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The state does not live by warfare alone: War and revenue in the long nineteenth century

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Abstract

Previous research shows that wars contributed to the expansion of state revenues in the Early Modern period and in the twentieth century. There are, however, few cross-national studies on the long nineteenth century. Using new unbalanced panel data on wars and public revenues from 1816 to 1913 for 27 American and European countries, this article provides new evidence that military conflicts very rarely triggered lasting increases in public revenues during those years. We argue that the uneven diffusion of military innovations reduced the probability that international wars would be sufficiently intense to push state actors to seek additional resources. Moreover, the distinction between international and civil wars was blurred by the opportunities for non-state actors to mobilize military forces comparable to those of the state. Therefore, only very intense international *and* civil wars had a lasting impact on state revenues, but such conflicts were extremely rare, both in Europe and the Americas.

Keywords Fiscal capacity · Public revenues · Taxation · War · Europe · America · Nineteenth century

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A large "bellicist" literature has argued that the geopolitical environment of Early Modern Europe contributed to the development of fiscal states. It is also well-known that the "total wars" of the twentieth century triggered a dramatic expansion in state revenues. There are, however, few cross-national studies on the relationship between warfare and the evolution of public revenues during the long nineteenth century, and those that exist arrive at somewhat contradictory conclusions. Using an original unbalanced panel dataset with the largest coverage to date of yearly observations of war and public revenues for 27 American and European countries, we examine the impact of warfare on fiscal expansion from the end of the Napoleonic Wars (1816) to the eve of World War I (1913), a period that witnessed the emergence of industrial warfare, the birth of new states in the Americas, and the reconfiguration of European states.

We argue that during the long nineteenth century, uneven military modernization created incentives for rulers to fight asymmetrical and low-intensity wars and to avoid symmetrical and intense conflicts that would exert pressures to invest in state institutions. As a result, contrary to other historical periods, warfare was rarely associated with large increases in public revenues. Only very intense conflicts, such as the Franco-Prussian War and the American Civil War, had a lasting impact on public revenues, but such conflicts were extremely rare.

Two implications follow from this argument. First, in contrast to what could be inferred from studies based on cross-sectional data (e.g., Besley & Persson, 2008, 2011; Dincecco & Prado, 2012), contemporary differences in public revenues between European and American states can hardly be explained by the outbreak of wars during the nineteenth century. While previous scholars have argued that nineteenth-century military conflicts were not sufficiently intense to promote the expansion of tax revenues among the nascent states of the Americas (e.g., Centeno, 2003), we show that this was also the case for the older European states at the time. For the purposes of bellicist theory, the Latin American experience during this period was not exceptional. What was special was the long nineteenth century.

Second, the slow diffusion of military modernization created opportunities in some contexts for societal groups to mobilize armed forces comparable in resources, tactics, and logistics to those of the state. Consequently, in exceptional cases when both the state and competing elites mobilized modern armies, civil wars could reach similar levels of intensity as interstate conflicts, pushing rulers to invest in state institutions and expand public revenues. We thus do *not* observe the systematic differences in the effects of civil and international wars in the nineteenth century that have been found for the twentieth century (Besley & Persson, 2011; Fearon & Laitin, 2003; Kalyvas & Balcells, 2010).

Theoretically, our main contribution is to offer a nuanced explanation for why the relationship between war and public revenues has changed over time. We

argue that wars lead to increases in public revenues only if rulers need to mobilize additional resources beyond those already under their control. Military innovations —such as the adoption of universal conscription, meritocratic promotion, and industrial warfare that spread slowly during the long nineteenth century— change the extent to which this is likely to be the case under different historical contexts. Taking history seriously means not only testing our theories on data from different historical periods, but also theorizing how the historical context shapes the way actors respond to the pressures of war.

Empirically, we offer the first test of bellicist theory using panel data for most states that were already independent during the nineteenth century. This allows us to provide consistent evidence that it is the intensity rather than the incidence of war that matters for fiscal expansion, a point that is often implicit in the literature but that has not yet been empirically demonstrated. In doing so, we confirm Centeno's (2003) claim that nineteenth-century "limited wars" did not contribute to fiscal expansion in Latin America. However, our analyses indicate that this was also the case for most of Europe. If states followed different trajectories during the long nineteenth century, it was due to other factors besides the outbreak of war. States do not live by warfare alone.

In what follows, we first summarize research on wars and public revenues. Second, we develop our theoretical argument. In the third section we describe our dataset, followed by our regression specification. We then present the results of the statistical analyses, first from the regressions and then by applying their results to the differences across regions. In the conclusion, we discuss how these findings contribute to research on state formation. In the online appendix,[1] we present additional evidence: (1) using alternative data sources of public revenues; (2) focusing only on tax revenues; (3) exploring different measures of wars and military rivalries; (4) addressing concerns of endogeneity and missing data; (5) examining conditional factors such as war outcomes and access to international financial markets; and (6) extending our analyses to the twentieth century.

1 War and fiscal expansion

"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 (Hintze, 1975; Tilly, 1975, 1985; Downing, 1993; Ertman, 1997; for an opposing view, see Abramson, 2017). According to this literature, wars not only drove processes of Darwinian selection that weeded out weak political units (Tilly, 1975, 24; Spruyt, 1994), but also created incentives for adaptation that made existing states stronger in the long run (Goenaga & von Hagen-Jamar, 2018).

During the 1400s, military innovations resulting from the introduction of gunpowder increased the costs of warfare (Gennaioli & Voth, 2015), pushing European

[1] The online appendix, as well as the data and replication materials, are available at the *Review of International Organizations* webpage.

rulers to extract more revenue from their populations (Tilly, 1985). In this way, the pressures of warfare not only eliminated weaker states but also fostered collective investments in state institutions and the expansion of public revenues among the states that survived (Dincecco et al., 2011; Gennaioli & Voth, 2015; Karaman & Pamuk, 2013; Kiser & Linton, 2001; Levi, 1989).

In recent years, several scholars have extended those arguments to the twentieth century. Even if we no longer observe wars shaping state formation through mechanisms of Darwinian selection due to evolving norms of national sovereignty and territorial integrity (Jackson & Rosberg, 1982), numerous studies have found that twentieth-century *interstate* wars contributed to the dramatic expansion of public revenues. The most evident examples are associated with the huge impact of the two world wars (Rasler & Thompson, 2017; Scheve & Stasavage, 2016). However, other interstate conflicts (Taylor & Botea, 2008), military rivalries (Thies, 2005), foreign interventions (Kisangani & Pickering, 2014), and territorial disputes (Gibler, 2010), have also been associated with investments in state capacity and fiscal expansion.

Other studies have argued that *civil* wars tended instead to deplete state resources during the twentieth century (Besley & Persson, 2011; Ch et al., 2018; Fearon & Laitin, 2003; Hironaka, 2009). Whereas interstate wars facilitate collective investments in state institutions, civil wars reflect the fragmentation of society, undermining rather than fostering state building efforts. There is, however, disagreement on this point. Some authors argue that certain kinds of internal conflicts—mostly, social revolutions driven by inter-class conflict—in fact strengthened twentieth-century states (Carter et al., 2012; Levitsky & Way, 2013; Rodríguez-Franco, 2016; Skocpol, 1979; Slater, 2010).

Did nineteenth-century wars have a similar impact on public revenues as the literature suggests for these other periods? Thus far, the scarcity of historical data has prevented cross-sectional time-series analyses to answer this question.[2] Most research has either relied on cross-national variation of historical legacies or on qualitative comparative analyses, reaching somewhat contradictory conclusions.

Some studies have found a significant statistical association between nineteenth-century international wars and contemporary levels of taxation. Besley and Persson (2011, 58) find that countries that spent more years fighting international wars between 1816 and 1900 had on average higher tax ratios (taxes as a share of GDP) between 1976 and 2000 (see also Besley & Persson, 2009, 1236). Dincecco and Prado (2012) present evidence of a strong statistical relationship between pre-1913 war casualties and two contemporary fiscal indicators: direct taxes as a share of total taxes and tax ratios. They argue that variation in contemporary levels of fiscal extraction is related to fiscal reforms that states implemented in the face of nineteenth-century conflicts (Dincecco & Prado, 2012, 175). Queralt (2019) argues that participation in inter-state wars between 1816 and 1913 is associated with higher levels of taxation today. However, this association is conditional on having fought wars during periods when external sources of finance were foreclosed. More

[2] Mark Dincecco's influential work is an exception (Dincecco, 2009; Dincecco et al., 2011). However, those studies are based on time series data for only a small number of European states.

recently, Schenoni (2021) has argued that it was the *outcome* of inter-state conflicts that mattered for state capacity in nineteenth-century Latin America. While his findings do not show that winning wars led to higher levels of taxation in the region, they indicate that losing wars was associated with lower tax revenues.

Other authors are more skeptical about the relevance of nineteenth-century wars for fiscal development. Yun-Casalilla (2012) argues that the defense of property rights and internal order was more important than warfare in the development of European fiscal states at the time. Cardoso and Lains (2010) defend the view that the nineteenth century was a "century of peace" that facilitated the fiscal modernization of European states through rapid economic growth, political reforms, and the shift of public expenditures from defense spending to other social investments. More recent studies have also emphasized the importance of non-military factors, such as intra-elite competition and economic crises, for the evolution of public revenues (Andersson, 2018; Beramendi et al., 2019; Hollenbach, 2021) and for the introduction of modern taxes during the nineteenth century (Mares & Queralt, 2015, 2020; Limberg, 2020; Limberg & Seelkopf, 2022; Morgan & Prasad, 2009).

Others go further and claim that international wars in fact had a negative impact on public revenues for some nineteenth-century states. Centeno (2003) points out that wars triggered cycles of blood and debt in Latin America. According to him, access to foreign credit and the 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. Similarly, Kurtz (2013) suggests that the absence of prior pacts between Latin American states and economic elites interrupted the cycles of war and fiscal extraction that characterized Early Modern Europe.

Fewer studies have been conducted on the consequences of civil wars on fiscal expansion during the long nineteenth century. Some authors have argued that the underdevelopment of Latin American fiscal states is related to the prevalence of civil conflict during those years (Centeno, 2003; Kurtz, 2013; Soifer, 2015). At the same time, many of the wars that Dincecco and Prado (2012) associated with moments of fiscal centralization—e.g., the American Civil War or the Satsuma Rebellion in Japan—were internal conflicts. More recently, Arias and de la Calle (2021) have argued that the presence of royalist militias during the War of Independence may have contributed to greater fiscal development among some Mexican municipalities by 1900. In sum, we do not yet have a clear picture of the impact of wars on public revenues during the long nineteenth century.

2 The military revolution of the long nineteenth century

We now turn to our theoretical argument. Wars can lead to higher state revenues if they create incentives for state and societal actors to pool resources and make collective investments in the state (Tilly, 1985; Besley & Persson, 2011). We argue, however, that this is only the case if conflicts are intense enough that they require states to mobilize additional resources beyond those already under their control (Gennaioli & Voth, 2015; Rasler & Thompson, 2017). It then follows that whether warfare is a

driver of public revenues in different contexts depends on the frequency of *intense* military conflicts.

Military revolutions —that is, dramatic transformations in military practices and technologies (Murray & Knox, 2001; Rogers, 2000; Sabaté, 2016)— change the extent to which intense wars are likely to erupt in different historical contexts. The classical arguments in bellicist theory famously pointed out that, even though war was prevalent in Europe prior to the Early Modern period, it was the military innovations of the 1400s that turned it into a major driver of state formation (Ertman, 1997; Spruyt, 1994; Tilly, 1975). The introduction of gunpowder, the expansion of infantry divisions, and the construction of new fortifications raised the costs of conflict, putting pressure on rulers to increase revenues and invest in the state. This was also a period in which civil and interstate wars were often indistinguishable, not only because both types of conflict involved very similar resources, combat strategies, and military logistics, but also because state borders were far from fixed (Tilly, 1985). As a result, from the fifteenth to the eighteenth centuries, European wars were numerous and tended to reach very high levels of intensity (Hoffman, 2015; Holsti, 1991; Tilly, 1990). Consequently, previous studies have found them to be important forces of fiscal expansion.

The long nineteenth century witnessed a new military revolution driven by the mass mobilization of conscripts and the industrialization of warfare comparable in importance to the military revolution of the late Middle Ages. However, we shall argue it had the opposite impact on the relationship between war and public revenues during the following decades, as its uneven diffusion for a while generated large asymmetries in military power that encouraged fewer and less intense forms of conflict. Hence, very few wars had a lasting effect on fiscal expansion during the long nineteenth century. Let us explain the logic of this argument in more detail.

First, universal conscription was introduced in France in 1793 in the context of the Revolutionary Wars and spread to other states over the course of the century, particularly during the US Civil War (1861–1865) and the War of the Triple Alliance (1864–1870). This new practice transformed the scope and intensity of military conflicts, preparing the terrain for the mass-mobilizing "people's war" of the twentieth century (Opello, 2016, 105–8).

Second, the Napoleonic Wars were a turning point in the professionalization of European armies, as meritocratic recruitment and promotion criteria spread to the states invaded by Napoleon (Mann, 1993, 426–29). At the same time, the professionalization of internal security forces gradually limited military involvement in domestic matters to extreme cases of full scale repression (i.e., civil wars) (Mann, 1993, 408).

Finally, technological innovations led to an impressive growth in the lethality of firearms and field artillery (Hoffman, 2015, 183). Even more important than innovations in weaponry, industrialization changed by an order of magnitude the amount of resources that could be mobilized for war. Railways made possible the deployment of mass armies capable of mobilizing over 10 percent of a country's population (Onorato et al., 2014, 450; Hoffman, 2015, 202). Since food, weapons, and ammunition could now be supplied from the rear, troops were no longer limited by the capacity of the land they crossed to feed them. This meant not only that the average

size of European armies during war-years almost tripled compared to the eighteenth century, but also that a large part of the productive capacity of the country needed to be geared towards the war efforts (Onorato et al., 2014, 459). Railways were first used for military purposes in the Crimean War (1853–1856), and were central in the Franco-Austrian/Austro-Sardinian War (1859), the US Civil War (1861–1865), and the Franco-Prussian War (1870–1871).

The diffusion of these military innovations, however, was very uneven. Military modernization during the nineteenth century was not merely a matter of procurement of cutting-edge weaponry, which can easily spread across states (Hariri, 2021), but of major institutional changes within the armed forces and structural transformations in the material foundations of warfare. Even among European powers there were major differences in the timing of military modernization. By the time of the Crimean War, the Russian army was large but poorly trained, and patronage and corruption were rampant among officers. Russian soldiers still relied on muskets and close combat with bayonets that proved outdated when facing the French and British *minié* rifles (Figes, 2011). Similarly, the Ottoman armies were composed of heterogeneous militias that came from all over the Empire, with no common training, discipline or equipment, and many under the command of local nobles pursuing their own political agendas (Figes, 2011).

In the Americas, regional armies in the United States adopted modern military technologies and strategies before the federal state had centralized control over the armed forces (Cooper, 2002). Latin American states also struggled to centralize control over military forces for most of the nineteenth century, and were much slower to adopt modern practices of recruitment, promotion, and combat (Soifer, 2015, 212–15, 222–24). In Mexico, for example, the troops that fought against the United States (1845–1848) and France (1862–1867) were commanded by local and regional strongmen that turned against each other after the end of those conflicts (Perry, 1978, 5–6). In Colombia, anti-statist elites opposed the creation of a strong standing army, and challengers of state authority were able to mobilize forces that rivaled in resources and sophistication those of the national government as late as 1900 (Soifer, 2015, 213–14).

This uneven diffusion of military modernization halted the cycles of war-making and fiscal extraction that had characterized the previous centuries. On the one hand, the early adoption of modern recruitment practices, organization, and technology made military conflicts between Western powers costlier to the state and its population, as they could potentially escalate into full-scale, mass-mobilizing warfare. These transformations, together with the new geopolitical equilibrium after the Congress of Vienna and British hegemony at sea, made European rulers more cautious about the wars they initiated and more likely to negotiate peace settlements when they were attacked (Hoffman, 2015, 179–80). An "armed peace" prevailed in Europe as a result. Wars in the continent tended to be short and to produce fewer casualties than in any other century since the 1500s (Tilly, 1990, 72–73). To cite some evidence of this, Kalevi Holsti (1991, 142) estimated that the century after the Congress of Vienna "had a 13 percent lower occurrence rate of war and armed interventions [involving European states] than the previous period (one war every 3.3 years compared to one every 2.8 years for the 1715–1814 period)." According to

Hoffman (2015, 188), 11 Western European states 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, the same states spent 26 years at war, averaging 9,000 battle deaths per year. Shorter wars meant fewer financial and political costs on the state and thus weaker pressures to collect additional resources (Bennett & Stam, 1996; Mason & Fett, 1996; de Rouen & Sobek 2004).

On the other hand, military modernization offered European powers unmatched capabilities to project power across the globe before an international state system had consolidated. European states deployed their overwhelming military superiority in their wars for conquest in Africa and Asia (Hoffman, 2015, 202–204), and to influence the domestic and foreign policies of Latin American states. Hence, the "armed peace" that prevailed in Europe was accompanied by a large number of imperial wars overseas (Tilly, 1990, 72; Sarkees et al., 2003, 65; Hoffman, 2015, 202–3). These colonial wars were highly asymmetrical, as major European powers fought against non-state actors or against states that lagged behind in the adoption of modern military practices and technologies (Sarkees et al., 2003, 62; Wimmer & Min, 2009, 397). On average, those highly asymmetrical conflicts were unlikely to reach very high levels of intensity and to push rulers to seek more resources. States with modern militaries could face such conflicts without the need to extract additional resources from their populations, while the investments that weaker states could realistically make would not suffice to change the war outcome (Arreguín-Toft, 2005; Kalyvas & Balcells, 2010, 418).

By WWI, most states in Europe and the Americas had gained centralized control over the armed forces and adopted even more lethal military technologies and practices, such as armored vehicles and military aircraft. The number of interstate wars continued to decline as in the previous century, but when such conflicts occurred, they could be sufficiently intense to force rulers to renegotiate the social contract and to increase state resources (as was the case with the two world wars) (Rasler & Thompson, 2017; Scheve & Stasavage, 2016). On the other hand, the technologies, tactics and logistics of civil wars became very different from those of interstate conflicts (Kalyvas, 2006; Kalyvas & Balcells, 2010). Among those European and American states where military modernization was far along, it became unlikely for non-state forces to mobilize modern armies comparable to those of the state. Hence, civil wars rarely posed incentives for political actors to seek more revenues (Levy & Thompson, 2011, 8; Sarkees et al., 2003, 65).

In sum, our main hypothesis is that only very intense conflicts were followed by noticeable increases in public revenues during the nineteenth century, but that, given the uneven diffusion of military modernization, such conflicts were extremely rare. Based on this argument, we derive four theoretical expectations about the relationship between war and public revenues during the long nineteenth century. First, *we do not expect war incidence as such to be a significant driver of fiscal state expansion during this period.*

Second, *only extremely intense wars should trigger important increases in public revenues*—but *such wars should be very rare* due to the uneven diffusion of military modernization.

Third, following our argument about the intensity of war as key, *the type of war —civil versus international— should not matter for the expansion of public revenues during this period*. As peace and conflict scholars have pointed out, the distinction between civil and international wars is generally blurrier than one may think (Cunningham & Lemke, 2013; Gleditsch et al., 2008; Kalyvas & Balcells, 2010; Sambanis, 2004). This certainly applies to the nineteenth century, when many states were unable to centralize and modernize their militaries, and societal elites could mobilize modern military forces that were comparable in organization, discipline, resources, and technology to state armies, not only in the Americas but also among European states like Spain or Portugal (Puell de la Villa, 2000). Highly asymmetrical interstate wars were often fought through non-conventional means, while intense civil wars could resemble conventional conflicts in which two well-disciplined armies faced each other in the battlefield (Kalyvas, 2006; Kalyvas & Balcells, 2010). Therefore, we expect intense civil wars to have an impact on public revenues similar to that of —equally rare and equally intense— interstate wars.

Fourth, *our expectations apply to both European and American states* (and more broadly to sovereign territorial states facing similar conditions). With Centeno (2003), we argue that nineteenth-century conflicts were not sufficiently intense to warrant additional resources for the fledgling states of the Americas. Total war between Latin American states could still occur (as in the case of the War of the Triple Alliance), but it remained rare given the sociopolitical context of the region and the involvement of European interests in the continent. Moreover, we also argue that European states rarely needed to raise and mobilize additional resources to fight wars overseas, and thus very few nineteenth-century wars led to major increases in public revenues.

3 Dataset

To analyze our main hypothesis and the four theoretical expectations outlined above, we have compiled a new dataset of wars and public revenues. The dataset includes information about the type and intensity of wars fought by 27 European and American states from 1816 to 1913.[3] These two regions have been central to the bellicist literature and have frequently been compared to each other, particularly to analyze the alleged Latin American exceptionalism. Crucially, they include the majority of sovereign territorial states at the time, which provides the necessary grounds for comparison.

The dataset disaggregates international wars into inter-state wars (between two or more states) and extra-state wars (between at least one state actor and one or more non-state actors outside the state boundaries) and civil wars into inter-class

[3] The countries included in the dataset are Argentina, Austria-Hungary, Belgium, Bolivia, Brazil, Canada, Chile, Colombia, Denmark, Finland, France, Germany, Italy, Mexico, Netherlands, Norway, Peru, Portugal, Romania, Russia, Spain, Sweden, Switzerland, United Kingdom, United States, Uruguay and Venezuela.

(in which rebel groups are primarily class-based movements) and inter-elite conflicts (in which rebels are primarily led by communal or regional elites that mobilize against other elites). For the latter distinction we carried out original historical coding. Although our main analyses focus on comparing the effects between the incidence and intensity of actual wars, in the supplementary appendix we also show that our main results hold when focusing on military rivalries—or what in the literature is sometimes called "the preparation for war" (Tilly, 1990; Thies, 2005).

The data expands and updates the Correlates of War (COW) dataset (Sarkees & Wayman, 2010) with three additional sources (Wimmer & Min, 2009, Gleditsch, 2004 and subsequent updates, and Dixon & Sarkees, 2016). According to the COW 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 but not yet internationally recognized states in the early nineteenth century. 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, coding as inter-state wars those conflicts that were fought between two states even if one of them was not yet recognized by France and England. We update the COW list of intra-state wars by adding military conflicts from Dixon and Sarkees (2016), and distinguish between intra-state conflicts fought in the national territory (labeled "civil wars") and military interventions in foreign civil wars (excluded from the "civil wars" category in our analyses).

The dataset contains 158 international wars and 93 civil wars, for a total of 251 armed conflicts (see Table B1 in Appendix B). The majority of international conflicts were extra-state wars, which tended to be highly asymmetrical. European colonial wars constitute the bulk of military conflicts in this category. Inter-state wars were less frequent but deadlier, generating on average almost 11,000 battle-related deaths. Even among these more symmetrical wars, there was a lot of variation in the intensity of the conflict. Civil wars were, in turn, less frequent but more lethal than international wars. Inter-elite conflicts, which we expect to be more symmetrical for reasons explained above, were almost three times more common and four times deadlier than inter-class civil wars. However, here again we see a lot of variation in battle deaths, with the US Civil War being an extreme outlier.

In addition to our data on wars, we have gathered a new longitudinal dataset of public finances in the long nineteenth century. Our main outcome variable measures total revenues of the central government as a share of GDP for an unbalanced panel of 27 American and European countries from c.1800 to 1913.[4] It includes, to the extent possible, all kinds of public revenues (e.g., taxes, duties, monopolies, sales) except for borrowing. We focus on the budgets of central governments because, if war had an impact on revenues, we expect to see it reflected at the national level

[4] The starting date for each country varies depending on data availability and on the date of unification (in the case of Germany and Italy) or independence (in the case of Latin American countries). Details on data coverage can be found in Appendix A (Figure A2).

given that central governments controlled the bulk of military expenditures. The dataset has been compiled from secondary sources and statistical yearbooks, giving priority to long-term homogeneous series based on the most recent estimates by country experts. In Appendix A, we show the annual evolution of public revenues for all countries in our sample, present descriptive statistics, and list the sources used to compile the series. To the best of our knowledge, this is the most complete longitudinal dataset of resources mobilized by central governments in the nineteenth century.[5]

It is important to note that previous studies have relied on other fiscal indicators to evaluate the effects of wars on fiscal development, such as tax ratios (tax revenues/GDP) or the share of direct taxes in total tax revenues (Besley & Persson, 2009; Dincecco & Prado, 2012; Queralt, 2019). The challenges of raising non-tax revenues and some indirect taxes certainly dwarf compared to the difficulties associated with the implementation of modern direct taxes (Lieberman, 2002; Soifer, 2012; O'Brien, 2011, 417). Unfortunately, time-series data for direct taxes as a share of total taxes is scarce for the nineteenth century. Moreover, modern direct taxes (e.g., on income, inheritance, and corporate profits) were only permanently introduced in most European states during the second half of the nineteenth century at the earliest, and even later for the Americas (Seelkopf et al., 2021). Hence, focusing on these forms of taxation would not tell us much about the evolution of public revenues during this period.

Furthermore, if we interpret public revenue ratios not as an indicator of a latent capacity to design and implement efficient fiscal policies but as an indicator of the share of societal resources that the state can collect, public revenue ratios capture an important aspect of state capacity (Brambor et al., 2020; Lindvall & Teorell, 2016). An increase in the ratios reflects an intensified effort to raise public revenues (i.e., the government gets hold of a larger share of the economic resources available in the country), whereas a decrease points towards the opposite direction (i.e., the government gets hold of a lower share of such resources). Indeed, detailed historical studies have emphasized the importance of patrimonial domains and other sources of non-tax revenue in the public budgets of modern states (Mann, 1993; Nilsson, 2017; O'Brien, 2011). Additionally, war-related displacement effects can be driven by any type of tax and non-tax revenues, which makes the analysis of total public revenues a necessary complement to those studies that focus exclusively on taxation. Having said that, we have replicated all analyses using Andersson and Brambor's (2019) data on central tax ratios and our results hold (see Appendix F).

We rely on public revenues as a share of GDP rather than public revenues per capita because this allows us to make the revenue data comparable both within countries over time (to account for inflation) and across countries (to account for

[5] Our dataset has a larger coverage than the existing datasets based on the International Historical Statistics compiled by B. R. Mitchell. For instance, Cagé and Gadenne (2018), who largely rely on Mitchell's data for our period of study, have 485 country-year observations for Europe and the Americas from 1816 to 1913, while our dataset contains as many as 1,828 observations (1,064 for Europe and 764 for America). Moreover, our dataset is largely based on country-specific monographs that ensure a higher degree of consistency over time.

currency exchanges). Conveniently, revenue ratios do not change if the amount of revenue collected by the state increases merely as a result of a larger economy (which does not require additional fiscal efforts) or inflation. Yet, additional analyses using revenues per capita as the dependent variable yield similar results (see Appendix F).

Finding reliable historical estimates of GDP in nominal currencies for the nineteenth century is, however, very challenging. Limited data availability on GDP means that we have missing data for some pertinent wars. This is of particular concern for great or emerging powers such as Prussia, Piedmont, Austria-Hungary, and Russia. However, supplementary analyses based on state revenue in raw nominal terms for these countries (or in real terms for Piedmont) do not show consistent patterns that would suggest bias resulting from these missing observations (see Appendix I).

4 Model specification

Our benchmark specification in the regression analyses not taking war intensity into account can be stated as follows:

$$Y_{i,t} = b1 \cdot War_{i,t} + b2 \cdot War_{i,t-1\ldots5} + b3 \cdot Y_{i,t-5} + b4 \cdot \boldsymbol{x}_{i,t} + \alpha_i + \lambda_t + e_{i,t} \qquad (1)$$

where Y is our outcome variable (revenue), $War_{i,t}$ is a contemporaneous war dummy, $War_{i,t-5\ldots1}$ is a dummy variable that takes a value of 1 if a war took place from time t–5 to t–1 (0 otherwise), $\boldsymbol{x}_{i,t}$ is a vector of time-varying covariates, and α_i and λ_t capture country- and time-fixed effects, respectively. With the 5-year lagged dependent variable ($Y_{i,t-5}$) included as a control, the main quantity of interest this model enables us to estimate is whether wars occurring during the previous five years had any effect on the *change* in revenue over the subsequent 5-year period, controlling for whether war was ongoing (at time t), observed time-varying covariates, as well as unobserved constant country- and period-specific characteristics.

Due to data limitations, our vector of time-varying controls ($\mathbf{x}$) is sparse. Based on the previous literature, we control for whether a country was in default in a given year to proxy for its capacity to fund wars through international loans (as argued by Queralt, 2019); the level of GDP per capita (to control for different levels of development); and the degree of democratization (as a proxy for the demand for public goods and, hence, raised revenues).[6] To account for serially correlated errors within countries (over and above the lagged dependent variable), we cluster the standard errors on countries. As argued by Rainey (2014), a statistically insignificant effect is not necessarily incompatible with a substantially meaningful effect. However, following his advice and focusing on 90% confidence intervals around our main quantity of interest does not alter our conclusion.

[6] Data on default years comes from Reinhart and Rogoff (2009); GDP per capita from the Maddison Project (Bolt & Luiten van Zanden 2020); and polyarchy from V-Dem (Coppedge et al., 2022).

The reason we opt for a lagged 5-year window as our benchmark is to be more allowing to the data than a simple 1-year lagged effect, but in the Appendices we show that our results are not sensitive to this choice. The reason that we *lag* this window is that we are interested in the legacy effect of wars, but since war incidence is positively autocorrelated within countries, we also control for the contemporaneous effect of war at time t. Again, however, we will demonstrate that our results are not sensitive to this choice. They also remain robust to the exclusion of the lagged dependent variable.[7]

Our benchmark specification for taking war intensity into account is instead:

$$Y_{i,t} = b1 \cdot BD'_{i,t} + b2 \cdot BD'_{i,t-1\ldots5} + b3 \cdot Y_{i,t-5} + b4 \cdot \boldsymbol{x}_{i,t} + \alpha_i + \lambda_t + e_{i,t} \qquad (2)$$

where $BD'_{i,t}$ is the number of battle-related deaths suffered by each state involved in the conflict (expressed in 100,000's) assigned to every year in which the country was at war, zero otherwise, and all else is the same as in Eq. (1). What this model does is thus to weight each war by a measure of its intensity, that is, the level of casualties. While we consider this our benchmark model for capturing intensity, in the Appendices we show that our main conclusions remain robust to other approaches, such as war duration, logged battle-related deaths, a categorical variable using binned battle deaths, and battle deaths per year as a share of total population.

5 Regression analyses

In Table 1 we present the results of a series of regressions sequentially introducing our benchmark regression Eq. (1). We start with a naïve specification that only looks at a pooled time series cross-section model without any lags or controls. The results 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 characteristics and trends in public revenue collection common to all countries. These corrections render the coefficient for wars negative but insignificant, indicating that the results from Model 1 were driven by cross-regional and cross-temporal differences. Model 4 introduces the lagged 5-year war window, controlling for the contemporaneous effect at time t. With the latter effect being negative (indicating, quite intuitively, that countries suffer revenue losses *during* wars), this actually increases the likelihood of finding a positive legacy effect.[8] This is also what

[7] With a T of 70 years per country (on average) we are not worried about Nickell bias (Beck et al., 2014). We also do not worry that the time-varying covariates will introduce post-treatment bias for the lagged war effect, as argued by Blackwell and Glynn (2018), since the effect is largely the same when these covariates are excluded. Finally, although the lagged dependent variable model allows for computation of long-run effects that of course are substantially much larger than the short-run effects, the long-run multiplier is not statistically different from zero (results available upon request).

[8] Wars can exert a negative effect on public revenues during the conflict through the destruction of taxable assets (Haffert, 2019).

Table 1 Public revenue and war incidence, 1816–1913

VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	DV: PubRev/GDP					
War_t	0.900***	-0.203	-0.152	-0.207		-0.116
	(0.203)	(0.237)	(0.226)	(0.193)		(0.118)
$War_{t-1...5}$				0.210	0.168	0.262
				(0.212)	(0.238)	(0.165)
$PubRev_{t-5}$						0.597***
						(0.0377)
$Default_t$						-0.0118
						(0.409)
$GDPpc_t$						9.02e-05
						(0.000161)
$Polyarchy_t$						-0.170
						(2.344)
Constant	6.868***	7.098***	8.079***	8.124***	8.077***	5.136***
	(0.0926)	(0.0494)	(1.353)	(1.389)	(1.402)	(1.405)
Observations	1,766	1,766	1,766	1,766	1,766	1,423
R-squared	0.011	0.002	0.057	0.059	0.057	0.440
Country FE	NO	YES	YES	YES	YES	YES
Year FE	NO	NO	YES	YES	YES	YES
No. of countries	27	27	27	27	27	26

Notes: OLS models with robust standard errors clustered on countries (within parentheses).
*** $p<1\%$, ** $p<5\%$, * $p<10\%$

we find in model 4, but it is not statistically significant. To prove that omitting the contemporaneous effect biases our estimate of a legacy effect downward, and to alleviate any concern for multicollinearity between the two war variables, Model 5 presents the same setup but excluding the contemporaneous war dummy. As expected, the legacy effect is smaller (since it now picks up the sum of the positive legacy effect and the negative contemporaneous effect). Finally, model 6 introduces the full benchmark specification by including the dependent variable lagged 5 years as well as the time-varying covariates. The coefficient for ongoing wars remains negative and insignificant, whereas the coefficient for past wars is positive but statistically insignificant.[9]

At most, the data in Table 1 is consistent with a war effect of less than half a percentage point of revenue as share of GDP. Considering that the standard deviation in public revenue ratios is around 3.5 percentage points (see Appendix A), this is a negligible effect. The only type of omitted variable bias that can account for such a null effect is an omitted suppressor variable that, in this case,

[9] The inclusion of control variables reduces the number of observations (due to missing observations for some covariates).

Table 2 Public revenue and war intensity, 1816–1913

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6[a]
	DV: PubRev/GDP					
War BD_t	-0.274	-0.222	-0.0506	-0.528***	-0.443***	-0.141
	(0.359)	(0.189)	(0.202)	(0.0956)	(0.0883)	(0.355)
War $BD_{t\text{-}1\ldots5}$				0.775***	0.831***	-0.000705
				(0.213)	(0.102)	(0.308)
$PubRev_{t\text{-}5}$					0.628***	0.633***
					(0.0418)	(0.0410)
$Default_t$					0.0300	0.0303
					(0.421)	(0.438)
$GDPpc_t$					3.76e-05	5.69e-05
					(0.000140)	(0.000146)
$Polyarchy_t$					-0.953	-1.209
					(2.202)	(2.058)
Constant	7.039***	7.038***	8.020***	6.095***	3.335**	3.350**
	(0.0860)	(0.00697)	(1.413)	(1.130)	(1.520)	(1.519)
Observations	1,691	1,691	1,691	1,598	1,312	1,283
R-squared	0.000	0.001	0.060	0.083	0.474	0.476
Country FE	NO	YES	YES	YES	YES	YES
Year FE	NO	NO	YES	YES	YES	YES
No. of countries	27	27	27	27	26	26

Notes: OLS models with robust standard errors clustered on countries (within parentheses). *** $p<1\%$, ** $p<5\%$, * $p<10\%$. [a] Excluding the Franco-Prussian war (France), the War of the Triple Alliance (Brazil), the US Civil War, and the Colombian Thousand Days' War

either sparks wars but suppresses revenue, or increases revenue but hinders war. We have a hard time theorizing such a variable. Moreover, if backwards causation would explain our null finding, it has to be the case that states with less revenue select into *more* wars. This also seems highly unlikely and goes against the findings of previous research (e.g., Lemke & Carter, 2016). That said, in the supplementary materials we test the effect of war incidence on revenue in an instrumental variable regression, using the average war incidence among neighboring countries to instrument for war (following Gennaioli & Voth, 2015, 1435–37). The null result remains (see Table C5 of Appendix C). Together, these findings confirm our first theoretical expectation: war incidence as such was not a major driver of fiscal expansion during this period.

Our second theoretical expectation is that, while we expect a zero effect on average, we foresee only *intense* wars to be associated with a surge in public revenues. Table 2 explores this issue by weighting our war dummies according to their intensity, again sequentially moving toward the benchmark specification in Eq. (2). The lagged wartime variable now shows consistent positive and significant results with and without control variables, as indicated in Models 4 and 5. According to Model 5, an increase in one unit of lagged wartime battle-deaths

Table 3 Public revenue and war intensity by type of war, 1816–1913

Variables	Model 1	Model 2	Model 3	Model 4[a]	Model 5[b]
	DV: PubRev/GDP				
International war BD_t	-0.594*		-0.551		-0.0936
	(0.333)		(0.363)		(0.449)
International war $BD_{t-1\ldots5}$	0.562**		0.513		-0.192
	(0.230)		(0.314)		(0.362)
Civil war BD_t	-0.384***	-0.385***		-0.825***	
	(0.0567)	(0.0583)		(0.273)	
Civil war $BD_{t-1\ldots5}$	0.932***	0.935***		-6.349	
	(0.0712)	(0.0736)		(14.82)	
Inter-state war BD_t		-0.832***		-0.528	
		(0.185)		(0.466)	
Extra-state war BD_t		0.0127		0.192	
		(0.555)		(0.678)	
Inter-state war $BD_{t-1\ldots5}$		0.803**		0.153	
		(0.296)		(0.353)	
Extra-state war $BD_{t-1\ldots5}$		-0.105		0.0700	
		(0.430)		(0.536)	
Inter-class civil war BD_t			-10.06		-16.48
			(10.48)		(11.62)
Inter-elites civil war BD_t			-0.384***		-0.812***
			(0.0564)		(0.228)
Inter-class civil war $BD_{t-1\ldots5}$			3.204		-5.475
			(11.98)		(12.89)
Inter-elites civil war $BD_{t-1\ldots5}$			0.940***		20.00
			(0.0727)		(13.64)
$PubRev_{t-5}$	0.632***	0.637***	0.632***	0.640***	0.636***
	(0.0421)	(0.0427)	(0.0421)	(0.0415)	(0.0415)
$Default_t$	0.0154	0.0253	0.0650	0.0677	0.0606
	(0.434)	(0.446)	(0.473)	(0.486)	(0.463)
$GDPpc_t$	5.45e-05	4.48e-05	3.50e-05	4.79e-05	3.25e-05
	(0.000144)	(0.000140)	(0.000147)	(0.000143)	(0.000145)
$Polyarchy_t$	-0.979	-0.903	-0.955	-1.184	-1.295
	(2.144)	(2.173)	(2.138)	(2.120)	(2.031)
Constant	3.306**	3.227**	3.319**	3.261**	3.345**
	(1.534)	(1.543)	(1.524)	(1.538)	(1.514)
Observations	1,309	1,314	1,306	1,285	1,277
R-squared	0.473	0.473	0.477	0.473	0.479
No. of countries	26	26	26	26	26
Country FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES

Notes: OLS models with robust standard errors clustered on countries (within parentheses). *** $p<1\%$, ** $p<5\%$, * $p<10\%$. [a] Excluding the Franco-Prussian war (France) and the War of the Triple Alliance (Brazil). [b] Excluding the US Civil War and the Colombian Thousand Days' War

(that is, an increase in 100,000 battle deaths) is associated with an increase of 0.8 percentage points of the revenue ratio. However, wars that reached this level of deadliness were very exceptional (the average number of battle deaths for all wars was below 9,000, see Appendix B). In fact, when we in Model 6 exclude the extreme outliers in terms of battle deaths, namely the Franco-Prussian War (1870–71), the War of the Triple Alliance (1864–1870), the US Civil War (1861–65), and the Colombian Thousand Day's War (1899–1902), the wartime coefficients become insignificant. This suggests that the positive impact of wars on public revenues was driven by a few exceptionally intense wars, in accordance with our second expectation.

To study these effects further we turn to examine different types of conflict in Table 3. In this table, we stick to the benchmark specification of Eq. (2) but instead vary the types of conflicts under study. Model 1 differentiates between international and civil wars, while Model 2 presents results for different types of international wars (inter-state and extra-state), and Model 3 distinguishes between different kinds of civil wars (inter-elite or inter-class). In Model 1, more intense international and civil wars appear to be significantly associated with lower public revenues during the conflict and higher public revenues in its aftermath. In line with our third expectation, these results suggest that, when taking war intensity into account, both types of conflicts—and not just international wars—had the potential of fostering fiscal expansion.

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, while extra-state wars remain insignificant. The fact that most extra-state conflicts were low-intensity colonial wars (see Appendix B), and in some cases (such as the Spanish military interventions in Cuba and Santo Domingo) financed to a certain extent through colonial treasures, might explain this result. In Model 3, the coefficient for the intensity of civil wars between elites is significant and positive. These results support the claim that elites in the nineteenth century had the possibility to mobilize military forces akin to state armies, and therefore inter-elite civil wars could potentially resemble inter-state wars (Kalyvas, 2006; Kalyvas & Balcells, 2010).

In line with our previous results, the positive effects are driven by a small number of conflicts that were extraordinarily destructive compared to the average intensity of nineteenth-century wars. In Model 4, we exclude the country-year observations that were outliers in the number of battle-related deaths in international military conflicts: France during the Franco-Prussian War and Brazil during the War of the Triple Alliance. The Franco-Prussian War (1870–71) stands out for being one of the most intense international wars in nineteenth-century Europe since the Napoleonic Wars, with a death toll for France of some 152,000 casualties. The War of the Triple Alliance (1864–1870) has been considered the only "total war" in nineteenth-century Latin America (Centeno, 2003). Unfortunately, we do not have public revenue ratios for Paraguay, which suffered the most during the conflict (more than 200,000 battle-related deaths). However, we do have data for Brazil, which suffered over 100,000 battle-related casualties, more than ten times the casualties of Argentina and Uruguay. Dropping these

observations makes the coefficient for inter-state wars half in size and statistically insignificant.

In Model 5, the significance of the coefficient for inter-elite civil wars likewise vanishes once we drop the US Civil War and Colombia's Thousand Day's War, the two most lethal civil wars in our sample, both of which were fought between elites. Military mobilization during the US Civil War, which has been considered one of the few "total wars" of late-modern times (Black, 2006), forced the government to increase public revenues almost fivefold in less than a decade (Mehrotra, 2013). The Thousand Day's War in Colombia (1899–1902) was also exceptional in its intensity (the state sustained almost 50,000 battle deaths) and has been considered "a unique instance of mass mobilization" in the Colombian nineteenth century (Soifer, 2015, 214). These results go in line with the third theoretical expectation—that it was not the difference between international and civil wars but the intensity of the conflict that mattered for fiscal expansion.

We present several robustness checks in the online appendix: (1) alternative lag structures, including 10-year windows; (2) alternative measures of war intensity; (3) first difference models and non-stationary panel estimates; and (4) instrumental variable regressions to address endogeneity concerns. The results are shown in appendices that correspond to the effects of war incidence (Appendix C), war intensity (Appendix D), and war intensity by type of war (Appendix E). We also re-run our analyses using data on tax ratios (Andersson & Brambor, 2019) and public revenues per capita (Banks & Wilson, 2022) (Appendix F), as well as alternative sources for some of our public revenue ratios (Appendix G). In addition, we disaggregate our models by region (Appendix H), and we discuss our expectations in some states for which we do not have revenue ratios available, namely Prussia, Piedmont, Austria-Hungary, and Russia (Appendix I). All the main conclusions hold.

Going beyond the actual occurrence of wars, we also analyze the effects of military rivalries on public revenues (Appendix J). The results are consistent with our expectations, and we do not find a significant relationship. We also examine two claims that have been recently proposed as conditions under which wars contribute to state building. In Appendix K, we test the extent to which the effects of war depend on the state's access to international credit markets during wartimes. In line with Queralt (2019), our results suggest that international wars led to increases in public revenue ratios only when states could not resort to international loans. However, in accordance with our previous results, these effects were short-lived and vanished soon after the wars ended. In Appendix L, we explore Schenoni's (2021) claim that the effects of wars on state capacity were conditional on the war outcome. First, we replicate his results following his empirical strategy. We then show that those results hinge on unconventional modelling decisions. We then present the results of alternative modelling strategies that examine whether the effects of war on state revenues differed depending on the outcome, none of which indicates that this was generally the case.

Finally, we extend our analysis to the twentieth century, since we expect that once most states adopted modern military practices and technologies, war would once again become a major driver of fiscal expansion. Appendix M shows, as expected, positive, significant, and substantively meaningful effects of international wars on

Table 4 Wars in Europe and the Americas, 1816–1913

	Obs	Mean duration	Mean Bd[a]	St.Dev. Bd[a]	Min. Bd[a]	Max. Bd[a]
Americas						
International wars	16	3.4	6,002	17,820	5	100,000
Civil wars	68	2.7	18,558	68,150	80	360,000
Total	84	2.9	12,071	49,048	5	360,000
Europe						
International wars	142	2.3	7,553	20,415	0	152,000
Civil wars	25	3.0	11,951	18,325	241	65,000
Total	167	2.4	7,964	20,230	0	152,000

Notes: All data from 1816 to 1913 (depending on data availability and year of independence). a) "Bd" stands for "battle deaths"

tax ratios during the twentieth century, especially during the interwar period, while we do not find similar effects for civil wars.

To summarize, most nineteenth-century conflicts were limited in scope and did not tend to be associated with increases in public revenues. Only a handful of very intense international and civil wars were associated with fiscal expansion. These results match our first three theoretical expectations. We now turn to the fourth and final one.

6 Regional differences

As Table 4 makes clear, European states spent more years fighting international wars than countries in the Americas (17.2% and 9.9% of years at war respectively), with the United Kingdom and France as 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 states). 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), especially inter-elite conflicts.

We have seen that both international and civil wars could trigger increases in public revenues as long as they were intense enough. It is therefore worth exploring whether systematic differences can be observed in the effects of these wars between the two continents. Figure 1 plots the observed public revenues by region (the solid lines) alongside the expected level of revenue *had there been no wars* (the dashed lines). This prediction comes from one of our benchmark models that differentiates between international and civil wars (Model 1 of Table 3), but where we have set all war variables to zero. As can be seen, and in general agreement with our main results, the two "states of the world" differ very little. This is particularly the case in Europe, where there is hardly any discernible difference between the two lines. In the Americas, however, we observe some variation around the time of the US civil

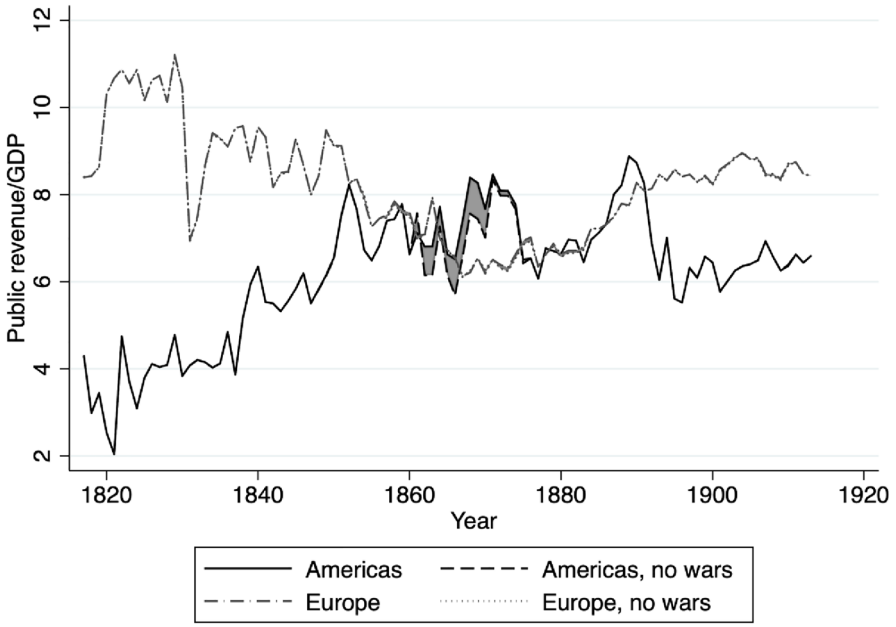

Fig. 1 Public revenue/GDP, with and without wars, 1816–1913. Notes: Public revenues/GDP, averages by region (solid lines) and by predictions from Model 1, Table 3, while setting all war variables to zero (dashed lines). The areas between the solid and dashed lines, per region, are shaded

war (without which levels of revenue would have been smaller). Appendix H shows the results of additional models where we interact the war variables with regional dummies. Again, we do not find evidence of a significant regional effect.

In sum, nineteenth-century wars hardly contributed to the expansion of public revenues among American and European states, at least when it comes to short- and medium-term growth. To explain the evolution of public revenues during the nineteenth century, both within countries and across regions, one has to look elsewhere. Hence, states do not live by warfare alone.

7 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. Using new panel data of civil and international conflicts and public revenues for 27 American and European countries, this article has sought to uncover how those historical specificities shaped the impact of nineteenth-century wars on public revenues.

The article makes several contributions to the literature. First, it shows that warfare had a very small effect on public revenues during the long nineteenth century. These findings provide statistical evidence in support of Centeno's

(2003) claim that the "limited" nature of nineteenth-century wars blunted their effects on fiscal expansion. It was only in the rare conflicts that approached "total war" that we found a noticeable effect on public revenues.

Second, whereas bellicist studies have noted that twentieth-century international wars had a positive effect on state revenues while civil wars generally 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 military logistics and war technologies. Rather than these different typologies of war, we find that it was the intensity of conflicts that determined their impact on public revenues. Sufficiently intense conflicts generally occurred when modern armies clashed, as was the case in the Franco-Prussian War or in the US Civil War.

Third, disparities in the collection of public revenues narrowed between Europe and the Americas for much of this period, and only began to part ways again by the turn of the twentieth century. If nineteenth-century wars contributed to shape the long-term fiscal trajectories of European and American states, those effects did not lead to substantially different levels of state revenues in the short- and medium-term. Of course, our findings do not rule out the possibility that other types of military pressures that fell short of war, such as geopolitical competition, might have contributed to the long-term development of taxation in some of these cases. Even if that was the case, it would have been through reforms that were not immediately translated into higher public revenues but that nonetheless might have contributed to the dramatic expansion of public revenues of the twentieth century. Explaining why some states might have developed this latent fiscal capacity during the nineteenth century but chosen not to maximize public revenues at the time is a promising area for further research.

Finally, we have offered a new theory about the conditions under which wars are likely to be important drivers of fiscal expansion. We end by observing that Charles Tilly himself believed that the relationship between wars and states was specific to the historical circumstances of Early Modern Europe, not a universal rule of political development (Tilly, 1985, 185–86). In the vein of Tilly's legacy, this article has made the case that by grounding bellicist theory on a firm historical footing, and by theorizing the conditions under which a relationship between war-making and state-making may hold, we gain a more nuanced understanding of how wars have shaped states over time.

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Declarations

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