | 1.050***<br>(0.136)  | 0.917***<br>(0.126)  |
| PubRev (lag)                 | 0.821***<br>(0.0232)  | 0.646***<br>(0.0500)  | 2.813***<br>(0.579)  | 0.392***<br>(0.0636) |
| Constant                     | 0.0212<br>(0.415)     | 1.915<br>(1.828)      | 3.542*<br>(1.890)    | 4.771***<br>(0.888)  |
| Observations                 | 1,772                 | 1,720                 | 1,670                | 1,553                |
| R-squared                    | 0.730                 | 0.517                 | 0.336                | 0.309                |
| Num. of countries            | 27                    | 27                    | 27                   | 27                   |
| Country FE                   | YES                   | YES                   | YES                  | YES                  |
| Year FE                      | YES                   | YES                   | YES                  | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.10 Public revenues and war intensity, 1816-1913 (several lags)

| VARIABLES                  | (1)<br>Lag 1          | (2)<br>Lag 3          | (3)<br>Lag 5         | (4)<br>Lag 10         |
|----------------------------|-----------------------|-----------------------|----------------------|-----------------------|
| International war          | -0.334<br>(0.208)     | -0.547**<br>(0.221)   | -0.528<br>(0.365)    | -0.665<br>(0.415)     |
| Secession civil war        | -0.188***<br>(0.0331) | -0.261***<br>(0.0487) | -0.205**<br>(0.0825) | -0.410***<br>(0.0684) |
| Government civil war       | -1.012***<br>(0.291)  | -1.887**<br>(0.727)   | -3.934<br>(2.334)    | -3.756*<br>(1.978)    |
| Other civil war            | -2.534<br>(3.844)     | -7.074*<br>(3.761)    | -13.40***<br>(4.710) | 3.659<br>(6.231)      |
| International war (lag)    | 0.439*<br>(0.236)     | 0.615***<br>(0.193)   | 0.435**<br>(0.169)   | 0.580<br>(0.422)      |
| Secession civil war (lag)  | 0.477***<br>(0.0330)  | 0.720***<br>(0.0524)  | 0.955***<br>(0.0837) | 0.861***<br>(0.104)   |
| Government civil war (lag) | 1.034***<br>(0.278)   | 1.251**<br>(0.454)    | 3.861***<br>(1.093)  | 2.864***<br>(0.813)   |
| Other civil war (lag)      | 1.901<br>(8.053)      | 1.093<br>(8.803)      | -2.613<br>(7.474)    | -4.659<br>(3.963)     |
| PubRev (lag)               | 0.821***<br>(0.0234)  | 0.646***<br>(0.0504)  | 2.847***<br>(0.577)  | 0.395***<br>(0.0615)  |
| Constant                   | 0.0190<br>(0.418)     | 1.908<br>(1.831)      | 3.469*<br>(1.901)    | 4.731***<br>(0.874)   |
| Observations               | 1,772                 | 1,720                 | 1,670                | 1,553                 |
| R-squared                  | 0.729                 | 0.515                 | 0.338                | 0.313                 |
| Num. of countries          | 27                    | 27                    | 27                   | 27                    |
| Country FE                 | YES                   | YES                   | YES                  | YES                   |
| Year FE                    | YES                   | YES                   | YES                  | YES                   |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.11 Public revenues and war intensity, logged battle deaths (1816-1913)

| VARIABLES                             | (1)<br>Model 1      | (2)<br>Model 2       | (3)<br>Model 3       | (4)<br>Model 4       |
|---------------------------------------|---------------------|----------------------|----------------------|----------------------|
| International war                     | -0.0164<br>(0.0150) |                      | -0.0145<br>(0.0162)  | -0.0139<br>(0.0157)  |
| International war <sub>t-5</sub>      | 0.0174<br>(0.0202)  |                      | 0.0235<br>(0.0202)   | 0.0220<br>(0.0198)   |
| Civil war                             | -0.0448<br>(0.0399) | -0.0446<br>(0.0399)  |                      |                      |
| Civil war <sub>t-5</sub>              | 0.0398<br>(0.0507)  | 0.0404<br>(0.0532)   |                      |                      |
| Inter-state war                       |                     | -0.0272<br>(0.0250)  |                      |                      |
| Extra-state war                       |                     | 0.00476<br>(0.0223)  |                      |                      |
| Inter-state war <sub>t-5</sub>        |                     | 0.0382**<br>(0.0172) |                      |                      |
| Extra-state war <sub>t-5</sub>        |                     | 0.000758<br>(0.0416) |                      |                      |
| Inter-class civil war                 |                     |                      | -15.89***<br>(3.374) |                      |
| Inter-elites civil war                |                     |                      | -1.017<br>(0.609)    |                      |
| Inter-class civil war <sub>t-5</sub>  |                     |                      | -11.03<br>(11.55)    |                      |
| Inter-elites civil war <sub>t-5</sub> |                     |                      | 2.583***<br>(0.393)  |                      |
| Secession civil war                   |                     |                      |                      | -0.482**<br>(0.191)  |
| Government civil war                  |                     |                      |                      | -5.448*<br>(2.764)   |
| Other civil war                       |                     |                      |                      | -15.04***<br>(4.256) |
| Secession civil war <sub>t-5</sub>    |                     |                      |                      | 2.249***<br>(0.193)  |
| Government civil war <sub>t-5</sub>   |                     |                      |                      | 4.962***<br>(1.320)  |
| Other civil war <sub>t-5</sub>        |                     |                      |                      | -3.104<br>(7.802)    |
| PubRev <sub>t-5</sub>                 | 2.742***<br>(0.568) | 2.748***<br>(0.569)  | 2.815***<br>(0.572)  | 2.843***<br>(0.572)  |
| Constant                              | 3.594*<br>(1.829)   | 3.523*<br>(1.847)    | 3.556*<br>(1.880)    | 3.493*<br>(1.889)    |
| Observations                          | 1,670               | 1,670                | 1,670                | 1,670                |
| R-squared                             | 0.309               | 0.312                | 0.337                | 0.338                |
| Num. of countries                     | 27                  | 27                   | 27                   | 27                   |
| Country FE                            | YES                 | YES                  | YES                  | YES                  |
| Year FE                               | YES                 | YES                  | YES                  | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.12 Public revenues and war intensity, 1816-1913 (battle deaths per year / population)

| VARIABLES                             | (1)<br>Model 1       | (2)<br>Model 2       | (3)<br>Model 3       | (4)<br>Model 4       |
|---------------------------------------|----------------------|----------------------|----------------------|----------------------|
| International war                     | -0.156<br>(0.235)    |                      | -0.193<br>(0.253)    | -0.136<br>(0.238)    |
| International war <sub>t-5</sub>      | 0.180<br>(0.258)     |                      | 0.200<br>(0.243)     | 0.184<br>(0.262)     |
| Civil war                             | -0.758***<br>(0.272) | -0.775***<br>(0.267) |                      |                      |
| Civil war <sub>t-5</sub>              | 0.877***<br>(0.306)  | 0.897***<br>(0.317)  |                      |                      |
| Inter-state war                       |                      | -0.297<br>(0.271)    |                      |                      |
| Extra-state war                       |                      | 0.465<br>(0.450)     |                      |                      |
| Inter-state war <sub>t-5</sub>        |                      | 0.429**<br>(0.204)   |                      |                      |
| Extra-state war <sub>t-5</sub>        |                      | -0.946<br>(0.857)    |                      |                      |
| Inter-class civil war                 |                      |                      | -2.999***<br>(0.983) |                      |
| Inter-elites civil war                |                      |                      | -0.779***<br>(0.272) |                      |
| Inter-class civil war <sub>t-5</sub>  |                      |                      | -3.581<br>(2.586)    |                      |
| Inter-elites civil war <sub>t-5</sub> |                      |                      | 0.962***<br>(0.319)  |                      |
| Secession civil war                   |                      |                      |                      | -0.385**<br>(0.180)  |
| Government civil war                  |                      |                      |                      | -1.053***<br>(0.119) |
| Other civil war                       |                      |                      |                      | -2.544<br>(1.825)    |
| Secession civil war <sub>t-5</sub>    |                      |                      |                      | 1.525***<br>(0.194)  |
| Government civil war <sub>t-5</sub>   |                      |                      |                      | 0.582**<br>(0.215)   |
| Other civil war <sub>t-5</sub>        |                      |                      |                      | -1.999<br>(1.890)    |
| PubRev <sub>t-5</sub>                 | 2.811***<br>(0.562)  | 2.805***<br>(0.562)  | 2.846***<br>(0.577)  | 2.848***<br>(0.582)  |
| Constant                              | 3.444*<br>(1.844)    | 3.455*<br>(1.841)    | 3.404*<br>(1.875)    | 3.439*<br>(1.908)    |
| Observations                          | 1,670                | 1,670                | 1,670                | 1,670                |
| R-squared                             | 0.324                | 0.331                | 0.332                | 0.337                |
| Num. of countries                     | 27                   | 27                   | 27                   | 27                   |
| Country FE                            | YES                  | YES                  | YES                  | YES                  |
| Year FE                               | YES                  | YES                  | YES                  | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.13 Public revenues and war duration, 1816-1913

| VARIABLES                             | (1)<br>Model 1          | (2)<br>Model 2          | (3)<br>Model 3          | (4)<br>Model 4          |
|---------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Duration international war            | 0.0139<br>(0.0282)      |                         | 0.0110<br>(0.0266)      | 0.0163<br>(0.0277)      |
| Duration international war $t-5$      | -0.0847*<br>(0.0454)    |                         | -0.0736*<br>(0.0429)    | -0.0747<br>(0.0503)     |
| Duration civil war                    | -0.204*<br>(0.108)      | -0.219*<br>(0.110)      |                         |                         |
| Duration civil war $t-5$              | 0.287**<br>(0.129)      | 0.269**<br>(0.127)      |                         |                         |
| Duration inter-state war              |                         | -0.0401<br>(0.0428)     |                         |                         |
| Duration extra-state war              |                         | 0.0204<br>(0.0393)      |                         |                         |
| Duration inter-state war $t-5$        |                         | -0.0405<br>(0.0432)     |                         |                         |
| Duration extra-state war $t-5$        |                         | -0.0403<br>(0.0499)     |                         |                         |
| Duration inter-class civil war        |                         |                         | -0.182*<br>(0.0955)     |                         |
| Duration inter-elites civil war       |                         |                         | -0.190<br>(0.130)       |                         |
| Duration inter-class civil war $t-5$  |                         |                         | -0.120<br>(0.142)       |                         |
| Duration inter-elites civil war $t-5$ |                         |                         | 0.344**<br>(0.127)      |                         |
| Duration secession civil war          |                         |                         |                         | 0.0480<br>(0.118)       |
| Duration government civil war         |                         |                         |                         | -0.244*<br>(0.127)      |
| Duration other civil war              |                         |                         |                         | -0.109<br>(0.0982)      |
| Duration secession civil war $t-5$    |                         |                         |                         | 0.343<br>(0.267)        |
| Duration government civil war $t-5$   |                         |                         |                         | 0.0546<br>(0.116)       |
| Duration other civil war $t-5$        |                         |                         |                         | 0.212<br>(0.153)        |
| Polyarchy                             | 0.0363<br>(2.208)       | -0.0306<br>(2.124)      | 0.0673<br>(2.176)       | -0.207<br>(2.250)       |
| Default                               | -0.284*<br>(0.145)      | -0.275*<br>(0.144)      | -0.272*<br>(0.149)      | -0.307**<br>(0.141)     |
| GDPpc                                 | -0.000105<br>(0.000142) | -0.000114<br>(0.000146) | -0.000113<br>(0.000139) | -0.000106<br>(0.000145) |
| PubRev $t-5$                          | 3.174***<br>(0.705)     | 3.148***<br>(0.685)     | 3.199***<br>(0.690)     | 3.191***<br>(0.698)     |
| Constant                              | 3.000<br>(2.384)        | 3.042<br>(2.339)        | 2.963<br>(2.355)        | 3.061<br>(2.405)        |
| Observations                          | 1,298                   | 1,298                   | 1,298                   | 1,298                   |
| R-squared                             | 0.361                   | 0.359                   | 0.368                   | 0.365                   |
| Num. of countries                     | 25                      | 25                      | 25                      | 25                      |
| Country FE                            | YES                     | YES                     | YES                     | YES                     |
| Year FE                               | YES                     | YES                     | YES                     | YES                     |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.14 Public revenues and war duration, 1816-1913 (several lags)

| VARIABLES                        | (1)<br>Lag 1          | (2)<br>Lag 3          | (3)<br>Lag 5          | (4)<br>Lag 10         |
|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Duration international war       | -0.00778<br>(0.0200)  | -0.00293<br>(0.0217)  | -0.0138<br>(0.0246)   | -0.00854<br>(0.0246)  |
| Duration civil war               | -0.0935**<br>(0.0385) | -0.165***<br>(0.0527) | -0.206***<br>(0.0644) | -0.170***<br>(0.0588) |
| Duration international war (lag) | 0.000616<br>(0.0232)  | -0.0219<br>(0.0309)   | -0.0381<br>(0.0349)   | -0.0504<br>(0.0372)   |
| Duration civil war (lag)         | 0.114**<br>(0.0508)   | 0.160**<br>(0.0636)   | 0.186**<br>(0.0882)   | 0.144**<br>(0.0655)   |
| PubRev (lag)                     | 0.823***<br>(0.0228)  | 0.646***<br>(0.0483)  | 2.757***<br>(0.577)   | 0.384***<br>(0.0633)  |
| Constant                         | -0.0100<br>(0.411)    | 1.845<br>(1.791)      | 3.532*<br>(1.859)     | 4.708***<br>(0.826)   |
| Observations                     | 1,772                 | 1,720                 | 1,670                 | 1,553                 |
| R-squared                        | 0.729                 | 0.512                 | 0.322                 | 0.287                 |
| Num. of countries                | 27                    | 27                    | 27                    | 27                    |
| Country FE                       | YES                   | YES                   | YES                   | YES                   |
| Year FE                          | YES                   | YES                   | YES                   | YES                   |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.15 Public revenues and war duration, 1816-1913 (several lags)

| VARIABLES                      | (1)<br>Lag 1          | (2)<br>Lag 3          | (3)<br>Lag 5          | (4)<br>Lag 10         |
|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Duration inter-state war       | -0.0226<br>(0.0175)   | -0.0388<br>(0.0269)   | -0.0643*<br>(0.0355)  | -0.0382<br>(0.0359)   |
| Duration extra-state war       | 0.0159<br>(0.0301)    | 0.0230<br>(0.0439)    | 0.0370<br>(0.0456)    | 0.0291<br>(0.0322)    |
| Duration civil war             | -0.0938**<br>(0.0383) | -0.164***<br>(0.0544) | -0.213***<br>(0.0650) | -0.175***<br>(0.0629) |
| Duration inter-state war (lag) | 0.0225<br>(0.0153)    | 0.0269<br>(0.0257)    | -5.60e-05<br>(0.0335) | -0.0375<br>(0.0449)   |
| Duration extra-state war (lag) | -0.0235<br>(0.0369)   | -0.0382<br>(0.0564)   | -0.0498<br>(0.0530)   | -0.0271<br>(0.0482)   |
| Duration civil war (lag)       | 0.116**<br>(0.0510)   | 0.161**<br>(0.0634)   | 0.189**<br>(0.0864)   | 0.141**<br>(0.0657)   |
| PubRev (lag)                   | 0.823***<br>(0.0230)  | 0.647***<br>(0.0490)  | 2.753***<br>(0.574)   | 0.382***<br>(0.0633)  |
| Constant                       | -0.0284<br>(0.423)    | 1.806<br>(1.800)      | 3.486*<br>(1.864)     | 4.720***<br>(0.828)   |
| Observations                   | 1,772                 | 1,720                 | 1,670                 | 1,553                 |
| R-squared                      | 0.729                 | 0.512                 | 0.323                 | 0.287                 |
| Num. of countries              | 27                    | 27                    | 27                    | 27                    |
| Country FE                     | YES                   | YES                   | YES                   | YES                   |
| Year FE                        | YES                   | YES                   | YES                   | YES                   |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.16 Public revenues and war duration, 1816-1913 (several lags)

| VARIABLES                             | (1)<br>Lag 1         | (2)<br>Lag 3         | (3)<br>Lag 5         | (4)<br>Lag 10        |
|---------------------------------------|----------------------|----------------------|----------------------|----------------------|
| Duration international war            | -0.0119<br>(0.0198)  | -0.00951<br>(0.0234) | -0.0204<br>(0.0245)  | -0.0109<br>(0.0237)  |
| Duration inter-class civil war        | -0.0193<br>(0.0526)  | -0.0400<br>(0.0362)  | -0.0879*<br>(0.0444) | 0.0227<br>(0.0509)   |
| Duration inter-elites civil war       | -0.0800<br>(0.0558)  | -0.141<br>(0.0900)   | -0.148<br>(0.102)    | -0.160**<br>(0.0707) |
| Duration international war (lag)      | 0.00293<br>(0.0230)  | -0.0209<br>(0.0301)  | -0.0354<br>(0.0326)  | -0.0461<br>(0.0356)  |
| Duration inter-class civil war (lag)  | -0.0633<br>(0.0603)  | -0.0911<br>(0.0804)  | -0.0824<br>(0.0874)  | -0.0436<br>(0.0888)  |
| Duration inter-elites civil war (lag) | 0.150**<br>(0.0669)  | 0.221***<br>(0.0640) | 0.223**<br>(0.100)   | 0.155<br>(0.101)     |
| PubRev (lag)                          | 0.822***<br>(0.0228) | 0.647***<br>(0.0483) | 2.774***<br>(0.577)  | 0.385***<br>(0.0642) |
| Constant                              | -0.00803<br>(0.413)  | 1.846<br>(1.797)     | 3.511*<br>(1.859)    | 4.702***<br>(0.835)  |
| Observations                          | 1,772                | 1,720                | 1,670                | 1,553                |
| R-squared                             | 0.730                | 0.518                | 0.326                | 0.286                |
| Num. of countries                     | 27                   | 27                   | 27                   | 27                   |
| Country FE                            | YES                  | YES                  | YES                  | YES                  |
| Year FE                               | YES                  | YES                  | YES                  | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%

Table A.17 Public revenues and war duration, 1816-1913 (several lags)

| VARIABLES                           | (1)<br>Lag 1          | (2)<br>Lag 3          | (3)<br>Lag 5          | (4)<br>Lag 10        |
|-------------------------------------|-----------------------|-----------------------|-----------------------|----------------------|
| Duration international war          | -0.0106<br>(0.0198)   | -0.00243<br>(0.0200)  | -0.0104<br>(0.0236)   | -0.00254<br>(0.0232) |
| Duration secession civil war        | -0.0285<br>(0.0412)   | -0.0815<br>(0.0660)   | -0.141*<br>(0.0768)   | -0.156**<br>(0.0577) |
| Duration government civil war       | -0.102**<br>(0.0492)  | -0.215**<br>(0.104)   | -0.234*<br>(0.130)    | -0.242**<br>(0.101)  |
| Duration other civil war            | -0.0747**<br>(0.0331) | -0.104***<br>(0.0336) | -0.114***<br>(0.0347) | 0.00278<br>(0.0205)  |
| Duration international war (lag)    | 0.000615<br>(0.0237)  | -0.0184<br>(0.0327)   | -0.0331<br>(0.0365)   | -0.0435<br>(0.0382)  |
| Duration secession civil war (lag)  | 0.0431<br>(0.0646)    | 0.118<br>(0.0876)     | 0.131<br>(0.137)      | 0.202<br>(0.141)     |
| Duration government civil war (lag) | 0.185***<br>(0.0489)  | 0.179***<br>(0.0421)  | 0.122<br>(0.111)      | -0.0108<br>(0.126)   |
| Duration other civil war (lag)      | 0.0530<br>(0.0462)    | 0.0320<br>(0.0762)    | 0.0599<br>(0.122)     | -0.0235<br>(0.0888)  |
| PubRev (lag)                        | 0.823***<br>(0.0225)  | 0.649***<br>(0.0475)  | 2.761***<br>(0.574)   | 0.391***<br>(0.0615) |
| Constant                            | -0.0179<br>(0.411)    | 1.824<br>(1.795)      | 3.542*<br>(1.860)     | 4.720***<br>(0.823)  |
| Observations                        | 1,772                 | 1,720                 | 1,670                 | 1,553                |
| R-squared                           | 0.729                 | 0.513                 | 0.320                 | 0.294                |
| Num. of countries                   | 27                    | 27                    | 27                    | 27                   |
| Country FE                          | YES                   | YES                   | YES                   | YES                  |
| Year FE                             | YES                   | YES                   | YES                   | YES                  |

Notes: OLS models with cluster-robust standard errors (standard errors are in brackets). \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%



Figure A1. Public revenues/GDP



Sources: see text.

Figure A.2. Sensitivity to pure lags, total number of wars

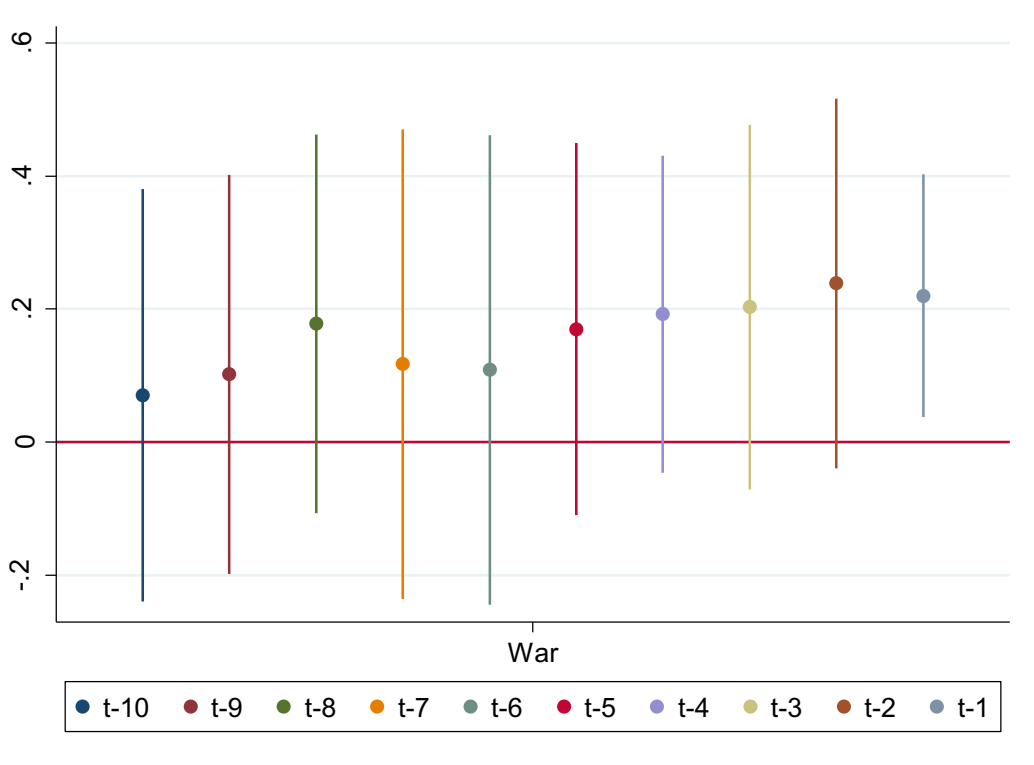


Figure A.3. Sensitivity to pure lags, number of international and civil wars

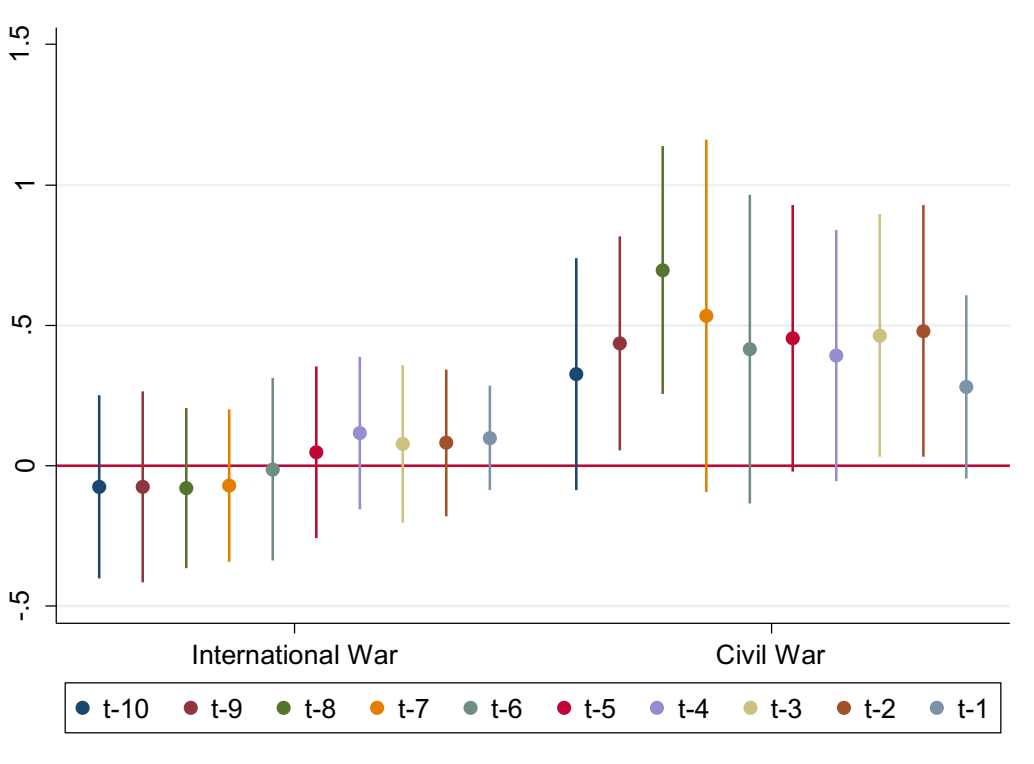


Figure A.4. Sensitivity to pure lags, number of inter-state and extra-state wars

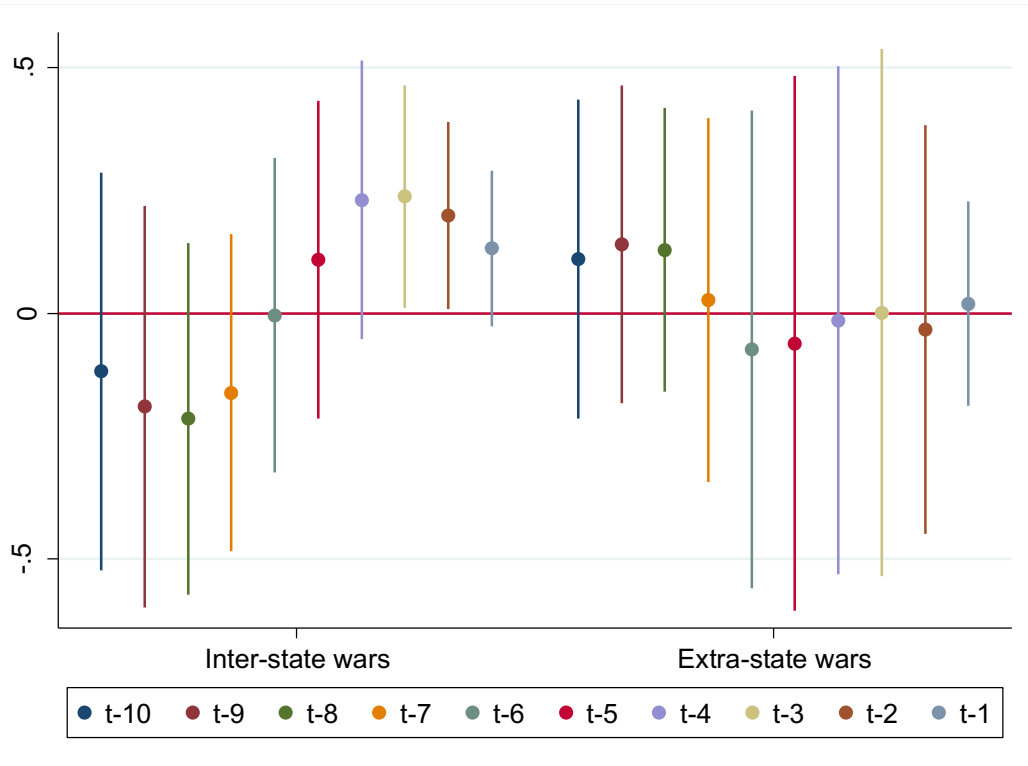


Figure A.5. Sensitivity to pure lags, number of inter-class and inter-elite civil wars

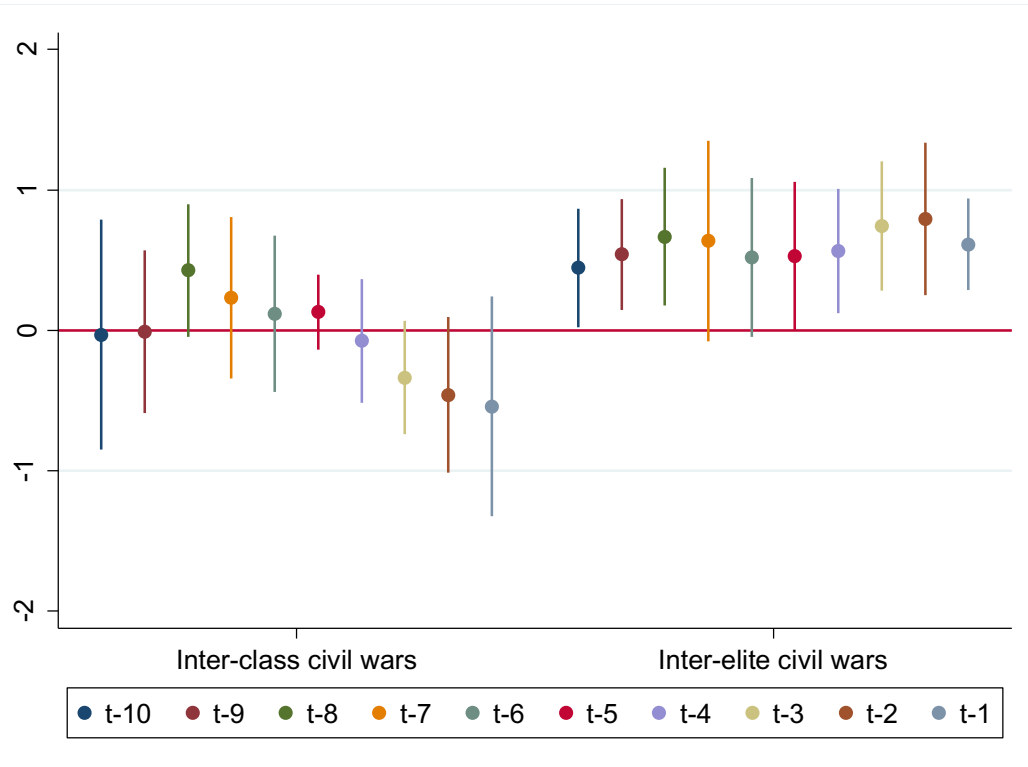


Figure A.6. Sensitivity to pure lags, number of civil wars over secession, regime change and other claims.

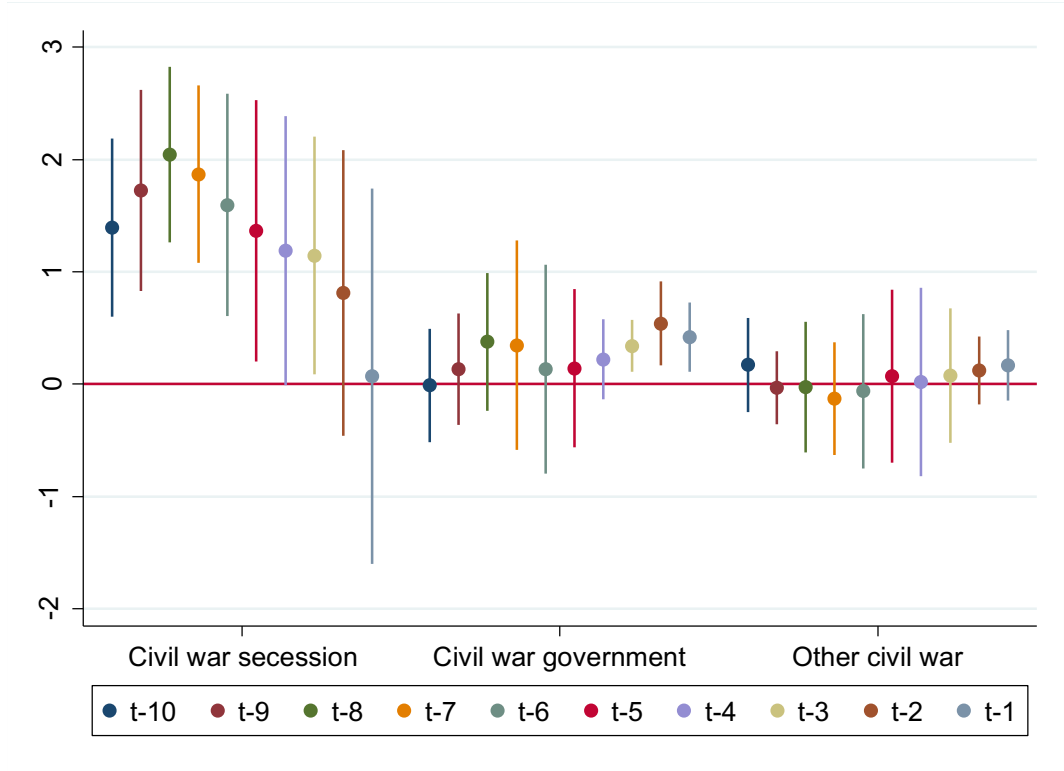


Figure A.7 Sensitivity to pure lags, international and civil war battle deaths

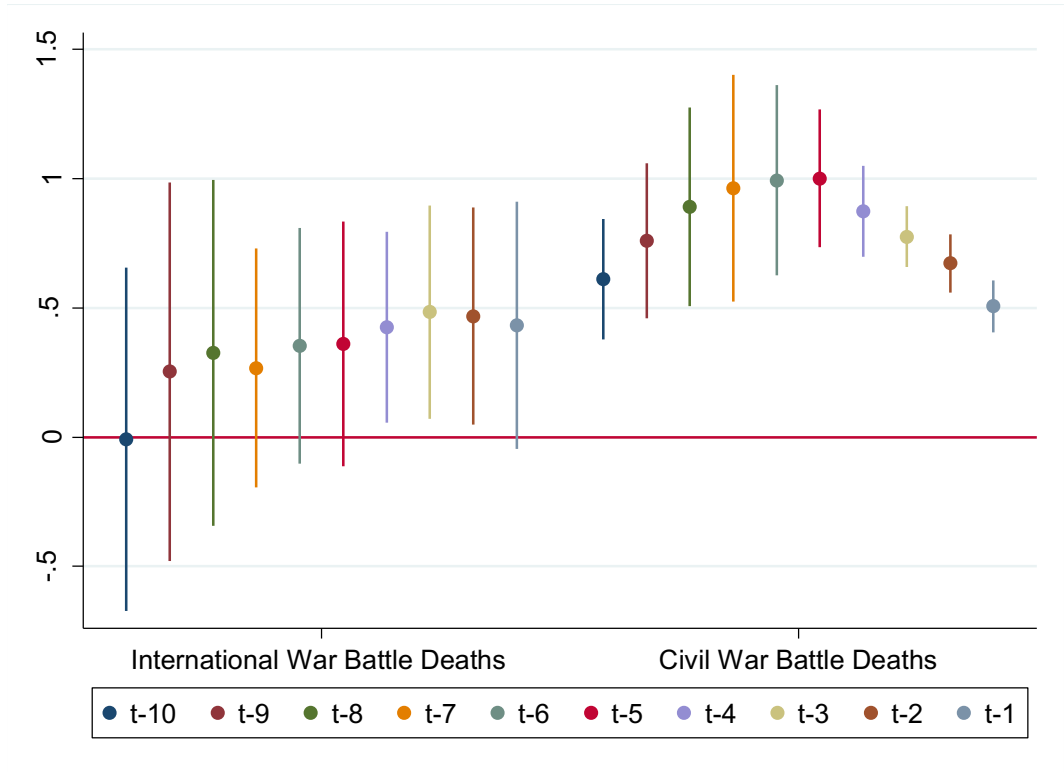


Figure A.8 Sensitivity to pure lags, inter-state and extra-state war battle deaths

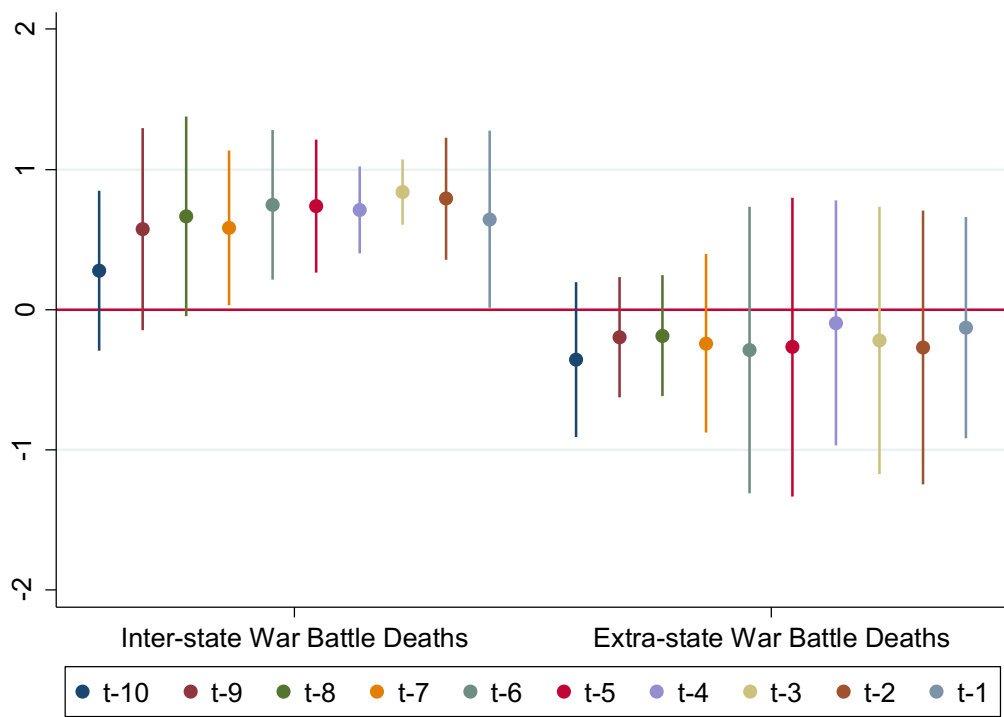


Figure A.9 Sensitivity to pure lags, inter-elite and inter-class civil war battle deaths

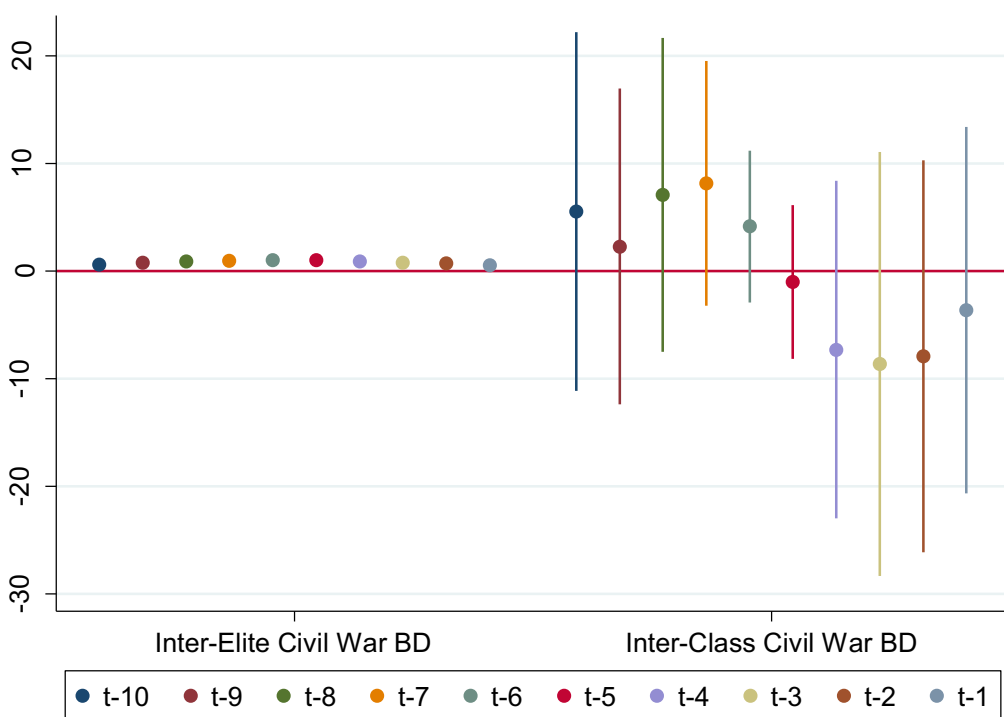


Figure A.10 Sensitivity to pure lags, civil wars over secession, regime change and other claims (battle deaths)

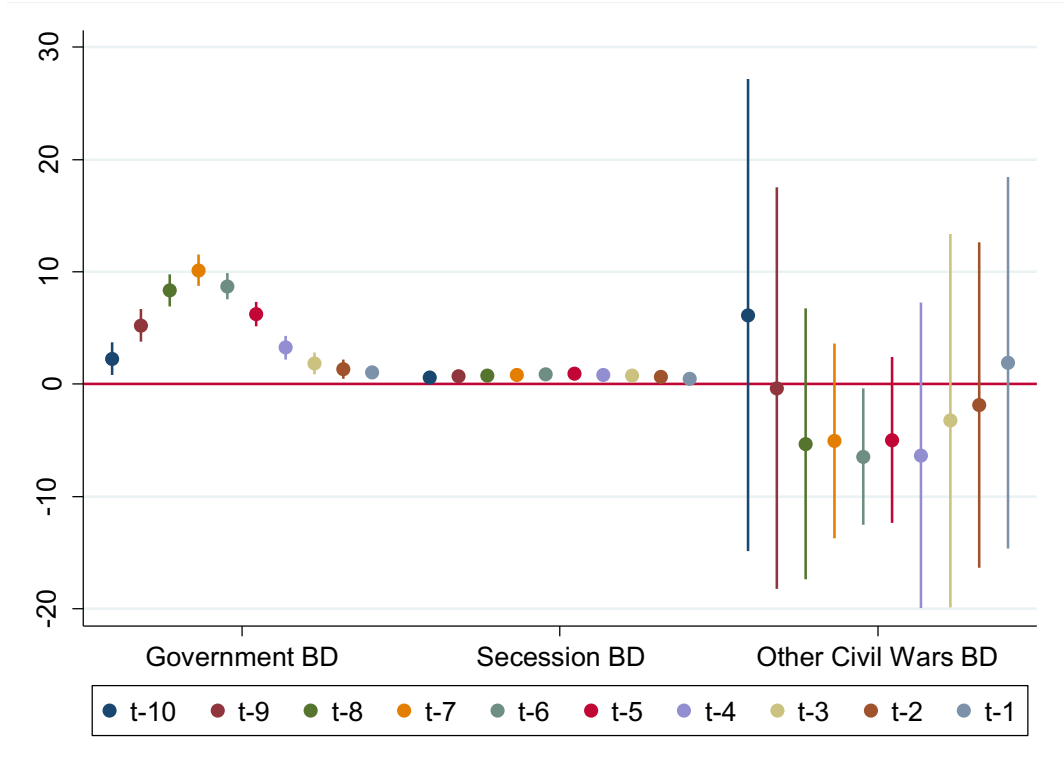


Figure A.11 Sensitivity to pure lags, international and civil war duration

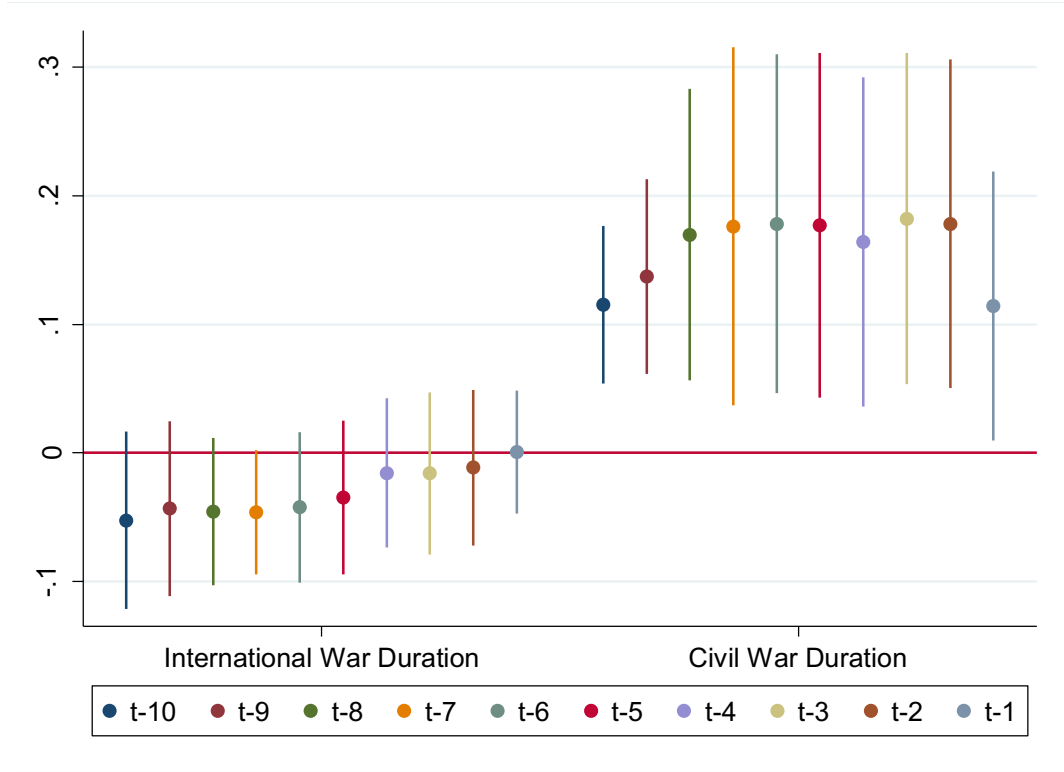


Figure A.12 Sensitivity to pure lags, inter-state and extra-state war duration

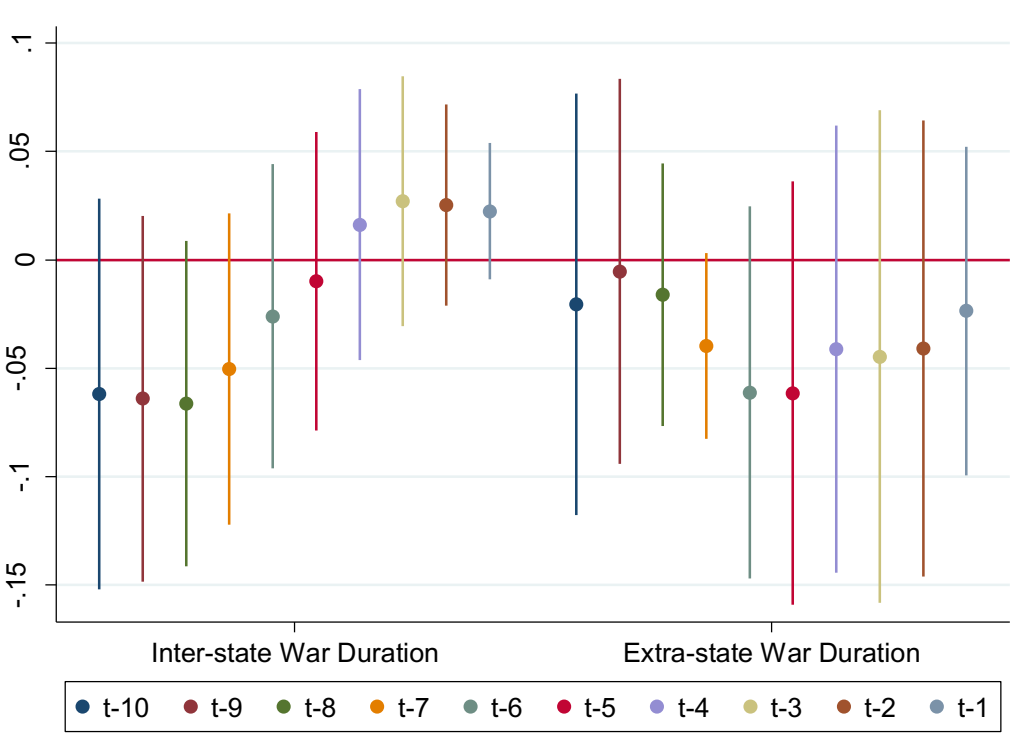


Figure A.13 Sensitivity to pure lags, inter-elite and inter-class civil war duration

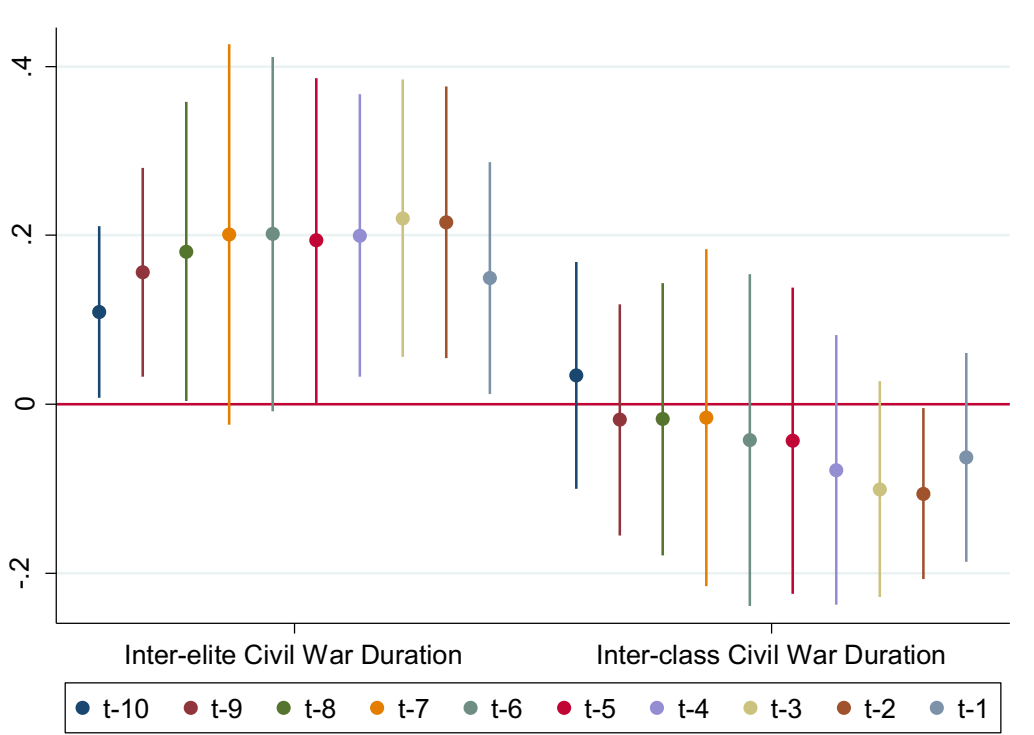
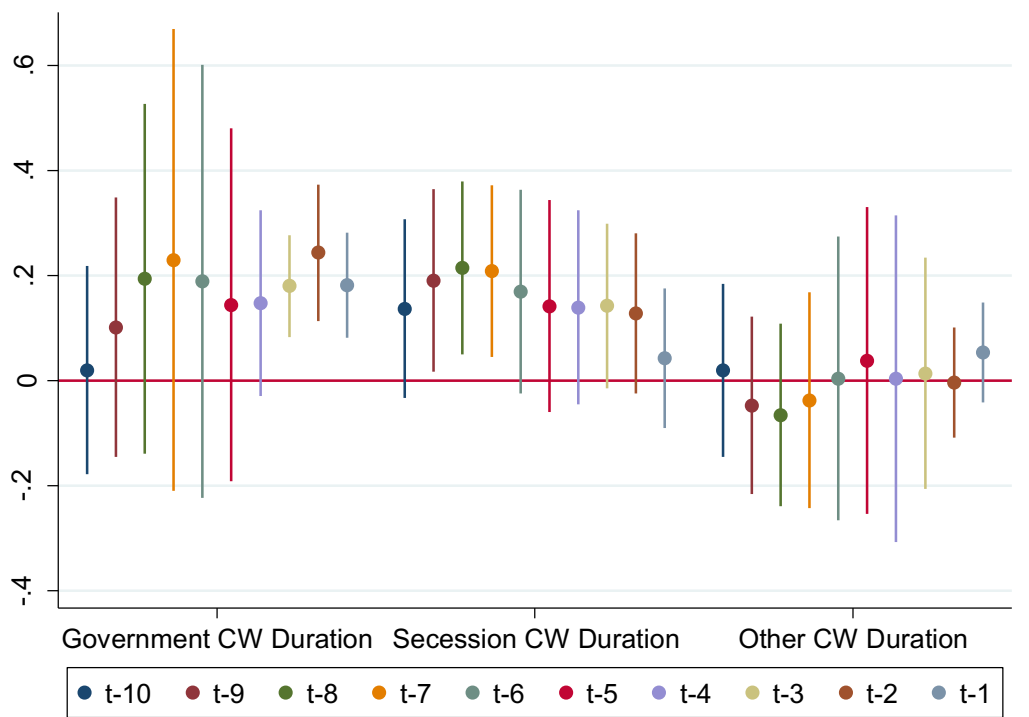


Figure A.14 Sensitivity to pure lags, civil wars over secession, regime change and other claims (duration)





## Appendix B

Table B1. List of inter-state wars

| <b>Name</b>                                   | <b>Start Year</b> | <b>End Year</b> | <b>Participants</b>                                |
|---|-------------------|-----------------|--|
| Allied Bombardment of Algiers                 | 1816              | 1816            | Netherlands, United Kingdom                        |
| First British-Burmese                         | 1823              | 1826            | United Kingdom                                     |
| Franco-Spanish War                            | 1823              | 1823            | France, Spain                                      |
| Brazil-Argentine                              | 1826              | 1828            | Argentina, Brazil                                  |
| Russo-Persian                                 | 1826              | 1828            | Russia   |
| First Russo-Turkish                           | 1828              | 1829            | Russia   |
| Peru-Gran Colombia War                        | 1828              | 1829            | Colombia, Peru                                     |
| Spanish Reconquest of Mexico                  | 1829              | 1829            | Mexico, Spain                                      |
| French Occupation of Algiers                  | 1830              | 1830            | France   |
| Bolivia Conquest of Peru                      | 1835              | 1836            | Bolivia, Peru                                      |
| Dissolution of the Bolivia-Peru Confederation | 1837              | 1839            | Argentina, Bolivia, Chile, Peru                    |
| First Franco-Algerian                         | 1839              | 1847            | France   |
| First Opium                                   | 1839              | 1842            | United Kingdom                                     |
| Peru-Bolivian                                 | 1841              | 1841            | Bolivia, Peru                                      |
| Uruguay War                                   | 1843              | 1851            | Argentina, Brazil, France, United Kingdom, Uruguay |
| Franco-Moroccan                               | 1844              | 1844            | France   |
| Mexican-American                              | 1846              | 1847            | Mexico, United States                              |
| Austro-Sardinian                              | 1848              | 1849            | Austria-Hungary, Italy                             |
| First Schleswig-Holstein                      | 1848              | 1849            | Denmark, Germany                                   |
| Roman Republic                                | 1849              | 1849            | France   |
| La Plata                                      | 1851              | 1852            | Argentina, Brazil                                  |
| Second British-Burmese                        | 1852              | 1852            | United Kingdom                                     |
| Crimean                                       | 1854              | 1856            | France, Italy, Russia, United Kingdom              |

|                           |      |      |                                   |
|---------------------------|------|------|-----------------------------------|
| Anglo-Persian             | 1856 | 1857 | United Kingdom                    |
| Second Opium              | 1856 | 1860 | France, United Kingdom            |
| First Franco-Vietnamese   | 1858 | 1862 | France                            |
| First Spanish-Moroccan    | 1859 | 1860 | Spain                             |
| Italian Unification       | 1859 | 1859 | Austria-Hungary, France, Italy    |
| Italian-Roman             | 1860 | 1860 | Italy                             |
| Neapolitan                | 1860 | 1861 | Italy                             |
| Franco-Mexican            | 1862 | 1867 | France, Mexico                    |
| Ecuadorian-Colombian      | 1863 | 1863 | Colombia                          |
| Spanish-Santo Dominican   | 1863 | 1865 | Spain                             |
| Second Schleswig-Holstein | 1864 | 1864 | Austria-Hungary, Denmark, Germany |
| Lopez                     | 1865 | 1870 | Argentina, Brazil                 |
| Naval War                 | 1865 | 1866 | Chile, Peru, Spain                |
| Seven Weeks               | 1866 | 1866 | Austria-Hungary, Germany, Italy   |
| British-Ethiopian         | 1867 | 1868 | United Kingdom                    |
| Franco-Prussian           | 1870 | 1871 | France, Germany                   |
| Second Franco-Vietnamese  | 1873 | 1874 | France                            |
| Second Russo-Turkish      | 1877 | 1878 | Russia                            |
| Second British-Afghan     | 1878 | 1879 | United Kingdom                    |
| War of the Pacific        | 1879 | 1883 | Bolivia, Chile, Peru              |
| First Boer War            | 1880 | 1881 | United Kingdom                    |
| Conquest of Egypt         | 1882 | 1882 | United Kingdom                    |
| Third Franco-Vietnamese   | 1882 | 1884 | France                            |
| First Franco-Madagascan   | 1883 | 1885 | France                            |
| Sino-French               | 1884 | 1885 | France                            |
| Russo-Afghan              | 1885 | 1885 | Russia                            |

|                          |      |      |   |
|--------------------------|------|------|---|
| Third British-Burmese    | 1885 | 1889 | United Kingdom                                |
| First Italian-Ethiopian  | 1887 | 1887 | Italy   |
| Franco-Thai War          | 1893 | 1893 | France  |
| Second Franco-Madagascan | 1894 | 1895 | France  |
| Second Italian-Ethiopian | 1895 | 1896 | Italy   |
| Spanish-American         | 1898 | 1898 | Spain, United States                          |
| Second Boer War          | 1899 | 1902 | United Kingdom                                |
| Boxer Rebellion          | 1900 | 1900 | France, Russia, United Kingdom, United States |
| Sino-Russian             | 1900 | 1900 | Russia  |
| Russo-Japanese           | 1904 | 1905 | Russia  |
| Second Spanish-Moroccan  | 1909 | 1910 | Spain   |
| Italian-Turkish          | 1911 | 1912 | Italy   |
| Second Balkan            | 1913 | 1913 | Romania                                       |

*Sources:* see text.

Table B2. List of extra-state wars

| <b>Name</b>                            | <b>Start Year</b> | <b>End Year</b> | <b>Participants</b> |
|--|-------------------|-----------------|---------------------|
| Portuguese vs. Latin American patriots | 1816              | 1817            | Portugal            |
| British-Kandyen                        | 1817              | 1818            | United Kingdom      |
| British-Maratha                        | 1817              | 1818            | United Kingdom      |
| First Bolivar Expedition               | 1817              | 1819            | Spain               |
| Liberation of Chile                    | 1817              | 1818            | Spain               |
| Mexican Independence                   | 1817              | 1818            | Spain               |
| Second Bolivar Expedition              | 1821              | 1822            | Spain               |
| Bolivia's war of independence          | 1824              | 1824            | Spain               |
| First British-Ashanti                  | 1824              | 1826            | United Kingdom      |
| Liberation of Peru                     | 1824              | 1825            | Spain               |
| British-Bharatpuran                    | 1825              | 1826            | United Kingdom      |
| Dutch - Javanese                       | 1825              | 1830            | Netherlands         |
| First British-Zulu                     | 1838              | 1838            | United Kingdom      |

|                            |      |      |  |
|----------------------------|------|------|--|
| First British-Afghan       | 1839 | 1842 | United Kingdom   |
| Russo-Khivan               | 1839 | 1839 | Russia   |
| British-Sind               | 1843 | 1843 | United Kingdom   |
| Gwalior                    | 1843 | 1843 | United Kingdom   |
| First British-Sikh         | 1845 | 1846 | United Kingdom   |
| Cracow Revolt              | 1846 | 1846 | Austria-Hungary, Germany,<br>Russia                          |
| First British-Xhosa        | 1846 | 1847 | United Kingdom   |
| First Dutch-Bali           | 1848 | 1849 | Netherlands  |
| Second British-Sikh        | 1848 | 1849 | United Kingdom   |
| Chinese Pirates            | 1849 | 1849 | United Kingdom   |
| Second British-Xhosa       | 1850 | 1852 | United Kingdom   |
| French-Tukulor War         | 1854 | 1857 | France   |
| British-Santal             | 1855 | 1856 | United Kingdom   |
| French Conquest of Kabylia | 1856 | 1857 | France   |
| Indian Mutiny              | 1857 | 1859 | United Kingdom   |
| Argentine-Buenos Aires     | 1859 | 1859 | Argentina  |
| Netherlands-Bone           | 1859 | 1860 | Netherlands  |
| British Umbeyla Campaign   | 1863 | 1863 | United Kingdom   |
| British-Maori              | 1863 | 1866 | United Kingdom   |
| Shimonoseki War            | 1863 | 1864 | France, the Netherlands,<br>United Kingdom, United<br>States |
| Russian-Kokand             | 1864 | 1865 | Russia   |
| British-Bhutanese          | 1865 | 1865 | United Kingdom   |
| Russian-Bukharan           | 1866 | 1866 | Russia   |
| First Spanish-Cuban        | 1868 | 1878 | Spain  |
| Second Franco-Algerian     | 1871 | 1872 | France   |
| First Dutch-Achinese       | 1873 | 1878 | Netherlands  |
| Second British-Ashanti     | 1873 | 1874 | United Kingdom   |
| Kokand Rebellion           | 1875 | 1876 | Russia   |
| Third British-Xhosa        | 1877 | 1878 | United Kingdom   |
| Austrian-Bosnian           | 1878 | 1878 | Austria-Hungary  |
| Russo-Turkoman             | 1878 | 1881 | Russia   |
| Second British-Zulu        | 1879 | 1879 | United Kingdom   |
| Gun War                    | 1880 | 1881 | United Kingdom   |
| First British-Mahdi        | 1881 | 1885 | United Kingdom   |
| Franco-Tunisian            | 1881 | 1882 | France   |

|                                   |      |      |                |
|-----------------------------------|------|------|----------------|
| Russia vs. Turkmen                | 1881 | 1881 | Russia         |
| French-Mandinka                   | 1885 | 1886 | France         |
| Zambezi Conquest                  | 1888 | 1888 | Portugal       |
| First Franco-Dahomeyan            | 1890 | 1890 | France         |
| Franco-Jolof                      | 1890 | 1891 | France         |
| French vs. Tukolor Empire         | 1891 | 1891 | France         |
| Belgian-Tib                       | 1892 | 1894 | Belgium        |
| Second Franco-Dahomeyan           | 1892 | 1893 | France         |
| Mahdist-Italian                   | 1893 | 1894 | Italy          |
| Melilla War                       | 1893 | 1894 | Spain          |
| Third British-Ashanti             | 1893 | 1894 | United Kingdom |
| Second Dutch-Bali                 | 1894 | 1894 | Netherlands    |
| Mazrui Rebellion                  | 1895 | 1896 | United Kingdom |
| Portuguese-Gaza Empire            | 1895 | 1895 | Portugal       |
| Second Spanish-Cuban              | 1895 | 1898 | Spain          |
| British vs. Matabele and Shona    | 1896 | 1897 | United Kingdom |
| Mahdi Uprising                    | 1896 | 1899 | France         |
| Second British-Mahdi              | 1896 | 1899 | United Kingdom |
| Spanish-Philippine                | 1896 | 1898 | Spain          |
| British-Pathan                    | 1897 | 1898 | United Kingdom |
| British-South Nigerian            | 1897 | 1897 | United Kingdom |
| Hut Tax                           | 1898 | 1898 | United Kingdom |
| American-Philippine               | 1899 | 1902 | United States  |
| French Conquest of Chad           | 1899 | 1900 | France         |
| Last Ashanti War                  | 1900 | 1900 | United Kingdom |
| Somali Rebellion                  | 1901 | 1904 | United Kingdom |
| Bailundu Revolt                   | 1902 | 1903 | Portugal       |
| Kuanhama Rebellion                | 1902 | 1904 | Portugal       |
| British Conquest of Kano & Sokoto | 1903 | 1903 | United Kingdom |
| Second Dutch-Achinese             | 1904 | 1907 | Netherlands    |
| South West African Revolt         | 1904 | 1906 | Germany        |
| Younghusband Expedition           | 1904 | 1904 | United Kingdom |
| Maji-Maji Revolt                  | 1905 | 1906 | Germany        |
| Sokoto Uprising                   | 1906 | 1906 | United Kingdom |
| Third British-Zulu                | 1906 | 1906 | United Kingdom |
| Anti-Foreign Revolt               | 1907 | 1910 | France         |

|                          |      |      |               |
|--------------------------|------|------|---------------|
| Dembos War               | 1907 | 1910 | Portugal      |
| French Conquest of Wadai | 1909 | 1911 | France        |
| French-Berber            | 1912 | 1912 | France        |
| Moro Rebellion           | 1913 | 1913 | United States |
| Moroccan Berber          | 1913 | 1915 | France, Spain |

*Sources:* see text.

Table B3. List of civil wars

| <b>Name</b>                             | <b>Start Year</b> | <b>End Year</b> | <b>Participants</b>                     |
|---|-------------------|-----------------|---|
| First Caucasus                          | 1818              | 1822            | Russia                                  |
| Buenos Aires War                        | 1820              | 1820            | Argentina                               |
| First Two Sicilies                      | 1821              | 1821            | Austria-Hungary                         |
| Sardinian Revolt                        | 1821              | 1821            | Italy                                   |
| Spanish Royalists                       | 1821              | 1823            | Spain                                   |
| Greater Chechnya Revolt of 1825 to 1826 | 1825              | 1826            | Russia                                  |
| Mexico-Yaqui Indian War                 | 1825              | 1827            | Mexico                                  |
| Greek Independence                      | 1827              | 1827            | France, Russia, United Kingdom          |
| Miguelite War                           | 1828              | 1834            | Portugal, United Kingdom                |
| Argentine War for Unity                 | 1829              | 1831            | Argentina                               |
| Belgian Independence                    | 1830              | 1830            | Netherlands                             |
| First French Insurrection               | 1830              | 1830            | France                                  |
| First Murid War                         | 1830              | 1832            | Russia                                  |
| First Polish                            | 1831              | 1831            | Russia                                  |
| Cabanada War of 1832 to 1835            | 1832              | 1835            | Brazil                                  |
| First Mexican                           | 1832              | 1832            | Mexico                                  |
| Argentina-Ranqueles Indian War          | 1833              | 1834            | Argentina                               |
| Second Murid                            | 1834              | 1834            | Russia                                  |
| Cabanos Revolt                          | 1835              | 1837            | Brazil                                  |
| Farroupilha War                         | 1835              | 1845            | Brazil                                  |
| First Carlist War                       | 1835              | 1839            | Spain, France, Portugal, United Kingdom |

|                                       |      |      |                         |
|---------------------------------------|------|------|-------------------------|
| Texan                                 | 1835 | 1836 | Mexico                  |
| Zacatecas Rebellion of 1835           | 1835 | 1835 | Mexico                  |
| Third Murid                           | 1836 | 1852 | Russia                  |
| Sabinada Rebellion                    | 1837 | 1838 | Brazil                  |
| Balaiada Revolt of 1838 to 1841       | 1838 | 1841 | Brazil                  |
| Tampico Revolt of 1838 to 1839        | 1838 | 1839 | Mexico                  |
| Colorados vs. Blancos                 | 1839 | 1842 | Uruguay                 |
| First Colombian                       | 1840 | 1842 | Colombia                |
| Second Syrian, Phase 2                | 1840 | 1840 | United Kingdom          |
| First Argentina War, Phase 2          | 1841 | 1842 | Argentina               |
| Triangular Revolt                     | 1841 | 1841 | Mexico                  |
| Mayan Caste War, Phase 1              | 1847 | 1848 | Mexico                  |
| Second Carlist                        | 1847 | 1849 | Spain                   |
| First Venezuelan                      | 1848 | 1849 | Venezuela               |
| Hungarian                             | 1848 | 1849 | Austria-Hungary, Russia |
| Mayan Caste War, Phase 2              | 1848 | 1855 | Mexico                  |
| Milan Five Day Revolt                 | 1848 | 1848 | Austria-Hungary         |
| Second French Insurrection            | 1848 | 1848 | France                  |
| Viennese Revolt                       | 1848 | 1848 | Austria-Hungary         |
| First Chilean War of 1851 to 1852     | 1851 | 1852 | Chile                   |
| First Peru                            | 1853 | 1855 | Peru                    |
| Barquisimeto Rebellion of 1854        | 1854 | 1854 | Venezuela               |
| Colombia's Barracks Rebellion of 1854 | 1854 | 1854 | Colombia                |
| Puebla War                            | 1855 | 1856 | Mexico                  |
| Second Peru                           | 1856 | 1858 | Peru                    |
| Mexican Reform                        | 1858 | 1861 | Mexico                  |
| Constituent Revolution of 1859        | 1859 | 1859 | Chile                   |
| Second Venezuelan/Federalist          | 1859 | 1863 | Venezuela               |
| Second Colombian War of 1860 to 1862  | 1860 | 1862 | Colombia                |

|   |      |      |                |
|---|------|------|----------------|
| Third Buenos Aires War of 1861 to 1862      | 1861 | 1862 | Argentina      |
| U.S. Civil War                              | 1861 | 1865 | United States  |
| Bolivian Perez Rebellion                    | 1862 | 1862 | Bolivia        |
| Taiping Rebellion, Phase 2                  | 1862 | 1862 | United Kingdom |
| Bandit War of 1863                          | 1863 | 1863 | Italy          |
| Second Argentina                            | 1863 | 1863 | Argentina      |
| Second Polish                               | 1863 | 1864 | Russia         |
| Constitutionalist Rebellion of 1865 to 1866 | 1865 | 1866 | Bolivia        |
| Third Argentina                             | 1866 | 1867 | Argentina      |
| Queretaro                                   | 1867 | 1867 | Mexico         |
| Third Venezuelan War of 1867 to 1868        | 1867 | 1868 | Venezuela      |
| Spanish Liberals                            | 1868 | 1868 | Spain          |
| Venezuelan Yellow Rebellion of 1869 to 1872 | 1869 | 1872 | Venezuela      |
| Bolivia-Criollos                            | 1870 | 1871 | Bolivia        |
| Fourth Argentina                            | 1870 | 1871 | Argentina      |
| Uruguay Colorados-Blancos War               | 1870 | 1872 | Uruguay        |
| Paris Commune                               | 1871 | 1871 | France         |
| Xinjiang Muslim Revolt                      | 1871 | 1871 | Russia         |
| Third Carlist                               | 1872 | 1876 | Spain          |
| Catalanist Uprising of 1873 to 1875         | 1873 | 1875 | Spain          |
| Entre Rios War of 1873                      | 1873 | 1873 | Argentina      |
| Fifth Argentina                             | 1874 | 1874 | Argentina      |
| Diaz Revolt                                 | 1876 | 1876 | Mexico         |
| Third Colombian                             | 1876 | 1877 | Colombia       |
| United States of America vs. Sioux Indians  | 1876 | 1876 | United States  |
| Argentine Indians                           | 1879 | 1880 | Argentina      |
| Revindication War of 1879                   | 1879 | 1879 | Venezuela      |
| Fourth Buenos Aires                         | 1880 | 1880 | Argentina      |
| Fourth Colombian                            | 1884 | 1885 | Colombia       |



|   |      |      |           |
|---|------|------|-----------|
| Peru's National Problem                 | 1885 | 1885 | Peru      |
| Campos Mutiny of 1890                   | 1890 | 1890 | Argentina |
| Second Chilean                          | 1891 | 1891 | Chile     |
| Venezuela's Legalist Revolution of 1892 | 1892 | 1892 | Venezuela |
| Brazil Federalists                      | 1893 | 1894 | Brazil    |
| Brazil Naval                            | 1893 | 1894 | Brazil    |
| Third Peru                              | 1894 | 1895 | Peru      |
| Fifth Colombian                         | 1895 | 1895 | Colombia  |
| Third Brazil-Canudos                    | 1896 | 1897 | Brazil    |
| Revolucion de Queipa of 1898            | 1898 | 1898 | Venezuela |
| Fourth Venezuelan                       | 1899 | 1899 | Venezuela |
| Quintana Roo War of 1899 to 1901        | 1899 | 1901 | Mexico    |
| Second Yaqui War                        | 1899 | 1900 | Mexico    |
| Sixth Colombian (War of the 1000 Days)  | 1899 | 1902 | Colombia  |
| Fifth Venezuelan                        | 1901 | 1903 | Venezuela |
| First Uruguay                           | 1904 | 1904 | Uruguay   |
| Bloody Sunday                           | 1905 | 1906 | Russia    |
| Overthrow of Abd el-Aziz                | 1907 | 1908 | France    |
| Romanian Peasant Revolt                 | 1907 | 1907 | Romania   |
| Iranian Constitution War                | 1909 | 1909 | Russia    |
| Third Mexican                           | 1910 | 1914 | Mexico    |

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*Notes:* some of these civil wars refer to wars that took place in other countries (mainly in Asia and Africa) but in which one or more states included in the dataset participated as foreign powers (included in international wars in Table 1). The wars are: First Two Sicilies, Greek Independence, Second Syrian (Phase 2), Taiping Rebellion (Phase 2), Xinjiang Muslim Revolt, Overthrow of Abd el-Aziz, and Iranian Constitution War.