The American Contribution to the French Revolution*

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We show that French combatants' experience of the United States during the American Revolutionary War was an important source of support for the French Revolution. Across France, regions that sent more combatants to America under General Rochambeau had more anti-feudal revolts, political societies, military volunteers, and emigration of old elites. No such pattern holds for the one-third of the originally selected force that never reached America, supporting a causal interpretation. Comparison with a second French force, which also fought at Yorktown but had little experience of the United States, shows that combat alone does not explain the effects.

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"One may resist an invasion of armies; but one cannot resist an invasion of ideas"
— Victor Hugo

1. Introduction

The French Revolution of 1789 was a watershed in European history. It abolished much of the economic privilege and social hierarchy of the feudal order in France, while its institutional reforms subsequently spread across Europe through war and conquest (Woloch, 1994; Acemoglu and Robinson, 2012). A growing literature in economics documents its far-reaching consequences (Acemoglu, Cantoni, Johnson, and Robinson, 2011; Franck and Michalopoulos, 2017; Giorcelli and Moser, 2020; Finley, Franck, and Johnson, 2021; Chambru, Henry, and Marx, 2024; Gay, Gobbi, and Goñi, forthcoming; Deseau, 2023).

Why there was widespread support in the France of 1789 for revolutionary change remains subject to debate. One long-standing hypothesis is that revolutionary mobilization was fueled by French veterans of the American Revolutionary War (McDonald, 1951), who had been deployed to the United States during the years 1780–2 in support of the cause of independence. At a time when travel was costly and printed media censored, few people in France knew of the political and social arrangements prevailing in the former settler colonies. Yet the hypothesis that this first-hand experience by several thousand French combatants could have mattered for the French Revolution remains disputed (Scott, 1979, 1998).

We assemble new individual-level data on French combatants in the American Revolutionary War, geolocate their birthplaces to measure exposure across regions, and relate this exposure to different dimensions of revolutionary activity. We focus on French combatants in the main expeditionary force serving in the United States under General Rochambeau. These "Rochambeau combatants" spent more than two years in the United States to support George Washington's Continental Army, and also came into extensive contact with the civilian population in places such as New England and Philadelphia. As outcomes, we measure four dimensions of revolutionary activity: the number of anti-feudal revolts, early political societies, volunteer companies raised for the revolutionary army, and emigrants by the old elite. The four outcomes capture distinct processes through which local communities challenged Old Regime institutions, participated in the new political order, defended it against the monarchical backlash, and induced members of the old elite to leave.

Using this data, we show that regions more exposed to French combatants under Rochambeau, who had seen the United States for more than two years, subsequently experienced more revolutionary activity across all four outcomes. In our preferred Poisson pseudo maximum likelihood (PPML) specification at the regional level of French *départements*, a one-standard-deviation increase in log Rochambeau exposure is associated with increases in the conditional means ranging from 19% for elite emigration ($p=0.074$) over 45% for volunteer companies ($p<0.001$) up to 113% for anti-feudal revolts ($p=0.004$).

A causal interpretation of these associations faces two main selection concerns. Soldiers might have selected into regiments destined for America, or Rochambeau might have selected particular regiments for characteristics correlated with later revolutionary activity. The first concern is limited by the historical setting: regiments were staffed well before their deployment, and soldiers learned their destination only *after* setting sail. To address potential selection across regiments, we exploit an unforeseen shortage of transport ships that left roughly one-third of Rochambeau's selected force in Europe. These not-sailed combatants had undergone the same initial selection process but never reached America.

Our empirical approach includes both Rochambeau and not-sailed combatants as separate regressors, interpreting the effect of interest as the difference between their coefficients. We thus do not require that the regional distribution of Rochambeau combatants is random. Our identifying assumption is that, conditional on controls, unobservable regional characteristics affect outcomes symmetrically across both groups. The data indicate broad regional balance between the two groups, while differences in their recruitment patterns provide sufficient variation to distinguish their effects empirically. This variation stems largely from historical contingencies, as regiments were regularly rotated across garrisons every three years and recruited from both current and past garrisons.

We find no positive effects for the not-sailed placebo combatants, supporting a causal interpretation of the relationship between Rochambeau exposure and support for institutional change. The coefficients on Rochambeau combatants remain close to their baseline values or increase slightly, while the not-sailed estimates are either zero or negative, and significantly negative for political societies and elite emigration. The negative placebo estimates are consistent with negative selection attenuating the baseline associations. As a result, the difference between the Rochambeau and not-sailed combatants coefficient, our effect of interest, is generally larger than the baseline Rochambeau coefficient. The difference is also highly significant ($p \leqslant 0.003$), except for the outcome of anti-feudal revolts ($p=0.056$) where the zero on the not-sailed combatants is imprecise. These results are robust to adding a battery of geographic, institutional, human-capital, and economic controls.

Why did exposure to Rochambeau's combatants increase regional support for the Revolution? As mentioned above, these Frenchmen spent more than two years in the United States, where they served alongside George Washington's Continental Army and came into extensive contact with civilians in places such as New England and Philadelphia. Both the American army and the culture and institutions in these places were more open, liberal, and egalitarian than those of absolutist France. For example, the French could witness freedom of association and of the press, the absence of privileges based on birth (in the French army, only nobles were allowed to serve as officers), and more widespread prosperity among common folk, such as farmers. However, prolonged exposure to the United States bundled these experiences together with many others, including deployment to a foreign country, armed combat, and receiving veteran status upon return.

To distinguish these cultural and institutional experiences from war-related ones, we draw

on a second comparison group: French troops under Admiral de Grasse who fought alongside Rochambeau's army at the siege Yorktown. They shared foreign deployment, combat at Yorktown, and status as American veterans. But since they arrived from the Caribbean shortly before the siege and left soon after, they had only brief contact with the American army and society, and never saw places such as New England or Philadelphia. Empirically, we add de Grasse exposure to the specification with the not-sailed placebo. The Rochambeau coefficients remain essentially unchanged. For anti-feudal revolts and volunteer companies, they are also significantly larger than the de Grasse coefficients. For political societies and elite emigration, the two coefficients are not significantly different, but these are exactly the outcomes where the not-sailed placebo indicates negative selection. If selection into de Grasse exposure is negligible, the Rochambeau effect net of this selection exceeds the de Grasse coefficient significantly for all four outcomes. Only for political societies is there some indication of a channel shared by both groups, possibly due to later socialization. We therefore conclude that the shared Yorktown combat experience does not explain the Rochambeau relationship.

We also provide suggestive evidence on the nature, timing, and geography of the relationship, and on which combatants were associated with it. First, the Rochambeau relationship is specific to institutional conflict. Regions with more veterans experienced more anti-feudal revolts in 1789, but not more food riots, panic-driven unrest, or later support for violent policies during the Terror. Second, an event study shows that the effect on anti-feudal revolts is concentrated in 1789. Third, at the more disaggregated level of the *arrondissement*, the results suggest that the effects extend beyond combatants' places of origin to neighboring areas, consistent with local spillovers.

Finally, regional and individual-level evidence suggests that returning soldiers and officers contributed to the Revolution both through local mobilization and through participation in national politics. The effect remains present among discharged soldiers for anti-feudal revolts and volunteer companies. Estimates distinguishing combatants by military rank show broader effects for normal soldiers than for officers. Individual-level evidence points in the same direction: we show that most Rochambeau officers among the noble deputies of 1789 joined the liberal minority, unlike those who had served under de Grasse. Rochambeau officers were also more likely than de Grasse officers to join the Paris Jacobin Club by 1790. For normal soldiers, the surviving evidence is fragmentary, but several documented cases show that some of them did become personally involved in the Revolution.

The paper proceeds as follows. We start by detailing the paper's contribution to the literature in Section 2. We then summarize the historical background (Section 3) and describe the data underlying our analysis (Section 4). Section 5 presents the main results, including the not-sailed and de Grasse comparisons. We present additional evidence on the nature, timing, and geography of the effects, and on whether these were driven by officers or soldiers (Section 6). Section 7 concludes.

2. Contribution to Literature

Our main contribution is to the economic history of the French Revolution. A large literature has debated the Revolution's causes (de Tocqueville, 1856; Lefebvre, 1939; Furet, 1978; Doyle, 1999; Israel, 2014). Recent empirical work emphasizes economic shocks and long-standing fiscal grievances as sources of revolutionary unrest, including the severe drought of 1788 and earlier grievances about taxation (Waldinger, 2023; Davoine, Enguehard, and Kolesnikov, 2025; Giommoni, Loumeau, and Tabellini, 2026).[1] We provide evidence on a different, long-standing hypothesis: that the American Revolution affected the French Revolution through French combatants who had served in the United States. McDonald (1951) first argued that the American combatants contributed to revolutionary activity based on a spatial correlation between combatants and agricultural revolts in 1789, but it was soon recognized that this correlation could merely reflect regional confounders (Godechot, 1956). Samuel Scott studied the historical evidence in more depth. While documenting a plethora of anecdotes that the American experience changed the beliefs of French combatants, in conclusion he rejected the idea that, as a group, they could have contributed meaningfully to the Revolution (Scott, 1979, 1998).[2] More recently, Israel (2017) revived the broader argument that the American Revolution could have influenced the French Revolution through the circulation of political ideas, although without focusing on the American combatants as a transmission channel. Our empirical strategy directly addresses both principal challenges to McDonald's argument—the concern about regional confounders, and the assessment that effects would be quantitatively meaningless—while also extending the argument beyond anti-feudal revolts to several other dimensions of revolutionary activity.[3]

A closely related paper, developed in parallel, is Jha and Wilkinson (2023). Both studies compare French veterans of the American War with regiments that did not sail. While Jha and Wilkinson (2023) place greater emphasis on individual political participation, we study broader regional effects. We also compare Rochambeau's troops with de Grasse's, who fought at Yorktown but spent much less time in America. This comparison suggests that military experience alone was insufficient to explain the regional effects, pointing to the importance

[1] Chambru (2019) documents a causal link between weather shocks and social conflict in France before the French Revolution. Related work studies the political economy of military mobilization during the Revolutionary and Napoleonic periods, including wartime resource mobilization and the later development of mass conscription (Rouanet, 2023; Rouanet and Piano, 2023).

[2] Many general works on the French Revolution accepted Scott's conclusion (e. g. Bertaud, Reichel, and Bertrand, 1989; Geggus, 2000). Other classic works on the origins of the French Revolution do not mention the topic at all (e. g. Doyle, 1999). Yet, some historians have recognized that it is difficult to establish with the historical method whether the American Revolution influenced the French Revolution, given the limitations of 18th-century sources (Godechot, 1979; Campbell, 2013).

[3] The American and French Revolutions were first discussed in a common framework as "Atlantic revolutions" of the late eighteenth century by Palmer (1959, 1970); Godechot (1965). These authors focused primarily on common economic and social conditions underlying the two revolutions rather than on soldiers or other individuals directly linking them.

of prolonged exposure to American society. We therefore view the papers as complementary.

Our findings also speak more specifically to the transatlantic circulation of institutions and political ideas in the eighteenth and nineteenth centuries. European settlement created institutional arrangements in parts of North America that differed substantially from those of the Old World (Acemoglu, Johnson, and Robinson, 2001), while the colonies themselves remained part of an Atlantic intellectual community receptive to Enlightenment ideas originating in Europe (May, 1976; Bailyn, 2005). In places such as New England and Pennsylvania, the political and social arrangements French combatants encountered differed markedly from those of Old Regime France (Israel, 2017). Our setting highlights a reverse direction of this transatlantic exchange: French officers and soldiers spent more than two years in the United States, including extended stays in New England and marches through Pennsylvania and Philadelphia, before returning to France. In this sense, the paper complements recent work on the transmission of ideas and political practices from Europe to the Americas (Giuliano and Tabellini, 2020; Dippel and Heblich, 2021; Beach and Hanlon, 2022) by studying movement in the opposite direction during one of the major political transformations in European history.[4]

More broadly, our findings speak to work on institutional change and the cross-border transmission of political ideas. Existing research has identified shocks that can trigger institutional change (e. g. Brückner and Ciccone, 2011; Aidt and Franck, 2015), while other work studies how experience with democratic institutions shapes subsequent political attitudes and institutional outcomes (Acemoglu, Ajzenman, Aksoy, Fiszbein, and Molina, 2024). A related literature shows that political ideas and practices can be transmitted across countries through foreign students and migrants (Spilimbergo, 2009; Docquier, Lodigiani, Rapoport, and Schiff, 2016; Barsbai, Rapoport, Steinmayr, and Trebesch, 2017). Our setting complements this work by studying temporary rather than permanent exposure and by exploiting military deployment to mitigate the selection problems that ordinarily make the effect of foreign experience difficult to identify.[5]

3. Historical Background

Here we summarize Rochambeau's deployment to the United States, what the combatants experienced there, and the revolutionary processes in France that we will study empirically. For a fuller historical overview, including a table on the deployment histories of the combatant regiments, the interested reader is referred to Appendix B.

[4]Our results also complement work on the role of individuals in transmitting ideas and institutions within countries (Ochsner and Roesel, 2020; Bazzi, Ferrara, Fiszbein, Pearson, and Testa, 2023a,b).

[5]Historical accounts have similarly linked foreign experience to political change in cases such as the Decembrists in Russia and leaders of Greek independence.

3.1. The Combatants' Experience in the American Revolutionary War

The French monarchy deployed troops to support the American colonists as part of its broader strategy to weaken the mutual enemy, Britain. General Rochambeau selected around 7,500 men, six regiments of regular line infantry plus some auxiliaries, from a larger force which initially had been assembled for a planned invasion of Britain. A shortage of transport ships, however, forced him to leave one-third behind. These troops had been selected for the American expedition but never reached the United States; they form our first, "not-sailed," comparison group. About 5,000 men sailed in the spring of 1780 and arrived at Newport, Rhode Island, in July. They remained there for almost a year before marching south in the summer of 1781 to join Washington's army. The combined force subsequently marched to Virginia and defeated the British at Yorktown in October 1781.

At Yorktown, Rochambeau's troops were joined by a second French force under Admiral de Grasse. De Grasse's troops, three regiments of regular line infantry, had arrived from the Caribbean shortly before the battle and departed soon afterwards. They therefore shared Rochambeau's combat experience at Yorktown but not his troops' prolonged stay in the United States; they form our second comparison group. Rochambeau's army instead remained in the United States, wintered in Virginia, and returned north in 1782 before sailing back to France. Most combatants returned to France by 1783 (Scott, 1998).

The contrast with Old Regime France was visible in everyday life. In the United States, the combatants encountered what they perceived as greater freedom of association and the press, widespread prosperity among commoners including farmers, and a less rigid social hierarchy, such as in the Continental Army or in places like New England, where slavery was less prevalent. In Old Regime France, in contrast, associations were regulated and the press was censored, inequality in landownership was high and rural property rights fettered by feudal seigneurial rights, and social divisions and privileges for the nobility were abundant. The different social contract in the United States was not unknown to French Enlightenment thinkers, but it is unclear how far knowledge about it percolated into the broader French society. In any case, the American deployment allowed the combatants to observe these differences first-hand.

Contact with American civilians was extensive. Officers were frequently quartered in private homes, attended social gatherings, and worked with their counterparts in the Continental Army. Normal soldiers usually camped outside town, though they did spend the winter in Newport alongside local residents where they got into close contact (Scott, 1998; Jones, 2012). The French army also printed a French-language newspaper reporting on American news and local affairs. Contemporary accounts suggest that these experiences affected at least some combatants' political views. For example, the court aristocrat Comte de Ségur wrote in a letter that he and others brought back to France "a lively passion for freedom and for independence" (Scott, 1998, 122). Relatedly, Scott (1998, 122) notes that "what seems to have impressed most of Rochambeau's veterans…were not abstract political principles but more

mundane practices", such as "social equality rooted in widespread economic prosperity."[6]

3.2. The French Revolution and the Role of Combatants

The historical literature points to a combination of long-standing political instability and short-run economic shocks as triggers of the Revolution. Two broad phases can be distinguished: a more moderate "constitutional" phase up to the summer of 1792 and a more violent "radical" phase afterward. We focus primarily on local revolutionary activity during the constitutional phase and examine four outcomes that capture distinct aspects of this process.

Anti-feudal revolts in 1789 challenged seigneurial rights in the countryside and helped establish the abolition of feudalism as a fact, before it was formally decreed (Lefebvre, 1939; Markoff, 1996). Political societies provided a new form of bottom-up political participation and helped implement revolutionary policies locally. Volunteer companies raised in 1791 provide an early measure of voluntary military mobilization in defense of the Revolution. This mobilization preceded the escalation of external military threats into open war in April 1792, and the subsequent introduction of forced conscription. Finally, emigration by the old elite provides a measure of the local pressure generated by the Revolution, which was consequential because emigrants' property was subject to confiscation. The four outcomes therefore capture different dimensions of the early Revolution: dismantling Old Regime institutions, participating in the new political order, defending the new order against its enemies, and driving out the non-cooperative old elite.

Whether the American combatants themselves mattered for the French Revolution has long been disputed, and we have briefly outlined in the preceding Section 2 this debate between McDonald (1951) and Scott (1979, 1998). Appendix Section B.4 takes a closer look at the historical details underpinning this debate.

4. Data

We collect individual-level data from military records and geo-localize birthplaces to construct variables for the main treatment, alternative treatment, and placebo groups at the region of origin. We further collect a large set of novel outcomes and controls, which we obtain at various geographical levels. We aggregate the data into administrative regions of broadly similar size. Appendix A provides a list describing all variables employed along with their source (Table A.1), summary statistics of the main variables (Table A.2), and additional details on data construction.

[6] This change in attitude appears to have extended beyond Rochambeau's army. For example, Marquis de Lafayette, who had signed up for Washington's army voluntarily, became a proponent of liberty through his experiences in America (Gottschalk, 1950).

4.1. American Combatants and Not Sailed Placebo

We distinguish three groups of French combatants, all composed of regular line infantry, corresponding to the historical comparisons described in Section 3. The main group consists of combatants who served under Rochambeau and spent an extended period in the United States. The second group consists of not-sailed combatants who had been selected for Rochambeau's expedition but never reached America. The third group consists of de Grasse combatants, who fought alongside Rochambeau at Yorktown but otherwise spent little time in the United States. Appendix Section A.2.1 lists the regiments included in each group.

The individual-level data on combatants rely on the original military records. The handwritten regimental books are preserved in the archive of the French Ministry of War. We first digitized the list of French combatants which was transcribed by historians from the regimental books of 1776–1786 (Ministère des Affaires Étrangères, 1903). We also web-scraped the crowd-sourced digitization of this list, which included manual geo-localizations by volunteers with local knowledge,[7] and cross-referenced the two data sets. Additionally, the crowd-sourced data include data on deaths during the campaigns from Dawson (1936). For the French regiment of not-sailed soldiers, which did not achieve combatant status due to unforeseen circumstances, we transcribed the regimental book of 1776–1786 manually. We geo-localized the birthplaces for 83% of Rochambeau combatants, 85% of de Grasse combatants, and 78% of not-sailed combatants.[8] We thus capture the origins of the great majority of combatants, and match rates are broadly comparable across treatment and placebo groups.

Figure 1a maps the origins of Rochambeau's combatants by département, and Figures 1b and 1c provide similar maps for not sailed and de Grasse combatants. As is apparent, the number of combatants varies strongly between départements—and even between immediately adjacent départements. Recruitment levels do visibly correlate across the three groups for some regions, but also are visibly different for some other regions. The differences in recruiting stem largely from historical contingencies: Regiments were regularly rotated across garrisons every three years, and frequently recruited from the regions of both the current and past garrisons.[9] This variation in the combatants' origins allows us to distinguish their impact empirically. The bivariate correlation (log-log) of Rochambeau combatants with the not sailed

[7] See www.francegenweb.org/lafayette, last accessed 06/30/2022. The general motivation for volunteers to participate in crowd-sourced projects like www.francegenweb.org is to construct genealogies of their ancestors. Crowd-sourced data is increasingly used in economics applications, including studies of Ancien Régime France such as Blanc (forthcoming) or Gay et al. (forthcoming).

[8] The main reasons why it is hard to do better are (i) illegible writing or incorrect spelling in the sources, (ii) municipality name changes, and (iii) identical municipality names creating ambiguity. The Rochambeau and de Grasse geo-localization rate refers to municipalities (*commune*), while the not-sailed geo-localization rate refers to départements. At the level of municipality, the Neustrie geo-localization rate is just 71% but based on the military province we can still assign in many cases a département of birth.

[9] While we do know about the actual garrisons in the decades prior to their deployment to America, it remained oblique in our historical sources how the rotation pattern for the over 100 standing regiments of French infantry of the line was determined.

placebo is $\rho = 0.57$ and with de Grasse combatants $\rho = 0.51$. The identifying variation is highlighted in Figure 1d, which maps the relative Rochambeau exposure in terms of the log ratio of Rochambeau to not-sailed or de Grasse combatants, respectively. Our empirical strategy will leverage variation from regions where Rochambeau exposure is high relative to both not sailed and de Grasse combatants.

4.2. Support for the French Revolution

We collect data on four proxies measuring different dimensions of support for the French Revolution. The first measure is anti-feudal revolts that attacked the feudal institution of lordship (*seigneurie*), including the lord's person, property, rights, or symbols.[10] Using data assembled by Chambru and Maneuvrier-Hervieu (2024), we observe 530 anti-feudal revolts at the level of municipalities, with the majority occurring in 1789. Figure A.1a depicts the spatial variation of anti-feudal revolts across départements. In auxiliary analysis, we study conflicts by year and also consider different types of conflicts, food riots, and panics during the Great Fear of 1789.

The second measure is early political societies. We digitized municipal-level data on the first year that a political society was founded in the period 1789 to 1794. To capture the bottom-up aspect, we focus on the roughly 300 political societies formed spontaneously between 1789 and 1790. Figure A.1b depicts the spatial variation in early political societies across départements. In auxiliary analysis, we consider societies established during the "Reign of Terror" (1793–94) as a measure of support for generalized violence.

The third measure is voluntary mobilization for the revolutionary army. By the end of 1791, before mass conscription and before the outbreak of war, municipalities had raised almost 1,450 companies of "National Volunteers" to defend the Revolution against its enemies, roughly 100,000 men. Our main outcome is the number of these companies, which we observe at the municipality level and aggregate to arrondissements and départements. Figure A.1c depicts the spatial variation in voluntary companies across départements.

The fourth measure is emigration from the old elite. The land-owning elite comprised clergy, nobility, and upper bourgeoisie, which together made up more than half of 130 thousand emigrants. We digitized data on the number of emigrants by social status at the département level. Figure A.1d depicts the spatial variation in elite emigration across départements.

4.3. Control Variables

We use a set of baseline controls to hold constant factors that potentially correlate with both military recruitment and revolutionary activity. Specifically, we control for (i) general military recruitment by the total number of soldiers during the eighteenth century sampled by Komlos,

[10] Such revolts are also referred to as anti-seigneurial revolts since they *did not* target royal institutions, which also belonged to the feudal system (Markoff, 1996).

Hau, and Bourguinat (2003); (ii) the number of garrisoned infantry regiments and garrisoned cavalry battalions; (iii) total population of the département; (iv) the urbanization rate; and (v) an indicator for the capital Paris (département Seine). We include a separate indicator for Paris because, as the political and administrative capital, the Seine département was exceptional in revolutionary mobilization in ways not captured by population or urbanization alone. Beyond the baseline controls, we collect a large number of additional variables for probing the balance of treatment and control as well as for heterogeneity analyses. In particular, we construct variables on (i) geography and climatic shocks, including the status as maritime or border regions, ruggedness, the length of Roman roads, wheat suitability, and weather shocks in 1788 (Waldinger, 2023); (ii) on Ancien Regime institutions, including the presence of former administrative centers of different types (juridical, religious, taxation, public order); (iii) on human capital, including soldiers' average height, literacy rates, secondary schooling, and enlightenment readership; and (iv) on the economy, including the number of markets and fairs, and stations of the Royal letter post. More detail on each variable is provided in Appendix A.

5. Main results: American Combatants and the French Revolution

We now turn to the main empirical analysis. We first show that regions from which more Rochambeau combatants originated experienced more revolutionary activity across all four outcomes. We then use the not-sailed placebo and de Grasse combatants to show that this relationship can be interpreted causally and that war-related experiences can be excluded as the main mechanism.

5.1. Baseline Treatment: Rochambeau's Combatants

The empirical design focuses on variation across French regions. The baseline treatment is the extent to which regions were exposed to American combatants from Rochambeau's army. We measure exposure using the birthplaces of combatants who returned from America, rather than their unobserved locations during the Revolution. The estimates therefore concern revolutionary activity in their regions of origin, not the effect of an observed veteran's presence in 1789. By focusing on the number of combatants born in each region, we are effectively estimating a reduced form intent-to-treat effect. [11]

[11] After the combatants' return to France and their discharge from the army, they were in principle free to move about the country and we do not observe the locations where combatants were present in the year of the revolution. Yet we think that it is useful and valid to focus on the birth places as a predictor for which regions were most likely to host the combatants. Suppose for a moment that we did know the locations where combatants were present in the year of the revolution: It would not be clear that this would help us to identify their effect on regional support, because the combatants' choice of residency between 1783 and 1789 could be

As unit of analysis, we use post-revolutionary administrative regions. We focus in the baseline on the *département*, an administrative region created of similar size for administrative efficiency in 1790/94 (Chambru et al., 2024). For additional analysis, we also use the *arrondissement*, an administrative district of approximately equal size below the *département* and established in 1800. We prefer the post-revolutionary administrative regions over traditional jurisdictions, because they are less closely aligned with pre-existing institutional and cultural boundaries.[12]

5.1.1. Baseline Specification

In the baseline, we estimate Poisson pseudo maximum likelihood (PPML) regressions at the regional level using the following conditional-mean specification:

$$\mathbb{E}[y_i \mid R_i, X_i] = \exp(\beta \ln R_i + X_i'\gamma)\,. \tag{1}$$

The dependent variables are the four count-valued proxies of support for the French Revolution in each département: anti-feudal revolts, revolutionary societies, volunteer companies, and the number of elites fleeing the Revolution. The main independent variable, Rochambeau_i, is the number of combatants serving in Rochambeau's army originating from region i in France. We focus on the number of combatants who returned to France; results for the number of combatants who were deployed to America are highly similar.[13] β is the log-exposure coefficient of interest. Rochambeau exposure is strictly positive in the département sample, so its natural logarithm is defined for every observation. The reported one-standard-deviation increase is $100[\exp\{\widehat{\beta}\ \text{sd}(\ln R)\}-1]$ in the estimation sample. Appendix Section D.4.3 compares this preferred form with exposure levels and exposure per capita. The baseline controls X, listed in Section 4.3, address the prior literature's concern that third factors may have affected both military recruitment and revolutionary outcomes.[14] General military recruitment and population enter in logs, garrison counts and urbanization rates enter in levels, and the specification also includes an indicator for Paris (dept. Seine).

endogenous to the events to come. Thus, we would most likely want to instrument for their location in 1789 by an exogenous predictor of their locations. In an era when overland travel was slow and local culture highly varied (Blanc and Kubo, 2026), the combatants' birthplaces would be a prime candidate instrument. In this sense, our research design resembles a reduced form instrumental variable setting when we are using the number of combatants born in each region as an exposure measure.

[12] In principle, we could also aggregate most of our data to other units of analysis, including historical jurisdictions like *généralités* or *baillages*. The traditional jurisdictions varied widely in size, and their boundaries often followed geographical, cultural, and historical regions (e. g. Gay, Gobbi, and Goñi, 2023). The post-revolutionary administrative regions often (but not always) cut across the historical boundaries. This stemmed from the rational approach that aimed to create evenly sized administrative regions that were easier to govern.

[13] See Appendix D.2, Table A.12. The main reason for why combatants would not return was disease mortality from malaria, which they contracted in Virginia (and apparently unsystematically).

[14] The unconditional correlations would be even stronger, see Appendix Table A.11.

The baseline sample is 81 départements of mainland France in the borders of 1789.[15] Figure 1a depicts the spatial variation in Rochambeau combatants across départements. Later in Section 6.1, we also study more fine-grained spatial variation and show that β comprises local effects as well as localized spillovers.

5.1.2. Baseline Results

Table 1 presents results. Each column corresponds to a different proxy of support for the French Revolution. Column 1 shows the conditional correlation of Rochambeau's combatants with anti-feudal revolts across French départements. Départements from which more of Rochambeau's combatants hailed experienced significantly more anti-feudal revolts during the Revolution. The estimated coefficient is 0.791 (s.e. 0.272), which implies that a one-standard-deviation increase in log Rochambeau exposure is associated with about a 113% increase in the conditional expected number of anti-feudal revolts, accounting for factors that likely influenced military recruitment. Figure 2 shows the same relationship as a PPML-adjusted scatterplot. As is evident from Table 1, columns 2 to 4, the associations with political societies and volunteer companies are also positive and statistically significant; the elite-emigration coefficient is positive and marginally significant. The corresponding one-standard-deviation increases are about 37%, 45%, and 19%.

These associations are also sizable in absolute terms. Evaluated at the sample mean of each outcome, a one-standard-deviation increase in log Rochambeau exposure is associated with about seven additional anti-feudal revolts per département (relative to a mean of 6.3), about one and a half additional political societies (mean 3.7), about seven and a half additional volunteer companies (mean 16.8), and about 130 additional elite emigrants (mean 701).

5.2. Placebo Group: Regiment That Did Not Sail to America

5.2.1. Identification Concerns

There are two immediate concerns against a causal interpretation of the baseline results. The first concern is the *selection of individual soldiers* into Rochambeau's regiments. For example, soldiers eager to fight for democracy or to experience the lack of feudal institutions in the United States might have been more likely to sign up for Rochambeau's regiment. The historical setting, however, provides direct evidence against this concern. Regiments were staffed well before the French became militarily involved in the American Revolutionary

[15] For these, we have the most complete data. There are four mainland départements that came to be part of France after 1790: Vaucluse (Avignon, Papal state), Mont Blanc (Savoy, Italy), Mont Terrible (Belfort), and Alpes-Maritimes (Nice). These départements have missings for various outcomes and controls. The baseline does not include the Alsace (départements Bas-Rhin and Haute-Rhin) but document robustness to extending the sample to the Alsace in Appendix A.18. The reason is incomplete data and the fact that General Rochambeau was stationed there in the summer of 1789, potentially creating leadership effects, which we discuss separately in Appendix Section C.2.

War. The regular enlistment period was eight years, and switching regiments was highly uncommon for soldiers. More importantly, the future combatants of Rochambeau's regiments neither knew nor expected that they were going to the United States. As Scott (1998, 7) asserts,

> "[n]one had volunteered to fight for American independence; indeed, they were at sea for seven weeks before being informed of their destination. Although the troops greeted this announcement with loud cheering, the response was one of relief that they were *not* bound for the West Indies … rather than of enthusiasm for the American cause" (emphasis in original).

Unlike soldiers, some officers did have the private means to sail to America independently, the most famous example being Marquis de Lafayette (c.f Appendix B.2). Yet, we never include such officers in our sample; in fact, Rochambeau prohibited the taking of volunteering officers (Merlant, 1920, 115).

A second concern relates to the *selection of entire regiments* for the French campaign in the United States. As we describe in the historical background, the regular line infantry regiments of Rochambeau's special expedition were chosen from a larger army mobilized to the north-west of France in 1779 for an eventually aborted invasion of England. Thus, Rochambeau's troops were undoubtedly fighting ready. If the regiments were in addition selected based on the officers' and soldiers' characteristics, such as being more brave, violent, liberal, or egalitarian, and if these characteristics of officers and soldiers were also representative of their regions of origin, then the previously documented conditional correlations would be biased. In fact, such bias based on unobserved regimental and regional characteristics could equally work against us. Troop morale and discipline can be critical for the success of military missions, particularly when troops are deployed to a foreign country where they could desert. Thus, it also seems possible that the regions from which Rochambeau's regiments recruited were inherently more loyal to the monarchy. In either case, the estimated coefficients could not be interpreted causally.

5.2.2. Placebo treatment group

We address this selection concern using the not-sailed placebo introduced in Section 3. These placebo combatants had been selected and readied for Rochambeau's expedition, but an initial shortage of transport ships kept them behind and a subsequent British blockade prevented the follow-up convoy from reaching America. The comparison is useful because the same initial selection process applied to troops that ultimately sailed and troops that did not. Regional characteristics associated with selection into Rochambeau's expedition should therefore be reflected in both groups. Treatment status was also difficult to alter after assignment: enlisted soldiers could not change regiments, and officers assigned to the left-behind units were required to remain with them (Merlant, 1920).[16]

[16]Some members of the not-sailed units may later have traveled to America individually, but this does not affect our intention-to-treat design. See Appendix Section A.2.1 for a discussion of special military units who

5.2.3. Empirical Specification and Results

We amend the empirical specification presented in equation (1) by including the not-sailed placebo combatants N_i. Because not-sailed combatants are zero in a small number of départements, we separate the extensive and intensive margins and estimate

$$\mathbb{E}[y_i \mid R_i, N_i, X_i] = \exp\left(\beta_1 \ln R_i + \beta_2 L_i^N + \delta_N D_i^N + X_i'\gamma\right). \tag{2}$$

where $D_i^N = \mathbb{1}(N_i > 0)$ captures the extensive margin and $L_i^N = \ln N_i \times \mathbb{1}(N_i > 0)$, i.e. equal $\ln N_i$ when $N_i > 0$ and zero otherwise, the intensive margin. This specification avoids the log of zero problem in both dependent and independent variables.[17]

The not-sailed combatants provide a comparison for regional factors associated with selection into the same expedition. The coefficient β_2 measures the selection effect among départements with positive not-sailed exposure. If such factors drove the relationship with revolutionary outcomes, Rochambeau and not-sailed exposure should exhibit similar associations with the outcomes. Our primary comparison is therefore the contrast between Rochambeau and not-sailed combatants, $\beta_1 - \beta_2$. The identifying variation for this contrast comes from regions with many Rochambeau combatants but few not-sailed combatants, and vice versa.

This causal interpretation rests on two key assumptions: overlap (common support) and unconfoundedness. Overlap holds in our data. Figure 1b maps the regional origins of the not-sailed combatants. There are broad similarities with the origins of Rochambeau combatants: the bivariate correlation is $\rho = 0.57$ (log-log). While similar, the regional distributions are different enough so that we can distinguish baseline and placebo exposures empirically. The differences in recruiting between baseline and placebo groups stem largely from historical contingencies. Regiments were regularly rotated across garrisons every three years, and frequently recruited from the regions of both the current and past garrisons.

While overlap is testable, unconfoundedness is not. In our quasi-experimental setting, the unconfoundedness assumption is plausible because the not-sailed placebo lets us directly account for otherwise unobservable factors. However, even with a strong experimental design, treatment and placebo groups may not be fully randomized in the sample.

To assess balance on observable characteristics, Figure 3 considers 27 predetermined covariates spanning baseline recruitment factors, geography, Old Regime institutions, human capital, and economic activity. Specifically, we regress each covariate on the log ratio of Rochambeau to not-sailed combatants, and z-standardize all variables to make coefficients comparable across models.[18] The plots indicate broad similarities but not exact balance. Three out of 27 coefficients are larger in magnitude than 0.2 and significantly different from zero, which is roughly twice as much as one would expect by chance. We therefore treat the balance

served under Rochambeau for which there is no suitable placebo groups.

[17] See, for example, Chen and Roth (2024).

[18] This specification omits a few départements where not-sailed exposure is zero.

plots as diagnostics rather than as a rule for choosing individual controls. Appendix Section D.3 instead adds complete blocks of predetermined control to the baseline specification to document robustness.

Table 2 shows that the coefficients on Rochambeau combatants remain strongly positive and significant across all four outcomes when controlling for the not-sailed placebo. The placebo coefficient β_2 is zero for anti-feudal revolts, but imprecise, and negative for the other three variables. For political societies and elite emigration, the negative placebo coefficients are statistically significant, suggesting the presence of a negative selection effect. Wald tests reject equality of the Rochambeau and not-sailed intensive-margin coefficients for political societies ($p = 0.001$), volunteer companies ($p = 0.003$), and elite emigration ($p < 0.001$); the anti-feudal comparison is marginal at the 5% threshold ($p = 0.056$).

Appendix Tables A.13–A.16 show that the main pattern is robust to adding the 27 predetermined covariates. We first add the variables blockwise by theme, then all of them jointly. Alternatively, we add only the first principal component of each thematic block. Given that the three unbalanced variables were in different thematic blocks, we think the joint and principal component specifications that control for all dimensions of the co-variates are more appropriate. The Rochambeau coefficient remains positive and significant throughout. The Rochambeau–not-sailed difference also remains clear across all outcomes, although it is less precisely estimated in some of the richer specifications.

Taken together, these results support a causal interpretation of the relationship between Rochambeau's American deployment and subsequent revolutionary activity in the combatants' regions of origin.

5.3. Alternative Treatment Group

5.3.1. Alternative Interpretations

Thus far, it is unclear what experiences in America mattered for increasing support for the French Revolution. Several features of the American campaign beyond prolonged exposure to American society could account for the Rochambeau relationship. These include combat experience and military networks, fighting successfully against Britain, foreign deployment more generally, or the status acquired as returning veterans.[19]

5.3.2. A Second Comparison Group: de Grasse's Combatants

We use de Grasse's troops, three further regiments of regular line infantry, as a second comparison group. As described in Section 3, they joined Rochambeau's troops at Yorktown and participated in the siege, but had arrived from the Caribbean only shortly beforehand and returned there soon afterwards. The siege of Yorktown was the only major battle fought

[19]For evidence that foreign travel and war can affect subsequent attitudes and behavior, see Clingingsmith, Khwaja, and Kremer (2009) and Campante and Yanagizawa-Drott (2015).

by Rochambeau's troops during their American deployment. De Grasse's troops therefore shared this central combat experience and subsequent recognition as American veterans, while differing substantially in the duration and nature of their exposure to the United States.

This comparison allows us to assess whether combat at Yorktown or status as American veterans can explain the Rochambeau results. De Grasse's troops fought alongside Rochambeau's and suffered more fatalities at Yorktown, but had only brief contact with American society. Appendix Table A.3 summarizes the deployment histories and losses at Yorktown of the two groups. Recognition as veterans was shared as well: senior officers of both groups were admitted to the Society of the Cincinnati, whose French branch was established in 1784 to preserve the bonds of fraternity among officers of the French and American forces.[20] The Society may also have kept these officers in contact, so that the experience of Rochambeau's officers could have reached de Grasse's, which would work against finding a difference between the two groups.

Note that the de Grasse comparison additionally addresses a narrower concern about military readiness. Although the historical record suggests that the not-sailed units were intended to join Rochambeau's force, de Grasse's troops provide a comparison group that was unquestionably selected for and experienced combat at Yorktown.

5.3.3. Empirical Specification and Results

We further amend the empirical specification presented in equation (2) by including de Grasse combatants. There is one département for which de Grasse combatants are zero. Therefore, analogously to the not-sailed placebo, we separate the extensive margin ($D_i^G = \mathbb{1}(G_i > 0)$) from the intensive margin ($L_i^G = \ln G_i$ if $G_i > 0$, zero else) that we are interested in:

$$\mathbb{E}[y_i \mid R_i, N_i, G_i, X_i] = \exp\left(\beta_1 \ln R_i + \beta_2 L_i^N + \beta_3 L_i^G + \delta_N D_i^N + \delta_G D_i^G + X_i'\gamma\right). \quad (3)$$

β_3 captures the intensive margin of the alternative treatment that includes combat experience. The two positive-exposure indicators D_i^N and D_i^G are included where identified but suppressed from the main table. If it were only combat experience or status as heroes of the American Revolution that mattered, we would expect to see comparable effects in regions that were exposed to de Grasse combatants. In this case, the contrast between Rochambeau and de Grasse coefficients, $\beta_1 - \beta_3$, would be close to zero.[21]

Figure 1c depicts the spatial variation in de Grasse combatants across départements. The bivariate log–log correlation of de Grasse combatants with Rochambeau combatants is $\rho = 0.51$ and with not-sailed combatants $\rho = 0.62$. As with the not sailed placebo group, the de Grasse combatants' origins are similar but not too similar to those of Rochambeau combatants.

[20] Both Rochambeau and the Marquis de Saint-Simon, who commanded de Grasse's troops, appear among the French officers who pledged financial support to the Society in January 1784 (Moats, 2021, 46–48).

[21] Alternatively, one could argue that the causal effect of the combatants' experience in the US outside of the battlefield is captured by the difference $\beta_1 - \beta_2 - \beta_3$, if selection into de Grasse exposure is negligible.

This means that we have common support but can still distinguish the groups empirically. Figure 5 reports the analogous descriptive balance diagnostic for Rochambeau versus de Grasse exposure, which similar to before suggest broad balance between their origins across most observables.

Table 3 adds de Grasse combatants to the specification. The Rochambeau coefficients are unchanged. For anti-feudal revolts and volunteer companies, the de Grasse coefficients are zero or negative, and Wald tests reject equality with the Rochambeau coefficients ($p \leqslant 0.002$), so battle experience cannot explain these effects. For political societies and elite emigration, the de Grasse coefficients are positive but insignificant, and we cannot reject equality. This comparison, however, ignores selection. The not-sailed placebo shows that selection into Rochambeau exposure is negative for exactly these two outcomes. If selection into de Grasse exposure is negligible, $\beta_1 - \beta_2 - \beta_3$ measures the effect of the combatants' experience in the US beyond the battlefield, and Wald tests reject that it is zero for all four outcomes ($p < 0.02$). Inference is robust to spatial correlation across neighboring départements.[22]

Appendix Section D.3 shows that the de Grasse placebo results are robust to controlling for predetermined département characteristics. For anti-feudal revolts, volunteer companies, and elite emigration, the conclusions from above hold: the de Grasse coefficients are either negative or too small to account for the Rochambeau effect, net of selection. The Rochambeau–de Grasse contrast weakens in the specification with all 27 controls, where power is lowest. Political societies are the exception. Here, the de Grasse coefficient is positive and in some specifications as large as or larger than the Rochambeau coefficient. This suggests that part of this effect comes not from the combatants' own experience in the US, but possibly from later socialization in the Society of the Cincinnati.

In sum, the experience of combat at Yorktown cannot explain the Rochambeau effects. Only for political societies is there some indication of a channel shared by both groups, Rochambeau and de Grasse combatants, but that may well be related to shared experiences after returning home to France.

6. Further Evidence

Having established that the relationship of support for the revolution with Rochambeau exposure is plausibly causal and not explained by shared combat at Yorktown, we now examine this effect more closely in two steps. First, we analyze which types of conflict were affected, and when and where the effects materialized. Second, we examine whether the effect can be linked more directly to returning veterans, and whether it differs across groups of

[22] Appendix Table A.19 reports spatial-HAC standard errors for the full specification. With a 200-km bandwidth, all four Rochambeau coefficients remain significant at conventional levels. Results are similar at 100 and 300 km, but elite emigration is close to the 5% threshold. The comparison-group conclusions are also unchanged, and the Rochambeau–not-sailed contrast for anti-feudal revolts remains borderline at the 5% threshold.

combatants.

6.1. Nature, Timing, and Geography of the Effects

This subsection characterizes the nature of the effects along four dimensions. First, it is specific to conflict directed at Old Regime institutions: Rochambeau exposure is associated with anti-feudal revolts, but not with subsistence riots, panics during the Great Fear, or support for violence during the Terror. Second, it is concentrated in the first year of the revolution, 1789. Both patterns are consistent with targeted revolutionary mobilization rather than a general propensity for unrest. Third, it extends to neighboring arrondissements, which helps explain the larger estimates at the département level. Fourth, it appears across quite different local settings, and no characteristic modifies it systematically across outcomes.

No effect on generalized unrest or violence. We find no evidence of a positive effect of Rochambeau exposure on generalized unrest or violence.

First, the effect of Rochambeau combatants on revolutionary activity is not generic. Table 4 documents that for subsistence riots in the same period the coefficient on Rochambeau combatants is smaller in magnitude and insignificant (Column 1). For the "Panics" during the Great Fear of 1789 (Lefebvre, 1932), the coefficient on Rochambeau combatants is negative and insignificant (Column 2).

Second, Rochambeau combatants are not associated with support for violence during the "Terror". We collected data on three variables proxying support for violent policies after 1792, when the revolution turned radical: (i) the vote in the National Convention on whether the King must be punished by death (January 1793); (ii) the total number of death sentences handed out during the period of "Terror"; and (iii) the number of political societies established during Year II, signaling support for the regime during the Terror. Table 4 columns 3 through 5 show that Rochambeau combatants are not significantly associated with any of these outcomes. The sign of the estimate differs across these outcomes, but the estimates are imprecise and the implied magnitudes small.

In sum, these outcomes suggest that the Rochambeau effect on revolts was more specifically directed at Old Regime institutions, rather than reflective of generalized unrest or violence.

Event study: dynamic PPML estimates around 1789. Figure 7 traces the effect of Rochambeau exposure on anti-feudal revolts over time, relative to 1784–1788. To express magnitudes in revolts, we multiply the one-standard-deviation effect by the mean number of revolts per département in each period. The Rochambeau estimate is clearly positive in 1789, when the breakdown of Old Regime authority opened the way for widespread mobilization against seigneurial claims. The Rochambeau estimate is indistinguishable from zero in the later years of the revolution, 1790–1793, and the pre-period 1751–1779, making pre-existing differences across départements unlikely. The estimate for 1780–1783, while combatants were deployed in America, is also significant, but the magnitude is very small in revolt units

compared with 1789.[23] The corresponding estimates for not-sailed and de Grasse combatants are close to zero throughout.

Results at disaggregated levels and spillovers. Three outcomes can also be measured at the arrondissement level: anti-feudal revolts, political societies, and volunteer companies. As shown in Table 5, Rochambeau exposure is positively associated with all three, and significantly so for anti-feudal revolts and volunteer companies. At this level, we can also separate an arrondissement's own exposure from exposure in neighboring arrondissements. Neighboring exposure is positively and significantly associated with all three outcomes, and own exposure remains positive. The effect thus extends beyond the combatants' places of origin, consistent with veterans moving, information spreading, or revolutionary activity spilling over into nearby communities. For political societies and volunteer companies, these spillovers stay mostly within the same département, while for anti-feudal revolts they also extend across département borders (Table A.7).

The spillovers also help explain why the estimates are larger at the département level. When exposure rises across a département, it rises both in an arrondissement and in most of its neighbors. Raising own and neighboring exposure by one standard deviation each gives effects close to the département-level estimates in Table 1, and neighboring exposure accounts for more than half of this combined effect for every outcome.[24]

Heterogeneity. Appendix Table A.8 allows the Rochambeau coefficient to differ between départements above and below the median of characteristics that might have made the American experience more salient or easier to spread: Old Regime institutions, measured by parlements and royal taxation; the 1788 temperature and precipitation shocks (Waldinger, 2023); prior exposure to Enlightenment ideas, measured by *Encyclopédie* subscribers (Squicciarini and Vogtländer, 2015); and access to communication networks, measured by markets and fairs and by postal relays.

Some local characteristics modify the Rochambeau effect on individual outcomes, but none does so significantly across all outcomes. In below-median départements, the Rochambeau coefficient is positive in every specification and significant in most, and in above-median départements the implied coefficient is positive in all but one. Most characteristics modify the effect only for individual outcomes and show no systematic pattern. For example, the effect on volunteer companies is stronger where *Encyclopédie* subscribers or markets were more numerous, whereas the effect on political societies is weaker where markets were more

[23] This estimate rests on only 17 revolts, clustered in a few départements. It may reflect some transmission of ideas while the combatants were still in America, but given the few events and the small implied number of revolts, we do not interpret it further.

[24] In PPML, the expected outcome is exponential in the regressors, so the two effects multiply. For anti-feudal revolts, $1.368 \times 1.511 \approx 2.07$, an increase of about 107%, compared with 113% at the département level. In logs, the two contributions add up: own exposure contributes $\ln 1.368 \approx 0.31$ and neighboring exposure $\ln 1.511 \approx 0.41$ of the combined 0.73 log points. For political societies, the combined effect is 33% (département level: 37%), with a neighbor share of 85%; for volunteer companies, it is 51% (45%), with a neighbor share of 62%.

numerous. Only royal taxation and the 1788 weather shocks have interactions of the same sign for all outcomes. The interactions with royal taxation are negative and insignificant throughout, while those with the weather shocks are positive throughout and significant for elite emigration and, for the temperature shock, for anti-feudal revolts (at 10%). One interpretation, consistent with Waldinger (2023), is that the Rochambeau effect was larger where the 1788 weather shocks had created grievances, but not where the tax burden was heavier.

6.2. Which Combatants Matter?

The evidence so far points to prolonged exposure to America as an important difference between Rochambeau's and de Grasse's combatants. We now ask which of the returning combatants carried this effect. The effect is not explained by where Rochambeau's regiments were stationed in 1789 and extends to veterans who had been discharged. Both officers and ordinary soldiers contributed, but the effects of soldiers are broader, and they are not explained by soldiers following Rochambeau or a few superiors. Individual-level evidence indicates that Rochambeau's officers more often became liberal deputies and Jacobins than de Grasse's, and that veterans of his regiments took part in important revolutionary events. This evidence speaks to which combatants mattered, but not to how their influence spread from there: ideas may have passed from the combatants to their families, local communities, and broader networks, or changed local political culture, and our design cannot distinguish such direct and indirect channels.

Discharged, Not Active Soldiers. A first question is whether the baseline results simply reflect where Rochambeau's regiments happened to be stationed on the eve of the Revolution. Table A.5 shows that this is not the case. Controlling for whether one of Rochambeau's regiments was stationed in a département in January 1789 leaves the estimated effect of Rochambeau combatants essentially unchanged. The stationing indicator itself has no consistent relationship with the outcomes, and for anti-feudal revolts it is negative and significant.

Appendix Section C.3 uses discharge and retirement records for the *Soissonnais* regiment to construct exposure from combatants who were discharged after returning from America. The estimates on discharged combatants are close to the estimates for all returned *Soissonnais* combatants. This is consistent with the idea that many combatants who took part in revolutionary mobilization were veterans who had returned to civilian life.

Officers *and* Ordinary Soldiers. A second question is whether our result is driven mainly by officers, who possessed greater organizational skills and social standing, or by ordinary soldiers. Appendix Section C.1 shows that both groups contributed, but in different ways. Rochambeau soldiers affected all four outcomes. Rochambeau officers are related to volunteer companies, both by their presence (at the 10% level) and by their number. De Grasse's officers also show effects on political societies, whereas de Grasse's soldiers have no positive effect

on any outcome. If organizational capacity acquired in war had been the main channel, the officer effects should dominate across outcomes. Instead, the effects of ordinary soldiers are broader and specific to those who had served with Rochambeau.

Not Merely Leadership Effects. A related question is whether the results on soldiers could be explained by a pure leadership interpretation in which combatants merely followed General Rochambeau or a small set of superiors. We review historical evidence speaking against this in Appendix C.2. Rochambeau himself neither became a political entrepreneur nor maintained a national communication network. Instead, his efforts were fully focused on his official military duties, which in the revolutionary summer of 1789 tasked him with restoring order in Alsace. More broadly, episodes of obedience and disobedience during the Revolution suggest that soldiers' loyalty was conditional: soldiers followed officers when those officers were perceived as supportive of the Revolution, which is more consistent with conditional loyalty than with a simple hierarchical-leadership mechanism. Together with the effects of both officers and soldiers documented above, this suggests that the American experience made both groups more favorable to the Revolution, rather than that soldiers simply adopted the views of their superiors.

Individual Level Evidence. Several pieces of evidence show that combatants became personally involved in the Revolution.

Table A.9 considers the political affiliations of officers who served as deputies for the Nobility in the Estates-General of 1789, which became the National Assembly. Among the seven officer–deputies who had served under Rochambeau, five became part of a small group of noble liberals who supported the abolition of feudalism and cooperated with the Third Estate. In contrast, among the three officer–deputies who had served under de Grasse, none was a liberal, and one even an ultra-royalist. A one-sided Fisher exact test of equal proportions of liberals in both groups yields $p = 10/120 \approx 0.083$. While the sample is too small for the difference to be significant at the 5% level, the direction of the difference is consistent with Rochambeau officers subsequently taking more liberal instead of moderate or royalist positions than the de Grasse officers. Several of the liberal officer–deputies who had experienced the United States under Rochambeau subsequently played prominent roles in the early Revolution; Appendix Section C.6 discusses individual cases.

We also find that officers under Rochambeau were more likely to become members of the Society of the Friends of the Constitution, also known as the Jacobin Club. Table A.10 displays figures from the membership list in December 1790 (see Section C.6 for details). Among the 241 officers under Rochambeau, 24 (10%) were members of the Jacobin club. Among the 208 officers under de Grasse, only 9 (4.3%) were Jacobins. A two-sample z-test for equality of proportions rejects the null of equal rates at the 5 percent level ($z = 2.06$, $p = 0.040$, two-sided).

For ordinary soldiers, the surviving evidence is more fragmentary but points in the same direction. Veterans from Rochambeau's regiments participated in the Storming of the Bastille

in July 1789. They were also among the early members of the Paris National Guard, and among a notable local militia of revolutionaries. Appendix Section C.6 reviews these episodes in more detail.

7. Conclusion

Why did some parts of France participate more strongly in the French Revolution? This paper studies whether the experience of French combatants in the American Revolutionary War contributed to regional differences in revolutionary activity. We assemble new data on the origins of French officers and soldiers who served under Rochambeau. We show that regions from which more of these combatants originated subsequently experienced more anti-feudal revolts, early political societies, volunteer companies, and emigration by old elites.

We use two historical comparison groups to identify the effect of Rochambeau's deployment and to rule out the main alternative mechanism. One part of the force selected for Rochambeau's expedition never reached America. Regions with greater exposure to these not-sailed combatants do not show the same increase in revolutionary activity, so the results do not reflect selection into the expedition. We also compare Rochambeau's troops with a second French force under de Grasse, which fought alongside them at Yorktown but spent little time in the United States. This comparison shows that shared combat experience at Yorktown does not explain the results. Only for political societies is there some indication of a channel shared with de Grasse's combatants, possibly later socialization in the Society of the Cincinnati. Taken together, the evidence supports a causal effect of Rochambeau's deployment and points to prolonged exposure to the United States as its source, rather than combat. Our empirical setting does not, however, allow us to isolate which aspect of exposure to the United States was decisive.

Two additional limitations remain. First, we do not observe directly for the large majority of combatants whether they personally participated in revolutionary acts, nor can we trace how their experiences subsequently spread through local communities. The historical record allows us to document systematic differences in officers' political affiliations and a number of individual cases, but not to reconstruct the full social process through which exposure abroad translated into local mobilization at home. Second, our estimates identify regional differences in revolutionary activity, not the aggregate contribution of American veterans relative to the many other forces that shaped the Revolution.

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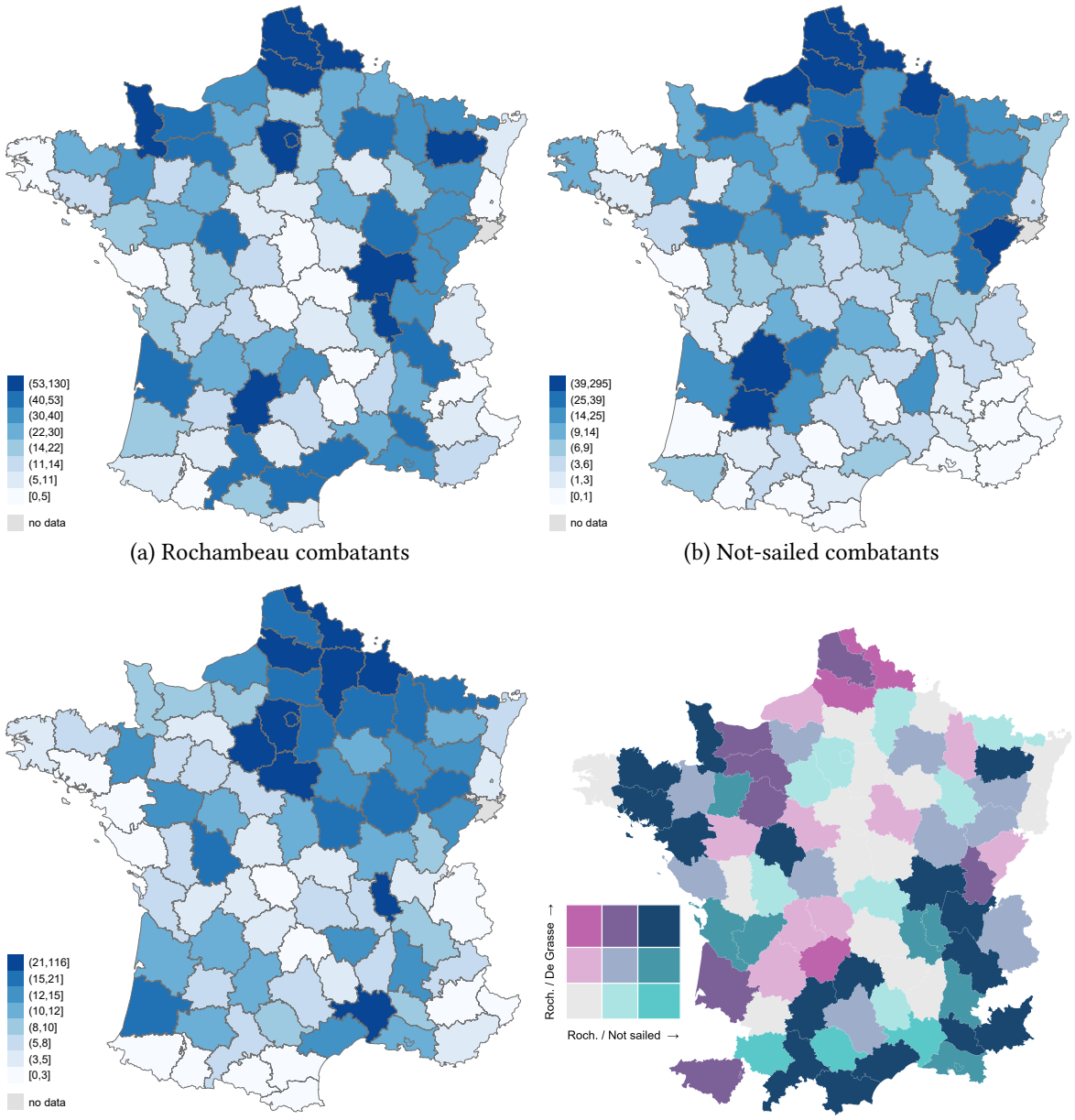
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FIGURES



(a) Rochambeau combatants

(b) Not-sailed combatants

(c) De Grasse combatants

(d) Relative Rochambeau exposure

Figure 1: French Origins of Combatants

Note: The first three maps depict the spatial variation in the origin of Rochambeau's combatants (panel a), not-sailed combatants (panel b), and de Grasse combatants (panel c) across French départements, with darker shading indicates a higher number of combatants born in the département. The fourth map (panel d) depicts variation in relative Rochambeau exposure, classifying département in 3x3 terciles in terms of a high log ratio of Rochambeau to Not-sailed combatants (turquoise) or a high log ratio of Rochambeau to de Grasse combatants (violet) or a high log ratio in both relative exposures (navy blue). Départements with zero combatants are omitted.

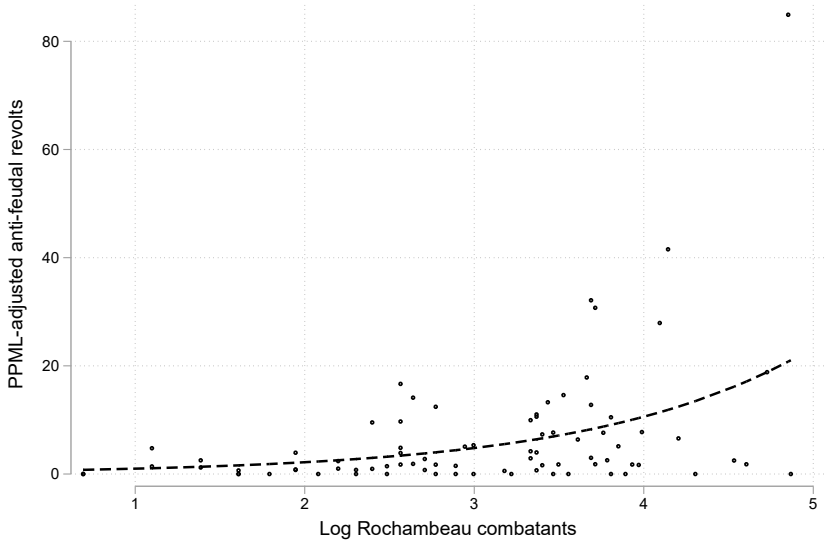
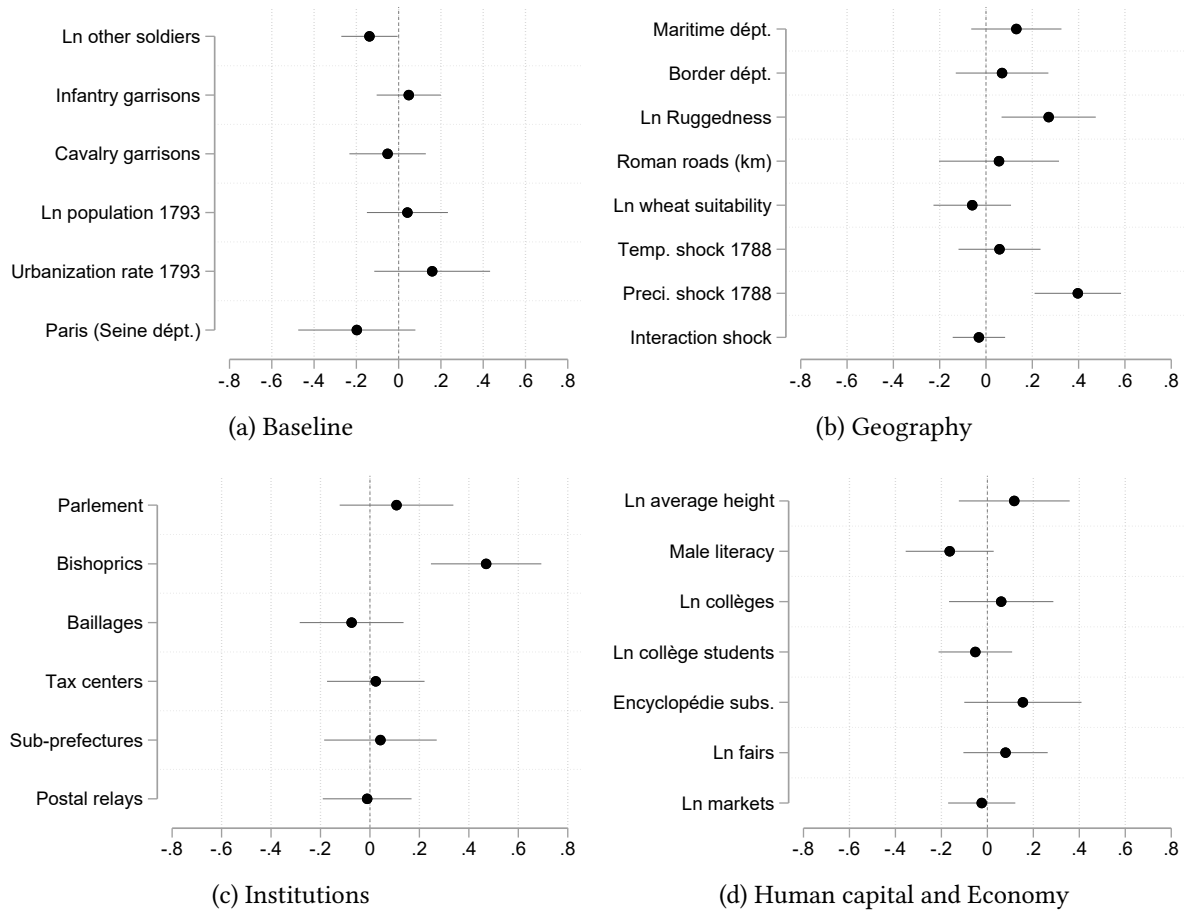


Figure 2: Rochambeau Exposure and Anti-Feudal Revolts

Note: The figure documents a positive and sizable conditional relationship between Rochambeau exposure and anti-feudal revolts. The line is the Poisson (PPML) adjusted prediction for log Rochambeau combatants with baseline controls (log other soldiers, infantry and cavalry garrisons, log population in 1793, the urbanization rate, and an indicator for Paris/département Seine) held at their sample means. Points are observed outcomes rescaled as if each observation's controls were at their sample means.



(a) Baseline (b) Geography

(c) Institutions (d) Human capital and Economy

Figure 3: Covariate Balance of Treatment and Not-Sailed Placebo

Note: The figure examines balance on observables for the relative intensity of exposure to Rochambeau combatants (treatment) versus not-sailed combatants (placebo). Each coefficient comes from a separate regression of a standardized covariate on the standardized log ratio of Rochambeau over not-sailed combatants. The regressions drop six départements where not-sailed combatants are zero. Regressions in panel (a) control for the other baseline covariates; those in panels (b)–(d) control for the full baseline set. Bars show 95% confidence intervals based on robust standard errors. Appendix Section D.3 reports robustness of the main Table 2 to controlling for the full set of covariates.

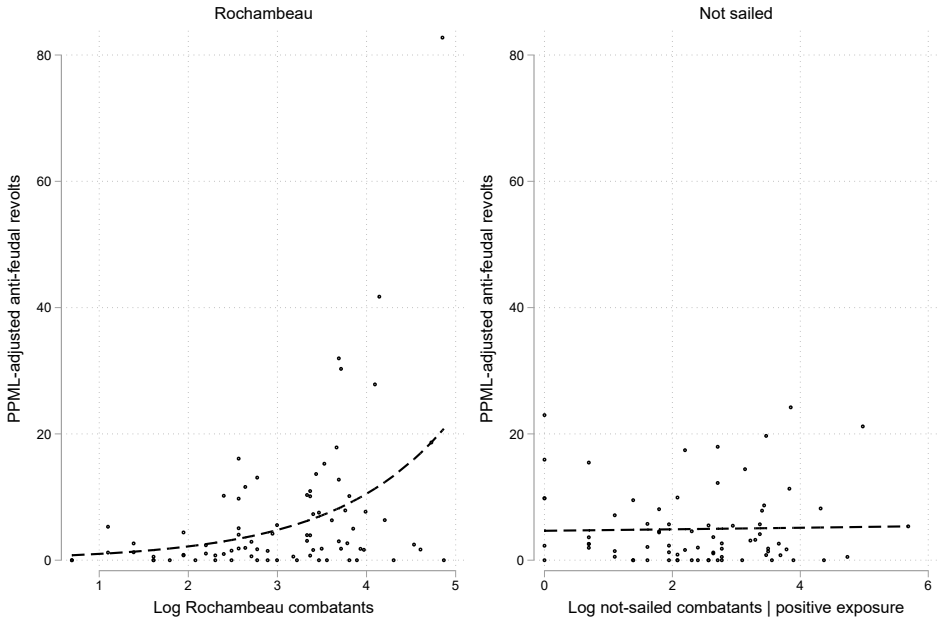
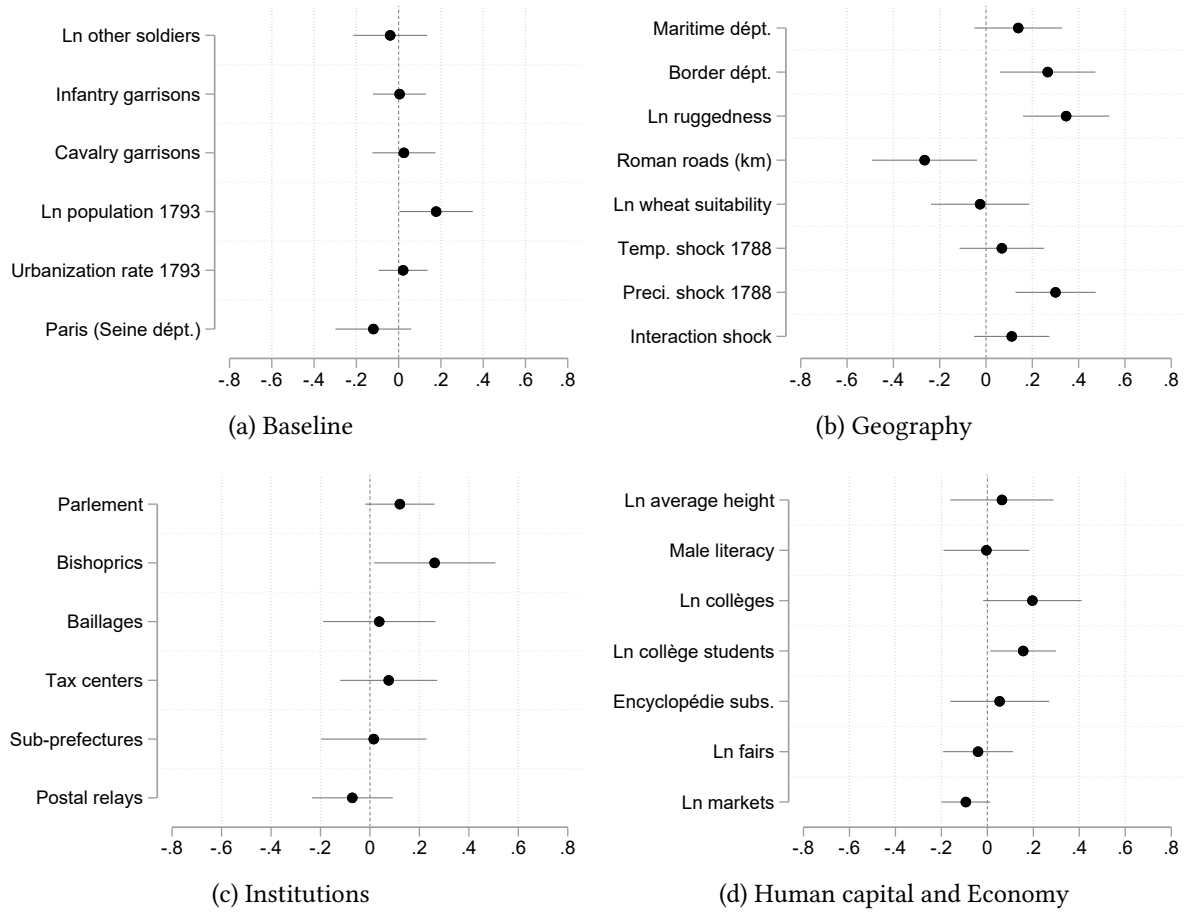


Figure 4: Rochambeau versus Not-Sailed Placebo Exposure and Anti-feudal Revolts

Note: The figure compares the conditional relationship between anti-feudal revolts and Rochambeau exposure (left) with the corresponding relationship for the not-sailed group (right). The lines are the Poisson (PPML) adjusted prediction for log Rochambeau/Not sailed combatants, with baseline controls (log other soldiers, infantry and cavalry garrisons, log population in 1793, the urbanization rate, and an indicator for Paris/département Seine) held at their sample means. Because not-sailed exposure is zero in some départements, the right line shows the relationship among départements with positive exposure. Points are observed outcomes rescaled as if each observation's controls were at their sample means.



(a) Baseline (b) Geography

(c) Institutions (d) Human capital and Economy

Figure 5: Covariate Balance of Treatment and de Grasse Placebo

Note: The figure examines balance on observables for the relative intensity of exposure to Rochambeau combatants (treatment) versus de Grasse combatants (alternative treatment placebo). Each coefficient comes from a separate regression of a standardized covariate on the standardized log ratio of Rochambeau over de Grasse combatants. The regressions drop one département where de Grasse combatants are zero. Regressions in panel (a) control for the other baseline covariates; those in panels (b)–(d) control for the full baseline set. Bars show 95% confidence intervals based on robust standard errors. Appendix Section D.3 reports robustness of the main Table 3 to controlling for the full set of covariates.

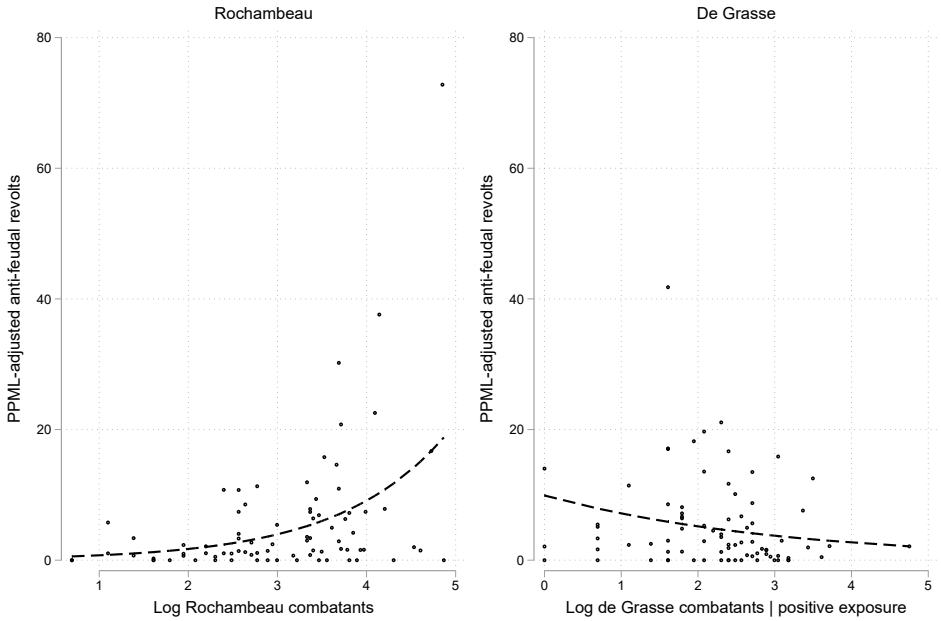


Figure 6: Rochambeau versus de Grasse (Placebo) exposure and Anti-feudal Revolts

Note: The figure compares the effect on anti-feudal revolts of Rochambeau exposure (left) with the corresponding relationship for de Grasse exposure (right). The lines are the Poisson (PPML) adjusted prediction for log Rochambeau/de Grasse combatants, with baseline controls (log other soldiers, infantry and cavalry garrisons, log population in 1793, the urbanization rate, and an indicator for Paris/département Seine) held at their sample means. De Grasse exposure is zero in one département, so the right line shows the relationship among départements with positive exposure. Points are observed outcomes rescaled as if each observation's controls were at their sample means.

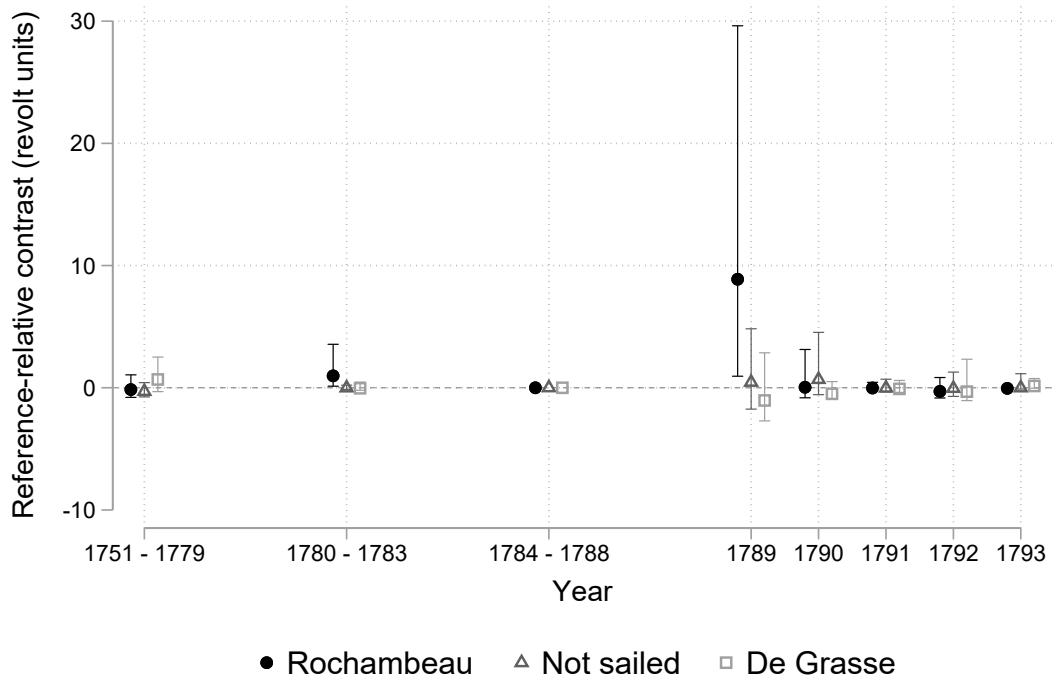


Figure 7: Rochambeau Exposure and Anti-Feudal Revolts over Time

Note: The figure shows how the effect of Rochambeau exposure on anti-feudal revolts varies over time, relative to the reference period 1784–1788. Estimates are PPML coefficients converted into revolts: the change in expected revolts per département associated with a one-standard-deviation increase in exposure, evaluated at the mean number of revolts per département in each period. Early years are pooled into 1751–1779, 1780–1783, and 1784–1788; the years 1789–1793 are shown separately. Estimates for pooled periods refer to the whole period, not to a single year. The specification includes département and period fixed effects and allows the coefficients of Rochambeau, not-sailed, and de Grasse exposure to vary across periods. Bars show 95% confidence intervals.

TABLES

Table 1: Baseline regression results

	Dep. variable: [support for revolution]			
	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigration
Ln Rochambeau combatants	0.791***	0.333**	0.390***	0.170*
	(0.272)	(0.136)	(0.107)	(0.095)
Baseline controls	✓	✓	✓	✓
N (Obs = département)	81	81	81	65
Pseudo R^2	0.21	0.16	0.21	0.41
1 SD Rochambeau increase (%)	112.7	37.4	45.0	18.5

The table shows that revolutionary activity was statistically and economically significantly greater in départements from which more Rochambeau combatants originated. PPML regressions with the outcome variables in levels and Rochambeau combatants in logs. The one-standard-deviation row reports the implied percentage change in the conditional mean from a one-standard-deviation increase in log Rochambeau combatants. All regressions include the baseline controls: log other soldiers, infantry and cavalry garrisons, log population in 1793, the urbanization rate, and an indicator for Paris (département Seine). Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 2: Combatants that did not sail to America (placebo comparison)

	Dep. variable: [support for revolution]			
	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigrants
Ln Rochambeau combatants	0.787***	0.382***	0.401***	0.214**
	(0.291)	(0.136)	(0.112)	(0.097)
Ln not sailed combatants	0.025	−0.197**	−0.071	−0.195***
	(0.161)	(0.094)	(0.082)	(0.064)
Baseline controls	✓	✓	✓	✓
N (Obs = département)	81	81	81	65
Pseudo R^2	0.21	0.18	0.23	0.48
1 SD Rochambeau effect (%)	111.8	43.9	46.6	23.9
1 SD Notsailed effect (%)	3.2	−22.0	−8.5	−22.0
p Rochambeau = Notsailed	0.056	0.001	0.003	0.001

The table shows that Rochambeau exposure remains positively associated with all four measures of revolutionary activity when we account for placebo exposure to the not-sailed group. The placebo coefficients are either negative or imprecisely estimated. PPML regressions with the outcome variables in levels and treatment and placebo exposures in logs. Because not-sailed exposure is zero in six départements, it enters as an indicator for positive exposure (not reported) and log exposure among positive observations. The one-standard-deviation rows report the implied percentage changes in the conditional mean. The row p Rochambeau = Notsailed reports the robust Wald-test *p*-value for equality of the reported coefficients. All regressions include the baseline controls: log other soldiers, infantry and cavalry garrisons, log population in 1793, the urbanization rate, and an indicator for Paris (département Seine). Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Exposure to North America and the combat-experience comparison

	Dep. variable: [support for revolution]			
	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigration
Ln Rochambeau combatants	0.834***	0.359***	0.410***	0.193**
	(0.279)	(0.138)	(0.113)	(0.097)
Ln not sailed combatants	0.088	−0.224**	−0.054	−0.233***
	(0.166)	(0.105)	(0.090)	(0.068)
Ln de Grasse combatants	−0.324	0.137	−0.063	0.086
	(0.197)	(0.120)	(0.094)	(0.100)
Baseline controls	✓	✓	✓	✓
N (Obs = département)	80	81	81	65
Pseudo R^2	0.23	0.19	0.24	0.51
1 SD Rochambeau effect (%)	121.6	40.8	47.9	21.3
1 SD Notsailed effect (%)	11.8	−24.6	−6.6	−25.7
1 SD de Grasse effect (%)	−24.8	12.8	−5.4	8.1
p Rochambeau = Notsailed	0.053	0.001	0.004	0.000
p Rochambeau = de Grasse	0.001	0.242	0.002	0.369
p Roch.–Notsailed = de Grasse	0.009	0.017	0.002	0.006

The table shows that the Yorktown experience shared with de Grasse's combatants does not explain the Rochambeau results. Rochambeau exposure remains positively associated with all four measures of revolutionary activity, whereas de Grasse exposure is not significantly associated with any of them.

PPML regressions with the outcome variables in levels and treatment and placebo exposures in logs. Because not-sailed exposure is zero in six départements, and de Grasse exposure zero in one département, each enters as an indicator for positive exposure (not reported) and log exposure among positive observations. The one-standard-deviation rows report the implied percentage changes in the conditional mean. The rows p Rochambeau = Notsailed / de Grasse report robust Wald-test *p*-values for equality of the reported coefficients; the row p Roch.–Notsailed = de Grasse tests whether the Rochambeau coefficient net of the not-sailed coefficient equals the de Grasse coefficient ($\beta_1 - \beta_2 = \beta_3$). All regressions include the baseline controls: log other soldiers, infantry and cavalry garrisons, log population in 1793, the urbanization rate, and an indicator for Paris (département Seine). Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Other revolt types and support for violence

	Other revolt types		Support for Terror		
	(1)	(2)	(3)	(4)	(5)
	Food riots	Great Fear panics	Voting for King's death	Death sentences	Societies during Year II
Ln Rochambeau combatants	0.165	−0.085	0.052	−0.463	0.085
	(0.193)	(0.093)	(0.077)	(0.332)	(0.139)
Placebo combatants	✓	✓	✓	✓	✓
Baseline controls	✓	✓	✓	✓	✓
N (Obs = dépt.)	80	81	81	81	81
pseudo R^2 / R^2	0.48	0.06	0.08	0.66	0.14
1 SD Roch. effect (%)	17.009	−7.755		−35.681	8.498
Std. β (Rochambeau)			0.110		

The table shows that Rochambeau exposure is not positively associated with other forms of unrest in 1789 or with measures of revolutionary violence during the Terror. The estimates are small or imprecise for food riots, Great Fear panics, the vote on the king's execution, and societies founded during Year II; the coefficient for death sentences is negative.

Food riots capture subsistence conflicts, while Panics refer to episodes of unrest during the Great Fear. Voting for King's death measures the département's net vote for execution in the National Convention, normalized by the number of deputies. Death sentences is the number of death sentences handed out between 1792 and 1794, and Societies in Year II is the number of political societies founded between September 1793 and August 1794. Count outcomes are estimated by PPML, while the vote share outcome is estimated by OLS. All regressions include the baseline controls: log other soldiers, infantry and cavalry garrisons, log population in 1793, the urbanization rate, and an indicator for Paris (département Seine). Robust standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: Disaggregated spatial units and spillovers

	Dep. var.: [support for revolution]					
	Anti-feudal revolts		Political societies		Volunteer companies	
	(1)	(2)	(3)	(4)	(5)	(6)
Ln Rochambeau combatants	0.463*	0.320	0.105	0.044	0.234***	0.158**
	(0.268)	(0.287)	(0.071)	(0.074)	(0.061)	(0.064)
	[0.279]	[0.285]	[0.075]	[0.082]	[0.068]	[0.062]
Ln neighbors' Roch. combatants		0.498***		0.295**		0.305***
		(0.181)		(0.114)		(0.081)
		[0.187]		[0.123]		[0.092]
Placebo controls	✓	✓	✓	✓	✓	✓
Baseline controls	✓	✓	✓	✓	✓	✓
N (Obs = arrondissement)	339	335	340	337	339	338
Pseudo R^2	0.16	0.17	0.09	0.10	0.17	0.19
1 SD Rochambeau effect (%)	58.7	37.4	11.2	4.5	26.2	17.1
1 SD Roch.—neighbor effect (%)		50.3		27.4		28.6

The table examines the effect of Rochambeau exposure on revolutionary activity at the arrondissement level. PPML regressions, with the outcome variables in levels and treatment and placebo exposures in logs. Because the treatment and placebo exposures are zero for several arrondissements, each enters as an indicator for positive exposure and log exposure among positive observations, except for neighbor's Rochambeau combatants which is positive everywhere. All regressions include arrondissement-level baseline controls (ln other soldiers if soldiers nonzero, soldiers nonzero indicator, infantry and cavalry garrisons, log population in 1793, the urbanization rate, and an indicator for Paris, département Seine). The number of observations differ because of separated observations. Heteroskedasticity-robust standard errors are in parentheses; spatial-HAC standard errors with a 200 km bandwidth are in square brackets, computed as in Table A.19 but using great-circle distances between arrondissement centroids. Stars refer to the robust standard errors. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Online Appendix

The American Contribution to the French Revolution

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A. Data Appendix

A.1. Overview and Summary Statistics

Table A.1 provides an overview on the variables employed in this paper. Besides a short definition, it also lists the sources if the variable is taken from the literature. Table A.2 presents summary statistics.

Table A.1: Variable definitions

Variable	Definition	Source
	Primary outcomes	
Anti-feudal revolts	Attacks on the feudal institution of lordship (*seigneurie*), including the lord's person, property, and rights	Chambru and Maneuvrier-Hervieu (2024)
Political societies	Voluntary associations of citizens formed during 1789–90 for political participation	see text
Volunteer companies	Number of National Volunteer companies raised by the end of 1791	see text
Elite emigrants	Emigrants from clergy, nobility, and upper-middle class	see text
	Alternative outcomes	
Food riots	Riots over the availability or the price of food	Chambru and Maneuvrier-Hervieu (2024)
Panics	Riots oriented to an imaginary enemy	see text
Societies in Year II	Number of political societies established during the Terror, Sept 1793–August 1794	see text
Voting for King's death	Voting of deputies to National Convention for or against punishing the former king, Jan 1793	see text
Death sentences	Number of death sentences carried out during 1792–94	see text
	Independent variables	
Rochambeau combatants	Infantry officers & soldiers participating in *special expedition* under General Rochambeau: Stationed in U.S. during 1780–82, fighting in Siege of Yorktown	see text
Not sailed combatants	Infantry officers & soldiers chosen for *special expedition* by General Rochambeau but staying behind due to logistics	see text

de Grasse combatants	Infantry officers & soldiers under Admiral de Grasse: Fighting in Siege of Yorktown, stationed in French Caribbean colonies	see text
Rochambeau officers	Commissioned officers (thus, noble and wealthy) of infantry regiments participating in *special expedition* under General Rochambeau	see text
Rochambeau soldiers	Enlisted rankers and non-commissioned officers of infantry regiments participating in *Special Expedition* under General Rochambeau	see text
	Baseline controls	
Other soldiers	Soldiers enlisting for infantry during 1714–1784	Komlos et al. (2003)
Population 1793	Total inhabitants in 1793	see text
Infantry garrison	Number of infantry regiment garrisoned	see text
Cavalry garrison	Number of cavalry battalion garrisoned	see text
Urbanization rate	Share of population living in towns $\geqslant$5000 in 1793	see text
Paris	Indicator for Paris/département Seine	see text
	Geography	
Maritime dépt	Indicator for department located at Atlantic ocean or Mediterranean Sea	see text
Border dépt.	Indicator for department bordering a foreign country (Belgium, Germany, Switzerland, Italy, Spain)	see text
Ruggedness	Mean Terrain Ruggedness Index within department	see text
Roman roads length	Total length of roman roads	see text
Wheat suitability	Caloric yield of low-input, rain-fed wheat agriculture	see text
Temperature shock 1788	Temperature deviation in 1788 from mean 1750–1800	Waldinger (2023)
Precipitation shock 1788	Precipitation deviation in 1788 from mean 1750–1800	Waldinger (2023)
	Political economy	
Parlement	Seat of a provincial appellate court	see text
Bishops	Seats of bishops and dioceses: church jurisdictions	see text
Bailliages	Seats of bailliages: feudal jurisdictions and election districts	see text
Tax centers	Seats of (royal) tax collectors (*recettes des finances*)	see text
Sub-delegates	Seats of administrators below the *intendant*: (mainly) public order jurisdictions	see text
Postal relays	Number of postal relays per department	see text
	Human capital	
Average height of soldiers	Average height in cm of enlisted soldiers 1714–84	Komlos et al. (2003)
Male literacy rate	Share of men signing marriage certificates in 1786	Squicciarini and Vogtländer (2015)
Collèges	Public, endowed secondary schools	Rosenberger (2023)
Collège students	Students at public, endowed secondary schools	Rosenberger (2023)
Encyclopédie subs.	Subscribers to *Encyclopédie* by Diderot and d'Alembert	Squicciarini and Vogtländer (2015)
	Economy	
Markets and fairs	Number of markets and fairs per department	see text

Table A.2: Summary statistics

	Obs	Mean	S.D.	Min	Max
Anti-feudal revolts	81	6.28	10.17	0.0	66.0
Early political societies	81	3.65	3.23	0.0	14.0
Volunteer companies (Dumont, 1914)	81	16.84	12.82	0.0	56.0
Elite emigration	65	700.85	516.64	91.0	2889.0
Rochambeau combatants	81	30.38	27.39	2.0	130.0
Not sailed combatants	81	21.64	39.15	0.0	295.0
De Grasse combatants	81	13.05	14.35	0.0	116.0
Rochambeau officers	81	1.28	1.66	0.0	9.0
Rochambeau soldiers	81	28.62	26.65	2.0	127.0
Soldiers in Komlos sample	81	279.32	337.44	8.0	1978.0
Infantry garrisons	81	1.20	2.37	0.0	16.0
Cavalry garrisons	81	0.63	1.22	0.0	6.0
Population 1793 (thousand)	81	316.23	121.52	101.7	721.6
Urbanization rate 1793	81	0.15	0.14	0.0	0.9
$\mathbb{1}$: Paris (dept Seine)	81	0.01	0.11	0.0	1.0
$\mathbb{1}$: Maritime dépt.	81	0.27	0.45	0.0	1.0
$\mathbb{1}$: Border dépt.	81	0.20	0.40	0.0	1.0
Terrain Ruggedness Index	81	0.97	1.00	0.1	5.6
Roman roads length (thousand km)	81	318.00	135.44	0.0	783.6
Wheat suitability (caloric yield)	81	8438.07	713.12	4493.9	9459.7
Temperature shock 1788	81	1.05	0.01	1.0	1.1
Precipitation shock 1788	81	0.89	0.08	0.8	1.0
$\mathbb{1}$: *Parlement*	81	0.16	0.37	0.0	1.0
Bishoprics	81	1.58	1.20	0.0	5.0
Bailliages	81	5.09	3.34	0.0	16.0
Tax centers	81	3.96	2.86	0.0	20.0
Sub-delegates	81	8.16	4.43	0.0	24.0
Postal Relays	81	16.62	10.73	0.0	49.0
Soldiers average height	81	169.18	0.92	166.3	172.6
Male literacy rate	78	0.40	0.26	0.0	0.9
Collèges	81	6.58	3.70	2.0	21.0
Collège students	81	852.68	744.52	15.0	5000.0
Subscriber density	81	2.15	3.05	0.0	15.2
Fairs	81	197.42	143.70	6.0	731.0
Markets	81	36.59	14.56	2.0	80.0

Observations: Départements. Sample as in baseline results: France proper of 1789 (mainland, non-German speaking).

A.2. Documentation and sources

A.2.1. Independent variables

American combatants Among American combatants, we distinguish two treatment groups. The main treatment group *Rochambeau's combatants* were exposed to U.S. institutions for an extended period. We collect individual-level data for the infantry regiments Bourbonnais, Saintonge, and Soissonnais from the sources described in the main text. 3,618 Rochambeau-group records contain a birthplace name. We identify that birthplace in a comprehensive dataset of all French communes and towns in 1793. This data set includes approximately 35k communes, reports population data starting in 1793, and also includes latitude and longitude.[1] We then aggregate numbers to the department level, using department boundaries circa 1794 from Chambru (2020). A small number of records appear twice with identical identifying information. To avoid possible double-counting, we count each such pair as one person.[2] In total, we can link 3,009 (83%) combatants to the municipality of birth.

The alternative treatment group *de Grasse's combatants* also participated in the Siege of Yorktown but were not stationed in the U.S. Here, we collect individual-level data for the infantry regiments Agenois, Gâtinais (Royal-Auvergne), and Touraine from the same sources.[3] We obtain 2,390 individuals with a birthplace name and, using the same procedure, link 2,034 (85%) combatants to the municipality of birth. Based on recorded deaths, 3,063 of the 3,618 Rochambeau-group combatants with a birthplace name (85%) are classified as returned, as are 1,286 of the 2,390 de Grasse combatants (54%).[4]

Incomplete matching of soldiers to places of origin should primarily introduce measurement error. It would be more concerning if match rates differed systematically across groups, but they are broadly similar.

Not-sailed combatants As a control group, we collect individual-level data from the infantry regiment *Neustrie* from the military archive.[5] In particular, we transcribe the handwritten entries for all the soldiers, their origin, and rank from the relevant pages 4 to 265, in total 2343 soldiers from the regiment book 1776 to 1786. We observe information on the place of origin for 2310 soldiers, with 2274 originating in France. We proceed similarly to before to assign the soldiers to their department of origin but use, in addition to the birthplace, information on the military district (36 in total) for geolocation. In total, we identify

[1] The data is part of the Cassini project, *Des villages de Cassini aux communes d'aujourd'hui* (LaDéHiS, CRH, EHESS), available online http://cassini.ehess.fr/fr/html/index.htm. The commune file is distributed by Geohistoricaldata.org (*BDCassini, Populations communes*, version of October 11, 2017). We use a geo-localized version of this file that Guillaume Blanc shared with us (personal communication; see Blanc forthcoming). This dataset also underlies internet platforms that offer historical geo-localization services like geonames.org.

[2] The FranceGenWeb transcriptions contain 39 such pairs, 22 in the Rochambeau group and 17 in the de Grasse group. One pair is a double transcription of a single printed entry. The other 38 pairs also appear twice in the printed source, and the available evidence does not establish whether they refer to one person or two. Counting each of these pairs as two people instead leaves the results virtually unchanged.

[3] For Agenois, identifiable birthplaces are available for a limited set of officers and rank-and-file combatants; the other two regiments have broad coverage of both groups.

[4] The difference is largely driven by tropical fever and a naval battle at Cap Français with about 400 deaths on the way back to the Caribbean garrison.

[5] The regimental books are digitally accessible online at www.memoiredeshommes.sga.defense.gouv.fr

the department of origin for 1783 (78%) French individuals and the town of origin for 1606 (71%) individuals. We count all of these soldiers as not-sailed combatants, including those who joined the regiment after 1780 or had left it before, in order to better capture where the regiment recruited. Note that in the original sources the spelling of birthplaces is not standardized and sometimes phonetic. Thus, even if the transcriptions were perfect, we would not expect to be able to identify all birthplaces perfectly.[6]

Some members of the not-sailed units may subsequently have travelled to America on individual terms. Such cases do not affect our assignment-based interpretation, since treatment is defined by whether the regiment was selected to sail with Rochambeau's expedition.

Officers vs soldiers We collect and digitize data on ranks to distinguish between officers and soldiers. The key dividing line between officers and soldiers was between *commissioned* officers and everyone else. While it is possible in modern armies to rise from non-commissioned to commissioned officer, this was virtually impossible in the army of the monarchy. Specifically, commissioned officers had to (i) have old nobility status, excluding families who were only recently ennobled as *officers of the robe*; and (ii) purchase the position at a substantial fee, excluding families of old nobility who were impoverished. Commissioned officers included primarily the ranks colonel, major, captain, lieutenant, and sub-lieutenant. We exclude a few so-called *officers of fortune*, which were an exception as they were selected from rankers based on merit (Wrong, 1976).[7] Soldiers include all types of enlisted personnel—chiefly soldiers, fusiliers, grenadiers, corporals, and drummers. Following the dividing line by social class, we also count non-commissioned officers (chiefly sergeants) as soldiers because they were recruited from them. In total, we observe 241 commissioned officers among Rochambeau combatants and 208 commissioned officers among de Grasse combatants.

Coverage of additional military units. Rochambeau's expedition included three further military units. We did not include these in order to get a clean experimental setting, since we do not have comparable placebo groups. First, the expedition included the German foreign-legion regiment *Deux-Ponts* (Zweibrücken). Rochambeau did select another German foreign legion *Anhalt/Salm-Salm*, which was left behind due to logistics and never reached America, but there was no comparable German foreign legion among de Grasse's troops. Moreover, we note that based on the available evidence (this regiment is partly covered by our sources), only a small fraction of combatants—three persons among those whose birthplaces we can identify—originated from the Kingdom or France. Second, the expedition included Lauzun's Legion, a non-regular light-cavalry unit, whose commander successfully lobbied for its inclusion in the expedition. This creates a direct concern about selection into treatment; also, there were no cavalry units among the not-sailed and de Grasse groups. Third, the expedition included the *Auxonne* artillery regiment, whose first battalion sailed with Rochambeau and the second stayed behind. However, this second battalion did later sail to America to reinforce Rochambeau's army, again creating concerns about selection into treatment; moreover, there

[6] A key difficulty is the absence of common spelling rules in the presence of homonym town names and towns with many homonyms. For example, the town Meaux, Seine-et-Marne, is a homonym to "mots", in English "word," and is written in this homonym form by some (but not all) military clerks.

[7] These included the ranks quarter-master treasurer, standard bearer, and lieutenants of the grenadier company—thus, at most four officers per regiment could have been commoners.

were no artillery units among de Grasse's group.

A.2.2. Outcomes

Revolts Following Markoff (1996), we distinguish between three types of revolts—anti-feudal revolts, food riots, and panics—which were the three most widespread forms of revolts during the period 1788–92. Anti-feudal revolts were attacks on the feudal institution of lordship (*seigneurie*), including the lord's person, property, rights, or symbols. Importantly, these revolts *did not* target royal institutions, which also belonged to the feudal system. Food riots were revolts over the availability or the price of food, which was scarce because of the bad harvest of 1788 (see also Waldinger, 2023). Panics were riots during the so-called "Great Fear" in which collective action was oriented to an imaginary enemy.[8]

The data on anti-feudal revolts and food riots comes from the Historical Social Conflict Database (Chambru and Maneuvrier-Hervieu 2024, 2023, database categories 5 and 1, respectively).[9] Panics during Great Fear we digitized from the map provided by Lefebvre (1932). Figure A.2 documents the time pattern of revolts by type. Anti-feudal revolts were mostly concentrated in the revolution years 1789 (the "first revolution") to 1792 (the "second revolution"), whereas food riots started in 1788 and extended into 1793 and Panics occurred almost exclusively in 1789.

Political Societies Political Societies enabled local political participation and supported the local implementation of new policies. Initially, the political societies were organized from the bottom up, the most famous being the Jacobin club of Paris created under the name *Society of the Friends of the Constitution*. After the establishment of democracy in 1792 but especially in Year II (September 1793–August 1794), a period which became known as Terror, the creation of political societies was bolstered by the government as the main means by which it ruled. During the Thermidorian reaction, the period between the ousting of Robespierre in July 1794 and the Directorate government of 1795, the political societies were suppressed.

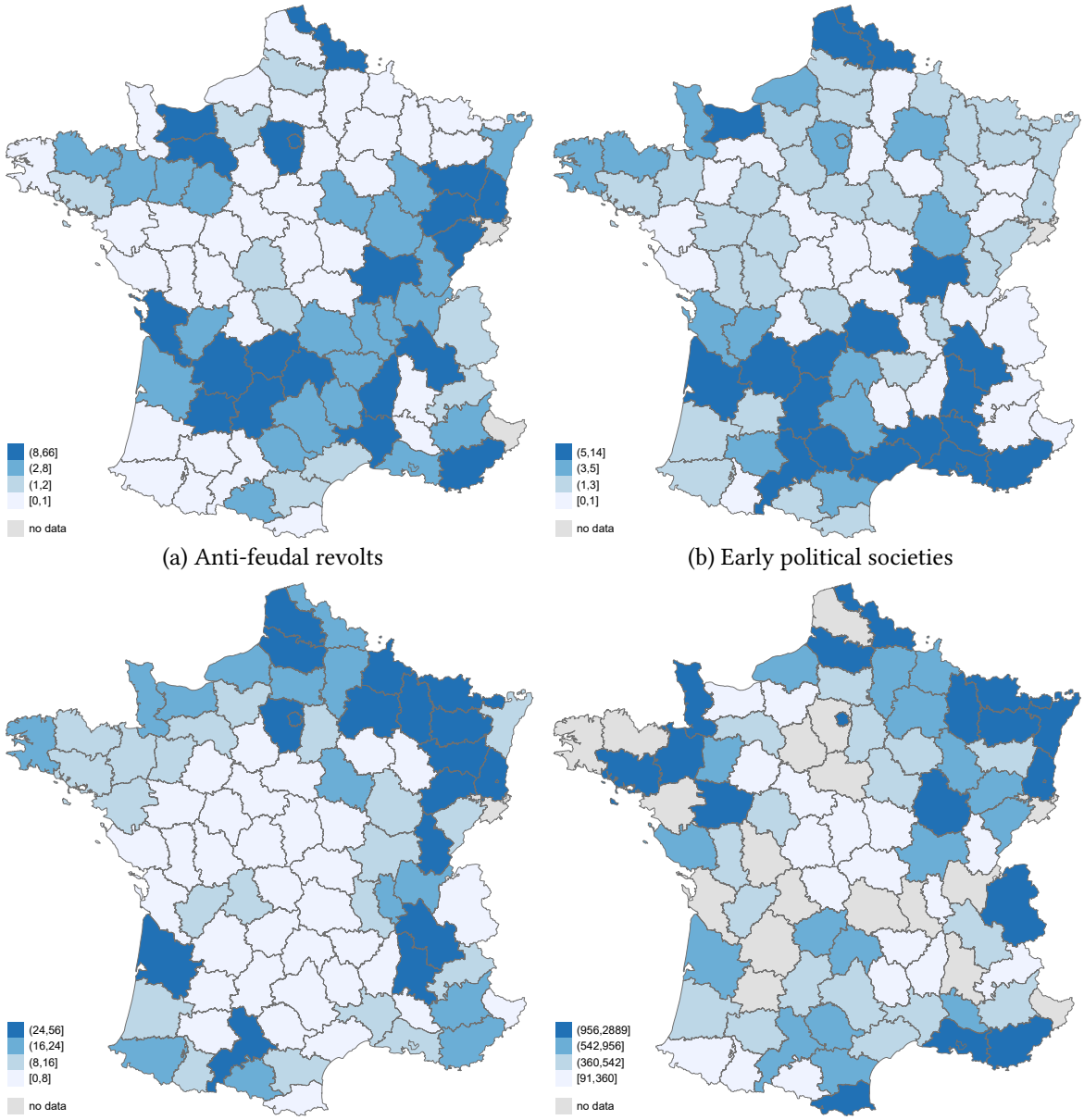
The data on political societies was compiled by a large group of historians from departement and national archives and secondary sources for the Atlas of the French Revolution (Boutier, Boutry, and Bonin, 1992). We digitized town-level data on the year in which the first political society was founded or its existence attested. Towns could have more than one society but we do not observe the number of political societies by town by year.[10]

Data at the department level on the total number of political societies over 1789–1794 shows that there were 6027 societies in total in 5510 towns and communes. Figure A.3 documents the time pattern of the establishment of political societies. One can discern two waves, which

[8] Imaginary enemies included vagabonds who would steal the harvest from the fields; an invading force of foreigners such as Savoyards, Germans, or English; and aristocrats who were conspiring to violently crush the third estate (see also Lefebvre, 1932).

[9] We use version 1 of the database. For revolts of this type during the revolution 1789–1794, this database primarily relies on Ado (1996).

[10] Boutier and Boutry, the lead authors for the political societies project, never published the data documentation that was announced in the Atlas of the French Revolution as *Les sociétés populaires. Sources. Bibliographie* (Boutier et al., 1992, 114). The book would also have provided a catalog of society registers and membership lists, which may have made it feasible for us to collect systematic data on the intensive margin—how many societies, how many members, per town and by year, etc.



(a) Anti-feudal revolts

(b) Early political societies

(c) National Volunteer companies

(d) Elite emigration

Figure A.1: Support for the Revolution across départements

Note: The maps depict the spatial variation in the four measures of support for the French Revolution across départements. For variable construction and sources, see text.

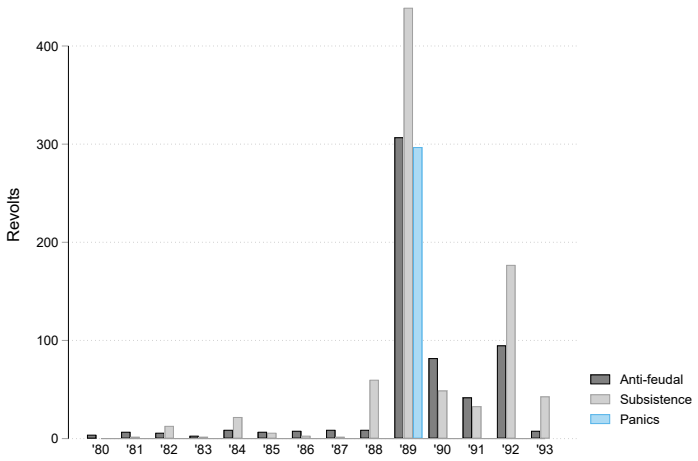


Figure A.2: Incidence of revolts 1780–1794 by type

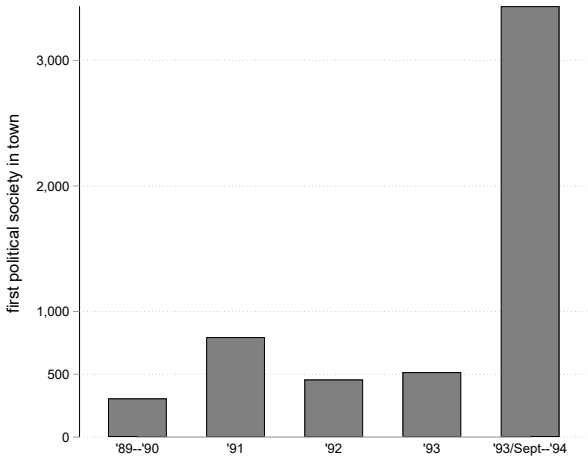


Figure A.3: First establishment of political societies in towns over time

approximately correspond to whether societies were established bottom-up (the first wave) or top-down (the second wave). In the first long year of the revolution 1789–90, citizens established at least one political society in 307 towns based on local initiative. These early societies were particularly important, as they provided blueprint and inspiration for the establishment of many more societies in the years 1791 and 1792. Until September 1793, citizens established at least one society in another 1771 towns. In the period of republican year II–III (September 21, 1793–1794), another 3432 towns and communes established a society under the direction of the Paris government and the Jacobin society.

National Volunteers The "National Volunteers" were first raised in 1791 to mobilize men from the National Guards, which had formed from below during the early stages of the Revolution. The first National Guards emerged in Paris on July 13–14, 1789, in connection with the storming of the Bastille. A series of laws in 1791 and 1792 subsequently regulated the formation of National Volunteer units. For example, a law of 1791 required each département

to form at least one battalion. The battalions were organized similarly to the regular army, with the important difference that higher officer ranks were open to commoners rather than reserved for the nobility. Importantly for our purposes, service in the National Volunteer units was voluntary throughout 1791 and 1792. Compulsory recruitment began only on February 24, 1793, when the National Convention decreed the recruitment of 300,000 men from across France.

We collect two measures of this voluntary mobilization. Our main outcome is the number of National Volunteer companies raised by the end of 1791, which we digitize at the municipality level from Dumont (1914). We aggregate these data to both départements and arrondissements, allowing us to use the same outcome in the baseline and more disaggregated analyses. The timing is also useful for our purposes. Mobilization in 1791 captures willingness to take up arms for the Revolution before the outbreak of war in April 1792 and the subsequent intensification of external military pressure and revolutionary conflict. It therefore provides an earlier measure of voluntary support for defending the new political order.

We additionally digitize département-level data from Bertaud et al. (1989) on the number of National Volunteer battalions formed by the end of 1792.[11] This later measure captures a broader wave of voluntary military mobilization and provides an alternative measure of the same underlying phenomenon. By January 1793, before the introduction of compulsory recruitment, 457 National Volunteer battalions had been formed. At a regular strength of ten companies of approximately 60 men per battalion, about 100,000 men are estimated to have enlisted in 1791 and another 180,000 in 1792 (Bertaud et al., 1989, 16–17). These were large numbers: together, the volunteers amounted to about one percent of the French population and roughly twice the size of the regular French army, which continued to exist alongside them.

Emigrants Emigrants were essentially composed of two groups of people: Members of the old regime's elite who were opposed to the republic, and citizens who were fleeing from the war zone in border regions and in regions of civil war (Greer, 1951). We are primarily interested in emigration from the old regime's elite. Members of the old elite started to leave the country as early as July 1789 after the storm of the Bastille (Boffa, 1989). The emigration of the old elite accelerated in the summer of 1791 after the failed flight of King Louis XVI, an episode known as "Varennes."[12] The elite emigration peaked in 1792 as a result of the increasing revolutionary violence and due to the exiling of the non-constitutional clergy.[13] Independent of why they emigrated, emigrants became known as *émigrés* and were politically persecuted during the Terror. Most importantly, their property was expropriated by the government.

We digitize department-level data from Greer (1951) on the total number of emigrants (79 départements in our sample) and the number of emigrants by socio-economic status (63 départements in our sample). We classify "elite emigrants" as those who belonged to the

[11] The battalion data are based on a table from the *Archives parlementaires*, 24 February 1793, pp. 145–146, reprinted by Bertaud et al. (1989, 73–74).

[12] Louis was stopped in Varennes, shortly before the Belgian border, and brought back to Paris where he was subsequently placed under house arrest (Ouzuf, 1989).

[13] The clergy was required in 1791 to take an oath on the new secular constitution. Those who refused to take the oath became known as *refractory clergy* (Tackett, 1986; Squicciarini, 2020; Blanc, forthcoming).

clergy, the nobility, and the upper-middle class (bourgeoisie and professions). Accordingly, non-elite emigrants are from the lower-middle class, working class, and peasantry. Greer (1951) estimates that, in total, 130,000 people fled the country during 1789–1794. Of those, approximately 27% belonged to the clergy, 18% to the nobility, 12% to the upper-middle class, 7% to the lower-middle class, 15% to the working class, and 21% to the peasantry.

Support for Violence We collected data on three proxies measuring support for violence during the period of Terror. Voting for King's death is the difference in the number of National Convention deputies voting for or against the question whether the King must be punished by death in January 1793.[14] Death sentences is the total number of death sentences handed out during the period of "Terror" as compiled by Greer (1935). The number of political societies established during Year II (September 1793 to August 1794), a time when the establishment clearly signaled support for the regime, is from Boutier et al. (1992).

A.2.3. Baseline controls

The set of baseline controls captures factors that potentially affect both military recruitment in general as well as revolutionary outcomes.

Total recruits The measure of general military recruitment in the French army is based on data transcribed from the regiment books by Komlos et al. (2003), distributed by ICPSR (Komlos, 2006). The sample comprises about 38,700 soldiers registered in regiment books between 1716–1784, with a bias to the earlier period—three-quarters of soldiers are from the period before 1750. For about 22,000 soldiers, we identify the town of birth (57%), and for about 23,100 soldiers the department of birth (60%). Note that Komlos et al. (2003) have not corrected transcription errors or standardized the spelling, which also affected the geo-localization rate of our transcriptions.

Garrisons We control for the number of infantry regiments and of cavalry battalions garrisoned in a region. The variables likely affected military recruitment since many regiments recruited soldiers locally. Moreover, the army was sometimes used internally as "riot police". From about 1740–50 to 1788, regiments were rotated across garrisons about every three years. We collected data on 107 garrisons for infantry regiments and 59 garrisons for cavalry regiments from Bertaud et al. (1989, 12).

Population, urbanization Data on population in 1793 was obtained from the Cassini project.This data set covers the universe of French communes, over 35k in total. We calculate urbanization rates as a department's share of population living in towns larger than five thousand inhabitants.

A.2.4. Geography

Maritime, border département are indicators for whether a département is located at the Atlantic or Mediterranean seas and for whether a département is at the international border.

[14] *Liste des députés de la Convention nationale, par ordre de département, qui ont voté dans les trois appels nominaux sur le jugement de Louis Capet, leur opinion sur chaque question et leurs réflexions. Décret de la convention nationale, qui condamne Louis Capet à être puni de mort.* Reprinted at the Imprimé de Paris, 1816.

Ruggedness is calculated as the mean of the Terrain Ruggedness Index in each department based on data from Nunn and Puga (2012).

Roman roads length is the total length (in meters) of roman roads within department borders and is based on data from McCormick, Huang, Zambotti, and Lavash (2013).

Wheat suitability is computed as the median within the department borders based on data on caloric yield of low-input, rain-fed wheat agriculture. Source: Galor and Özak (2015, 2016).

Shock in 1788 Waldinger (2023) argues that a weather shock caused drought in summer 1788 which led to widespread harvest failures, increase in food prices and local famine, and an increase in unemployment among agricultural workers. Note that other historians have stated that the harvest of summer 1788 was also negatively affected by hailstorms. This weather shock would have contributed to demands for political change as well as revolutionary violence. We follow Waldinger (2023) in measuring the regional impact of the harvest shock in 1788 using the temperature and precipitation shock. The shocks are the deviation of temperature and precipitation, respectively, in the growing season (spring and summer) of 1788 from their long-run mean during 1750–1800. The variables are computed based on data from Pauling, Luterbacher, Casty, and Wanner (2006) for precipitation and Luterbacher, Dietrich, Xoplaki, Grosjean, and Wanner (2004) for temperature.

A.2.5. Political economy

We digitize all data on political economy variables at the department level from Nordman, Ozouf-Marignier, Gimeno, and Laclau (1989, 81). The variable descriptions are also based on this source.

Parlement *Parlements* were provincial appellate courts that played an important political role in the Kingdom of France.[15] All judges of the *parlements* were members of the nobility. Besides their role as courts, they also had to sign all royal laws before they could go into effect, including laws concerning taxation. By refusing to sign, they could substantially slow down and obstruct the king's ability to govern without consent. While they did not have veto power over royal laws—the king could summon them and then overturn their decision—, ignoring the *parlements* came at the risk of precipitating a larger political crisis. In total, there were 13 *parlements* across the country, but the Parlement of Paris was by far the most influential.

Bishops Bishops were the local heads of the church and were mostly recruited from the nobility. Bishop's seats were also administrative and fiscal centers, as the church received income from the tithe. It is estimated that, on the eve of the Revolution, the church received more income from the tithe than the state raised through all taxes combined. Moreover, the church was completely exempt from royal taxation and only gave voluntary contributions to the secular government. Besides the spiritual services, the church was also supposed to provide poor relief and education. In total, we observe 136 old bishop's seats.

[15]The modern term *parliament*, which usually signifies a body of elected legislators, derives its name from the older French institution of *parlement*.

Bailliages Bailliages were old feudal jurisdictions (corresponding to the English *bailiwick*) and concerned with all matters seigneurial. In some parts of the country, they were referred to as *sénechaussée*. Besides their importance for seigneurial matters, bailliages were also election districts for the *Estates General* and thus directly important for the early stages of the French Revolution: In the towns with seat of a bailliage, the *cahiers de doléances* were drawn up and the deputies elected that were subsequently sent to Versailles. In total, we observe 432 bailliages.

Tax centers The French kingdom regularly used sub-contractors to collect its taxes by auctioning off the right to collect a certain tax in a certain region to so-called "general tax-farmers." They, in turn, subcontracted local tax collectors, which could be individuals or institutions. Our measure "tax centers"—*recettes des finances* in French—is the total number of these royal tax sub-contractors per department. In total, we observe 344 tax centers.

Sub-delegates The main royal administrative divisions were the *généralités*. Created in 1625 and given full authority by Louis XIV (36 in total), they were headed by so-called intendants who exercised royal authority to uphold public order, working with sub-delegates. In total, we observe 702 seats of sub-delegates.

A.2.6. Economy

Markets and fairs We digitize data at the department level on the number of markets and fairs and on the number of towns with a fair or market in about 1789. The data was compiled as department-level aggregates by Margairaz (1988) from archival records of an official census.[16] Markets usually took place once a week, whereas fairs usually took place once a year. (Bi-yearly spring and autumn fairs would count as two fairs.) Larger towns would host several markets and fairs and could have, for example, fairs every month and markets every day. In total, there were about 2,100 towns with over 16,000 fairs and about 340 towns with about 3,000 markets.

Communication We digitize department level data on the number of post houses in 1792 from Arbellot, Lepetit, and Bertrand (1987). The national system of posthouses, each run by a postmaster and equipped with horses, was originally developed by the state to quickly handle royal dispatches. By 1776, the system provided not only the regular service of letter post but also travel with the postal stagecoach. In total, we observe 1400 post houses in 1792, a number hardly different from that in 1789 at the end of the Ancien Regime (Arbellot et al., 1987, 16).

A.2.7. Geographic borders

For départements, we use the borders of 1794 from Chambru (2020). For arrondissements, we use the borders of 1806 from Skinner and Margadant (2018). (Arrondissements were created in 1800.)

[16] This census was conducted by the Ministry of Commerce in year II (1793–4) and "reflects in density and structure the [trade] network at the end of the Ancien Régime" (Margairaz, 1988, 46).

B. Additional Details on the Historical Background

Expanding on Section 3, we discuss in detail the relevant historical background for the paper. We trace the French campaign in the American Revolutionary War, discuss the French soldiers' exposure to the United States, provide a brief historical sketch of the French Revolution a decade later, and finally discuss the role of the American combatants therein in light of the historical literature.

B.1. The French Involvement in the American Revolutionary War

The American Revolutionary War (1775–1783) guaranteed the British North American colonies—since 1776, the United States of America—their independence from Britain. The two pivotal battles in which the American army defeated the British took place at Saratoga (1777) and Yorktown (1781). While Saratoga is often seen as a turning point, it was the decisive defeat of the British at Yorktown that forced Britain to the negotiating table.[17] Yet, when George Washington's Continental Army triumphed over the British at the Siege of Yorktown, the victory was only achieved with substantial military support by the French army.

The French involvement was scarcely motivated by political enthusiasm for republican governance. Instead, the French king Louis XVI supported the rebelling American colonies against Britain chiefly to seek revenge for losing colonies to Britain during the Seven Years' War. Supporting Americans first covertly with money and supplies, France entered openly into the military conflict in 1778. Among the first joint actions, a French fleet supported American forces in retaking Newport, Rhode Island (1778), and a joint American–French army unsuccessfully sieged the British at Savannah, Georgia (1779).[18] Late in 1779, the French king approved the deployment of a French army to American soil in support of Gen Washington's Continental Army, which became known as "Auxiliary Army" or "Special Expedition" (*expédition particulière*).

This *Special Expedition* was an alternative to a planned invasion of England. More than twenty thousand French troops had been concentrated in Normandy and Brittany during the summer and autumn of 1779 to, together with Spain, invade England. The invasion was canceled, however, due to insufficient progress of preparations on the side of the Spanish who were held up at Gibraltar. As an alternative military campaign to support the Americans, Gen Comte de Rochambeau was commissioned to assemble an army of 7,500 for the Special Expedition. Choosing from the fighting-ready troops, he picked six regiments of line infantry (of which two were German foreign legions), two artillery battalions, and one battalion light cavalry of foreign mercenaries. Ready to sail to America from the port of Brest, a shortage of cargo ships in March 1780 frustrated the preparations and forced Rochambeau to leave one-third of his army behind. The left-behind troops were intended to follow as soon as possible and finally set sail half a year later, but a British naval blockade forced this second

[17] As emphasized by historians (e. g. Ferling, 2021), the northern theater of the war up to the battles of Saratoga (September and October 1777) may be particularly salient due to local commemoration and "historical lore." Yet, the military campaigns in the South after Saratoga were central to deciding the Revolutionary War.

[18] The French forces consisted of one battalion of infantry raised in the French colony of Saint-Domingue and various smaller detachments from regular infantry regiments stationed in the Caribbean.

convoy to return to Europe. We use the left-behind troops as a placebo for identification.

Rochambeau's expeditionary army of five thousand men spent two and a half years in the United States of America. After arriving in Newport in July 1780, Rochambeau decided to wait for the arrival of the left-behind troops instead of taking immediate military action. During the winter, it became clear that the left-behind troops would never arrive. On campaign from June 1781, the army marched towards New York where they joined forces with Washington's army. Rather than besieging the British there as proposed by Gen Washington, the combined army marched onto Virginia, where they fought and defeated the British army under Gen Cornwallis at Yorktown. For this battle, the joint American–French army received significant reinforcement by a second French army, which was transported directly from the French Caribbean colonies. More precisely, de Grasse's troops arrived in Virginia shortly before the Siege of Yorktown, joined the American and French forces there, and returned to the Caribbean shortly after the British surrender. They therefore spent only about two months on U.S. soil, compared with more than two years for Rochambeau's expeditionary force. Prior to Yorktown, de Grasse's regiments had been stationed in the French Caribbean, in some cases for several years. Appendix Table A.3 reports regiment-specific deployment dates, casualties at Yorktown, and subsequent return routes. Rochambeau's army, in contrast, stayed in Virginia over the winter, marched back triumphantly to New England over the spring and summer of 1782, visiting Washington, Baltimore, and Philadelphia on the way, and finally boarding ships home from Boston (Scott, 1998).

B.2. The American Experience of the French Army

What did the French combatants experience in America during the Special Expedition? Certainly, they gained combat experience during the Siege of Yorktown, which saw significant casualties on both sides. Yet, the siege was the only substantive combat that the combatants experienced during the Special Expedition. The majority of casualties, instead, resulted from disease, in particular, scurvy and "fever" (most likely malaria).[19] The great majority of French combatants—around 80% according to our estimates—returned home to France in 1783.[20]

Apart from the combat experience, the combatants also experienced different political and economic institutions. In particular, from the perspective of France, the United States of America embodied the ideals of liberty, equality, and tolerance (Echeverria, 1957). Liberty primarily referred to political rights including the freedom of the press and opinion and the

[19]The incidence of scurvy was high when the troops arrived in Rhode Island, with one-seventh requiring hospitalization upon arrival and 270 men dying during the voyage and within the first six months after arrival (e. g. Scott, 1998, 109). "Fever" and malaria were particularly problematic when the troops were stationed in Virginia, Baltimore, and Philadelphia after Yorktown.

[20]The estimate refers to the three French infantry regiments that comprise our sample of "Rochambeau combatants," see sections 4 and 5. Scott (1998) provides a very similar assessment including further data on the rest of Rochambeau's expeditionary army.

Aside from mortality, the rate of desertion was remarkably low (below 5% in total), and few men chose to remain in America for various other reasons (below 2% in total) (Scott, 1998, 103). Importantly, the desertion and discharge rate is even lower for this paper's "Rochambeau combatants" because the deserters and dischargees were primarily from the Deux-Pont infantry regiment, which was a German foreign legion in the French army, and from the Lauzun's Legion cavalry battalion (cf. Scott, 1998).

Table A.3: Deployment history of combatant regiments

Regiment	Combat.	fallen at Yorktown	to US	from US	returned to France	via	Garrison 1789 Jan 1st
Rochambeau combatants							
Bourbonnais	1213	16	1780 Apr	1783 Mar	1783 Aug	(direct)	Metz
Saintonge	1255	13	1780 Apr	1782 Dec	1783 Jul	Antilles	Verdun
Soissonnais	1254	17	1780 Apr	1783 Mar	1783 Sep	(direct)	Montpellier
(Royal) Deux-Ponts	.	13	1780 Apr	1782 Dec	1783 Jul	Antilles	Huningue
de Grasse combatants							
Agenois	1137	18	1781 Aug	1781 Nov	1783 Sep	Martinique	Ile d'Oléron
Gatinais (Royal Auvergne)	1085	81	1781 Aug	1781 Nov	1783 Mar	Cap-Francais	Calais
Touraine	1306	33	1781 Aug	1781 Nov	1783 Mar	Antilles, Saint-Christophe	Perpignan

Sources: Combatants, see text. Fallen at Yorktown, Dawson (1936). Deployment and garrison history, Susane (1876). *Agenois* and *Gatinais* deployed to Caribbean in November 1775 (2nd battalion) and January 1777 (1st battalion), respectively. *Touraine* deployed to Caribbean in April 1780.

freedom of association. In contrast to the U.S., France was perceived as an authoritarian monarchy that censored the press, imprisoned people for moral and political views, and strictly regulated all forms of associations. Equality primarily refers to economic and social equality rooted in a more equal distribution of land and property in America. In stark contrast, feudal rights of lordship (*seigneurie*) restricted economic freedom in France. Tolerance primarily refers to the toleration of religious minorities, contrasting to the persecution of the Protestant Huguenot minority by the French monarchy.

These American ideals of liberty, equality, and tolerance were not entirely new to France. In fact, they had been embraced for years by the French enlightenment philosophers. For example, Thomas Paine's *Common Sense*—a key revolutionary tract in America—was arguably inspired by Diderot and Raynal's *Histoire philosophique des Deux Indes* (Israel, 2017). Yet this work by French philosophers was on the list of highly forbidden books and thus not widely available in France (Darnton, 1996).

What was certainly new to the French combatants was the experience of a society where these ideals were acted out in practice. As described by Scott (1998, 122), "what seems to have impressed most of Rochambeau's veterans…were not abstract political principles but more mundane practices, notably religious toleration and social equality rooted in widespread economic prosperity." Rhode Island, where the combatants spent almost a year, was distinctive even within the United States for religious toleration and comparatively egalitarian social relations, making these contrasts with Old Regime France particularly salient. That said, some accounts question to what extend the tolerance of prominent Protestant groups, such as the Quakers, extended to Catholicism.

The prior experience of de Grasse's troops differed substantially. Before Yorktown, these regiments had been stationed in the French Caribbean, while their brief stay in the United States was concentrated in Virginia. Their comparison with Rochambeau's troops therefore does not isolate exposure to New England from all other differences in deployment. We use it more narrowly to assess explanations based on the combat experience shared at Yorktown and the status associated with having fought in the American war.

How did the French combatants come into contact with these different U.S. institutions? To answer this question, we distinguish between officers and soldiers, chiefly due to military hierarchy and social status—French officers were often from the higher nobility and thus enjoyed more freedom in America.

French officers came into contact with American citizens through many channels. Officers were regularly quartered in houses and thus lived under the same roof as American citizens.[21] Officers were also invited to "endless balls" and receptions where they mingled with locals (Scott, 1998). Some officers also obtained permission to explore the countryside on their own. The intensity of the personal contact between French officers and American citizens can also be gauged from the amicable letters that were exchanged after the French departure (Jones, 2012).

The soldiers, lacking the social prestige and military status of officers, were less free

[21]For example, see Stone (1884, 321–3) for a list of the quarters (incl. street and house owner) of French officers in Providence, Rhode Island, during the year 1780–81. Since the American citizens volunteered to offer quarters, the French officers stayed with some of the more vocal supporters of American independence.

to mingle with locals, yet they nevertheless had extended contact with locals. Originally, Rochambeau set up camp outside of the town of Newport, and military hierarchy required soldiers to obtain a written permit to leave the camp. However, all soldiers moved into town for the winter where they lived next door to American citizens (Scott, 1998; Jones, 2012). Soldiers did not normally write letters or diaries, and thus sources are scarce for them. Nevertheless, the contacts with American locals must have been close, as evidenced by General Rochambeau's remark that "not a man had been left behind [in Newport] 'except ten love-sick soldiers of Soissonnais who returned to see their sweethearts' "(Scott, 1998, 55).

The French military also printed a French-language newspaper in the United States to keep informed about military events and local affairs. The great majority of articles were translated from American newspapers, which contained heavy doses of revolutionary propaganda and agitation against the British monarchy.[22] Many enlisted soldiers were probably illiterate, but at least some must have been literate (Wrong, 1976) and could thus read the army newspaper to others.

Anecdotal evidence suggests that the American experience changed individuals' attitudes toward liberty and equality. Most prominent and best studied among the American combatants is the Marquis de Lafayette—who was, it should be noted, *not* part of the Special Expeditionary force. Biographers of Lafayette argue that he signed up in Washington's army primarily seeking adventure and fame, rather than supporting the American cause, and was converted to a proponent of liberty through his experience in the United States (Gottschalk, 1950). After the war, Lafayette became the focus of an informal circle that intentionally propagated American ideals such as liberty and equality (Scott, 1998, 122). Officers who had served under Rochambeau in America also developed these views. For example, the court aristocrat Comte de Ségur claimed in a letter that he and other officers brought back to France "a lively passion for freedom and for independence" (Scott, 1998, 122). Such statements are absent for common soldiers due to the lack of written sources.

B.3. The French Revolution

Historiography highlights at least two important triggers of the revolution of 1789.[23] One is the fiscal crisis of 1787, caused by the de facto default of the royal government on its debt.[24] Despite much political maneuvering, the fiscal crisis could not be solved as the tax-exempt

[22]Newspapers were not common in France on the eve of the revolution, but they were in North American colonies/United States (Hyslop, 1960). The "Gazette Françoise" was printed with a printing press that Rochambeau's army brought on a ship. It has long been thought that only 7 volumes were printed between November 1780 and January 1781. However, a supplement to volume 93 was recently discovered in an archive, proving that it was printed at least until November 20, 1781, *after* Yorktown. The newspaper is the first service newspaper published abroad by an expeditionary force, and as such a predecessor of the U.S. "Stars and Stripes" newspaper printed by U.S. Armed Forces in France during the two world wars (Desmarais, 2021).

[23]The following overview of the French Revolution up to 1792 follows classical historical accounts (Lefebvre, 1939; Doyle, 1999; Tackett, 2015).

[24]It has been argued that the debts incurred to finance France's participation in the American Revolutionary War destroyed the government finances. An alternative view holds that the critical debt was incurred to finance the Seven Years' War twenty years earlier. Either way, the expenses for the *Special Expedition* were few compared to those for the French Royal Navy during the American Revolutionary War.

nobility remained unwilling to pay taxes but the Third Estate was already taxed at maximum. This situation created a power vacuum that enabled the Third Estate to push for reforms, especially in the *Estates General*, the legislative and consultative assembly composed of all three classes. Eventually, deputies from the Third Estate, joined by a small group of clergy and liberal nobles—among whom some had served as officers under Rochambeau and thus previously experienced U.S. institutions—decreed the abolition of feudalism and declared the rights of man and the citizen.

Another trigger was the subsistence crisis that was caused by the harvest failures of 1788. Beyond increasing the price of bread, the failed harvest (due to droughts or hailstorms, depending on the account) also caused widespread unemployment, as threshing was a major source of seasonal employment. Eventually, "vagabonds" started to move across town and country, and food riots broke out between the spring and summer of 1789, compounded by waves of "fear" and unrest (Lefebvre, 1932; Waldinger, 2023).

We study four outcomes related to revolutionary acts and processes, all of which are rooted in the year 1789. The anti-feudal revolts of 1789 effectively established the abolition of feudalism as a fact in the countryside before it was officially decreed, thereby influencing national politics (Lefebvre, 1939; Markoff, 1996).[25] The formation of political societies, established spontaneously in cities and towns, was instrumental in political participation and implementing the new policies, the most famous being the Jacobin Club of Paris. Volunteers for the Revolutionary Army were pivotal in defending the revolution from the attack of foreign monarchies who strived to quell it. The emigration of the landowning elite signifies the local intensity of revolutionary agitation and enabled the young republic to reallocate wealth by expropriating the emigrés. Each of these revolutionary acts and processes shaped the course of the French Revolution. Together, they were instrumental in destroying the old institutions but also in building and defending the new institutions. We provide additional historical background together with the data documentation in Appendix A.

B.4. The Role of American Combatants in the French Revolution

Historians have previously debated whether American combatants contributed to precipitating the French Revolution. McDonald (1951) was the first to observe a positive spatial correlation between the incidence of American combatants and anti-feudal revolts in 1789, arguing that French soldiers with agricultural background were particularly impressed by greater peasant prosperity, a more equal distribution of land, and the absence of feudal institutions in the United States. Godechot (1956) criticized that the correlation could be driven by regional characteristics like general economic hardship that could have increased both army enlistment and the incidence of revolts. Our empirical strategy addresses these and similar concerns by (i) controlling for determinants of army enlistment and (ii) using a placebo design to hold constant the influence of unobserved region characteristics.

Studying the experience of the American combatants in more detail, the historian Scott (1979, 1998) concluded by rejecting McDonald's hypothesis. This is puzzling insofar as

[25] A similar effect of local revolts has been shown empirically for England in the early 1830s (Aidt and Franck, 2015).

Scott himself provided convincing evidence on how the American experience shifted the combatants' views regarding liberty and equality, and moreover documented several instances on how individuals became revolutionaries, which we review in Section C.6.

One reason why Scott questioned the hypothesis is the observation of a significantly lower incidence of desertion among Rochambeau's regiments during their march on Paris in July 1789. However, rather than providing a "made-to-order test" which would prove that veterans were against the revolution (Scott, 1998, 136), the observation is fully consistent with leadership effects. As the officers of Rochambeau's regiments were supporting the revolution themselves, it is unclear what pro-revolutionary soldiers would have gained by deserting. In fact, our objection is not new—Godechot (1979) already cautioned that desertion in 1789 meant something very different from desertion in 1791 or 1792. We return to this argument in Section C.2.

Another reason why Scott questioned the hypothesis is that veterans from rural origins may not have returned to their native village but upon return moved to town (Scott, 1998, 137-8). Systematic evidence is absent, but the conjecture is generally plausible—after all, the experience of America made the combatants "cosmopolitans" (McDonald, 1951). However, as we argue, if combatants were still more likely to return to their broader native region, this concern would merely introduce measurement error and spatial spillovers at very disaggregated levels, instead of breaking the link between origin and outcome. Indeed, the assumption that many combatants would return to their native regions appears plausible given the highly regional cultures in pre-revolutionary France, featuring a wide variety of dialects and local customs that were only over the nineteenth century homogenized into what today is known as "French" (Blanc and Kubo, 2026). Consistent with combatants returning to their native regions, we document sizable local spillovers in Section C.4. This highlights that this concern can be addressed by aggregating the data to regions.

Finally, when Scott concludes that the American combatants were "too few" to have mattered as a group, he is essentially making quantitative statements based on (sparse) qualitative data. Yet the key limitation of Scott's historical approach is that most soldiers are essentially lost to the historical record after the American campaign. While we can know whether they returned home to France, once the soldiers were discharged from the army, they cease to be tracked by the regimental book, the only systematic source available for this period. This general issue is well-known to specialist historians Bois (1981). In our setting, outcomes such as anti-feudal revolts are particularly ill-suited for a historical case study because, except for the storming of the Bastille, no "list of participants" has ever been drawn up for them.

In using the empirical method to overcome these problems, our paper not only challenges Scott's negative conclusion but also broadens the argument. Specifically, we show that across French regions, rather than being "too few" to matter, American combatants were positively associated not only with anti-feudal revolts as originally conjectured by McDonald (1951) but also with several other margins of revolutionary activity. Moreover, we provide novel historical and individual-level evidence for the personal involvement of American combatants in the revolution, focusing on outcomes like membership in revolutionary societies (section C.6).

C. Additional Evidence on Effects and Returning Combatants

Beyond what is presented and already summarized in Section 6, here we detail additional evidence on the nature of the effects and on the role of returning combatants. Specifically, we (i) examine rank-specific estimates for soldiers and officers; (ii) discuss leadership effects; (iii) examine evidence from soldiers who returned to France and those discharged before the Revolution; (iv) trace spatial spillovers within and across départements; (v) report exploratory heterogeneity by local conditions; and (vi) discuss existing and present novel individual-level evidence on American combatants as revolutionaries.

C.1. The Differential Effect of Soldiers and Officers

Distinguishing soldiers from officers allows us to examine whether the relationship differs by military rank. The distinction is guided by historiography. McDonald (1951) argued that peasant veterans were responsible for widespread anti-feudal revolts in 1789, while Osman (2015) focused on the leadership role of French officers in building a citizen army, taking the American militia as a model. As noted in the historical background, soldiers and officers belonged to different social classes. Thus, they may have had different experiences in the United States and may have contributed to different outcomes in the French Revolution.

In line with the class distinctions, we consider as officers only *commissioned* officers. In the French army of the Ancien Regime, these positions were reserved for members of the nobility and available for purchase. Commoners could only enlist as soldiers and, apart from very limited exceptions, at best be promoted to lower-ranking *non-commissioned* officers (Wrong, 1976), which is why we group those with soldiers. Unfortunately, we do not observe the occupational background of American combatants. Extrapolating from occupation data for other soldiers, we expect both agricultural and urban backgrounds to have been represented.[26]

We estimate département-level PPML regressions that distinguish officer presence from soldier intensity within the Rochambeau and de Grasse forces. Officer exposure enters as an indicator for at least one officer; soldier exposure enters in logs, with a positive-exposure indicator where zeros occur. Rochambeau-soldier exposure is positive throughout the core sample. The conditional mean is

$$\begin{aligned} E[y_i \mid \cdot] = \exp\big(&\delta_R D_i^{R,\text{off}} + \delta_G D_i^{G,\text{off}} + \beta_R \ln R_i^{\text{sold}} + \beta_G L_i^{G,\text{sold}} \\ &+ \delta_S D_i^{G,\text{sold}} + \delta_N D_i^{N} + \beta_N L_i^{N} + X_i'\gamma\big). \end{aligned} \tag{A.1}$$

Here D indicates positive exposure and L equals the log amount when positive and zero

[26] The dataset by Komlos et al. (2003) provides for about 8000 soldiers the occupation of either the soldier himself or his father. After excluding soldiers' occupations that are military ranks, we find that 2140 of 6880 occupations (31%) are agrarian: *laboureurs*, i. e. peasants who own some property which they work themselves; gardeners; vintners; *manouviers* and *journaliers*, agricultural workers. This estimate is a lower bound if soldiers with military backgrounds were disproportionally from agricultural backgrounds in previous generations. However, we also observe a wide range (and a large number) of urban occupations like artisans, shopkeepers, merchants, and urban day workers.

otherwise.

Table A.4, Panel A, reports this specification. Rochambeau-soldier intensity is positive and statistically significant for all four outcomes. A one-standard-deviation increase is associated with between 25% more elite emigrants and 138% more anti-feudal revolts. Rochambeau-officer presence is positive and significant at 10% for volunteer companies, but imprecisely estimated for the other outcomes. The de Grasse estimates differ from these. De Grasse-officer presence is negatively associated with volunteer companies and positively associated with elite emigration, and equality with the Rochambeau-officer coefficient is rejected at 5% for volunteer companies and at 10% for emigration. De Grasse-soldier intensity is small and insignificant, except for anti-feudal revolts, where it is negative and significant at 10%. Equality between Rochambeau and de Grasse soldier intensities is rejected at 5% for anti-feudal revolts, but not for the other outcomes.

The officer-presence and soldier-intensity coefficients concern different margins, so they cannot be compared as measures of how much officers and soldiers each matter. Panel B therefore enters all four officer and soldier counts in levels. This is a functional-form check, not a separate identification strategy, and it is informative mainly for officers. Officer counts are small, so the difference between one, two or three officers may be meaningful, whereas for soldiers we regard the log specification as the appropriate one. With counts in levels, Rochambeau-officer exposure is significant at 5% for volunteer companies, as in Panel A, and remains imprecise for the other outcomes. De Grasse officers are positively associated with political societies, with a larger coefficient than Rochambeau officers (equality rejected at 10%), and negatively associated with volunteer companies. The Rochambeau-soldier counts remain positive for all four outcomes and are significant at 5% for anti-feudal revolts and political societies. The officer estimates are therefore more sensitive to parameterization than the Rochambeau-soldier association.

Table A.4: Rochambeau exposure by military rank

Panel A: officer presence and soldier log intensities

	Dep. variable: [support for revolution]			
	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigrants
Rochambeau officers > 0	−0.135	−0.010	0.237*	−0.021
	(0.602)	(0.205)	(0.132)	(0.165)
Ln Rochambeau soldiers	0.901**	0.373**	0.281***	0.224**
	(0.372)	(0.149)	(0.104)	(0.102)
De Grasse officers > 0	0.195	0.172	−0.239*	0.284**
	(0.315)	(0.178)	(0.133)	(0.140)
Ln de Grasse soldiers	−0.465*	0.017	0.058	−0.014
	(0.242)	(0.153)	(0.093)	(0.124)
Ln not-sailed combatants	0.118	−0.199*	−0.088	−0.218***
	(0.143)	(0.110)	(0.087)	(0.072)
Baseline controls	✓	✓	✓	✓
N (Obs = département)	80	81	81	65
Pseudo R^2	0.24	0.19	0.26	0.54
1 SD Roch. sold. effect (%)	137.5	43.0	30.9	25.3
1 SD Grasse sold. effect (%)	−33.9	1.6	5.3	−1.2
p Roch. Off. = Grasse Off.	0.530	0.490	0.021	0.095
p Roch. Sold. = Grasse Sold.	0.011	0.155	0.118	0.150

Panel A: PPML with officer-presence indicators and soldier log intensities. The de Grasse-soldier and not-sailed positive-exposure indicators are included but not reported. Rochambeau-soldier exposure is strictly positive. Count outcomes remain in levels. Samples reflect outcome availability and PPML separation.

Officers include commissioned officers (chiefly colonels, captains, and lieutenants), while soldiers include enlisted soldiers and non-commissioned officers (chiefly sergeants). The equality tests compare officer-presence coefficients across forces and soldier-intensity coefficients across forces, not officers with soldiers.

Baseline controls are specified as in Table 1. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.4: Rochambeau exposure by military rank (continued)
Panel B: officer and soldier counts in levels

	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigration
Rochambeau officers (count)	0.018	0.046	0.105**	0.033
	(0.110)	(0.045)	(0.045)	(0.055)
Rochambeau soldiers (count)	0.021**	0.011**	0.003	0.001
	(0.010)	(0.005)	(0.003)	(0.004)
De Grasse officers (count)	0.075	0.146***	-0.129*	0.002
	(0.127)	(0.052)	(0.074)	(0.053)
De Grasse soldiers (count)	-0.040*	-0.005	0.012	0.010
	(0.022)	(0.011)	(0.010)	(0.012)
p Roch. officers = Grasse officers	0.638	0.098	0.009	0.646
p Roch. soldiers = Grasse soldiers	0.029	0.229	0.391	0.452
Observations	81	81	81	65

Note: All four officer and soldier counts enter in levels, including zeros. Other controls, the not-sailed positive-exposure indicator and log amount, outcomes and inference follow Panel A. Equality tests compare Rochambeau and de Grasse officers, and Rochambeau and de Grasse soldiers, in the same count units.

C.2. Discussion of Leadership Effects

An alternative explanation holds that the American combatants may have primarily acted on the guidance or request of their former military commander, as in recent studies (Bai, Jia, and Yang, 2022; Cagé, Dagorret, Grosjean, and Jha, 2023). This alternative explanation would already grant that the experience of different ideas and institutions in the United States shifted Rochambeau's attitudes toward liberty and equality. Like other officers and generals, he was *not* a proponent of those American ideals before his deployment to New England. Note that such a mechanism is implausible a priori for anti-feudal revolts, as they directly attacked the social class to which Rochambeau belonged. Yet for the other outcomes, such a mechanism may have been present in principle.

The historical evidence makes a simple leadership mechanism less plausible. In particular, Rochambeau did not become a political entrepreneur after his return, and episodes of obedience and disobedience suggest that soldiers' loyalty to their officers was conditional on the officers' political position. These observations are consistent with officers and soldiers sometimes sharing a political alignment, but they do not establish either the source of that alignment or whether their common American experience produced it.

To begin with, Rochambeau neither became a politician nor had access to media or a personal network to rally supporters outside the army. He supported the abolition of feudal privileges and the transformation of France into a constitutional monarchy, and he remained loyal to the king and the constitutional government until his retirement in 1792. Yet, even if Rochambeau had become a politician, he would not have had media available for communicating his opinions widely to former officers and soldiers. Newspapers were still in their infancy in France, and radio would not be invented for another century.

Moreover, while General Rochambeau did approve of political change, he disapproved of disobedience and violence as a means of achieving it. In fact, during the 'hot summer' of 1789, General Rochambeau was tasked with policing the widespread unrest with military force in Alsace (Luce de Lancival, 1809, 349–62). If the leadership mechanism were present, it would work against us and predict *fewer* anti-feudal revolts. Consistent with this logic, including Alsace in our sample reduces the point estimate of Rochambeau combatants on anti-feudal revolts (Table A.18).

Finally, focal episodes of obedience and disobedience suggest that soldiers' loyalty to their officers and generals was conditional on their superiors' support for the Revolution. During the military buildup around Paris in June–July 1789, soldiers from Rochambeau's *Bourbonnais* and *Saintonge* regiments were less likely to desert than soldiers from other regiments (Scott, 1998, 136). This is no surprise considering that *Saintonge*'s colonel[27] was one of a handful of liberal noble deputies who supported the Revolution in the Estates-General. Unlike soldiers in other regiments, Rochambeau's soldiers knew that their officers would not lead them to quell the Revolution. If their officers had been counter-revolutionaries, however, the soldiers might well have deserted in droves. This is demonstrated by an episode of mass desertion in 1791 by soldiers from Rochambeau's *Soissonnais* regiment on the mere rumor that their lieutenant-colonel, who did *not* serve under Rochambeau in America, would work for the

[27] Serving in America under Rochambeau from January 1782, Prince de Broglie spent several months in some of the most liberal places in the U.S., including Philadelphia and New England.

counter-revolution (Susane, 1876, Vol. 4, 15).[28]

C.3. Regiment Garrisons in 1789 and Discharged Soldiers

Here, we provide two pieces of evidence linking the regional relationship more directly to returning veterans. First, we show that the results are not driven solely by the locations of Rochambeau's regiments on the eve of the Revolution. Second, we examine whether a similar relationship is present among veterans of the *Soissonnais* regiment who were discharged after returning from America and before the Revolution.

To test whether the results are driven by where the combatant regiments were stationed on the eve of the Revolution, we code an indicator for whether one of Rochambeau's regiments was stationed in the département in January 1789.[29] Table A.5 documents the results. The Rochambeau coefficients change little when the indicator is added and remain significant for all four outcomes, although the elite-emigration coefficient is significant only at 10%. The stationing indicator, which equals one for three départements, is negative and significant for anti-feudal revolts, positive and significant at 10% for political societies, and imprecisely estimated for volunteer companies and elite emigration. The baseline effect therefore does not reflect only the locations in which the regiments were stationed on the eve of the Revolution.

Next, we examine combatants who were discharged from military service after their return to France. This analysis comes with two challenges. First, we only know whether soldiers were discharged or retired for the *Soissonnais* regiment, which served under Rochambeau in New England. Second, we only observe whether soldiers were discharged by the end of the regimental book in 1786, leaving open the possibility that more soldiers were discharged in 1787 or 1788.[30]

Despite these challenges, Table A.6 examines whether the relationship is also present among those discharged or retired before the Revolution. In Panel A, we first present coefficients for returned combatants from Rochambeau's *Soissonnais* regiment as a reference. We do not expect these coefficients to equal the baseline ones, for two reasons. First, exposure rests on only 814 returned combatants with a geo-localized birthplace in the core sample, so measurement error is larger and attenuates the estimates. Second, the regiments recruited from very different regions, so the exposure of a single regiment is more sensitive to outliers

[28] In a similar episode of disobedience, the soldiers of de Grasse's *Touraine* regiment rebelled openly against their colonel, the Vicomte de Mirabeau (André Boniface, the counter-revolutionary brother of the well-known revolutionary Honoré Gabriel, Marquis de Mirabeau), and several officers who showed a strongly counter-revolutionary attitude. The soldiers prevailed, and the Vicomte de Mirabeau was forced to resign (Susane, 1876, Vol. 3, 381–82).

[29] *Bourbonnais* was stationed in Metz (dept. Moselle), *Saintonge* in Verdun (dept. Meuse), and *Soissonnais* in Montpellier (dept. Hérault). The German foreign legion *Deux-Ponts* was stationed in Belfort, which is not part of the sample. During the Revolution, these regiments were deployed to different tasks in different regions. We cannot use this variation, however, as their deployments were likely endogenous to the objectives—as officers and soldiers were pro-revolution, these regiments were more reliable than others. The garrisons in January 1789, in contrast, were plausibly chosen independent of these motivations. At that time, the king and military command did not anticipate the potential need to police riots and revolts across the country with the military.

[30] Scott (1998), who studied the active regiments through the Revolution, estimates that three-fifths of all combatants had left the army by 1789.

Table A.5: Controlling for regiment locations in January 1789

	Dep. variable: [support for revolution]			
	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigration
Ln Rochambeau combatants	0.861***	0.336**	0.408***	0.173*
	(0.278)	(0.136)	(0.114)	(0.094)
Rochambeau regiment stationed	−1.731***	0.553*	0.121	0.449
	(0.370)	(0.283)	(0.291)	(0.278)
Ln not sailed combatants	0.071	−0.217**	−0.052	−0.226***
	(0.163)	(0.108)	(0.090)	(0.067)
Ln de Grasse combatants	−0.305	0.128	−0.068	0.067
	(0.195)	(0.125)	(0.095)	(0.099)
Baseline controls	✓	✓	✓	✓
N (Obs = département)	80	81	81	65
Pseudo R^2	0.24	0.20	0.24	0.53
1 SD Rochambeau effect (%)	127.5	37.9	47.6	18.9
1 SD Notsailed effect (%)	9.4	−23.9	−6.3	−25.0
1 SD de Grasse effect (%)	−23.5	12.0	−5.8	6.3
p Rochambeau = Notsailed	0.039	0.002	0.005	0.001
p Rochambeau = de Grasse	0.001	0.272	0.002	0.344

This table controls for an indicator variable for whether one of Rochambeau's regiments was stationed in the department in January 1789. This was the case for three départements, *Meuse*, *Moselle*, and *Hérault*. All regressions include logged Rochambeau, not-sailed, and de Grasse exposure, positive-exposure indicators for the zero-containing comparison groups, and the baseline controls: log other soldiers, infantry and cavalry garrison counts in levels, log population in 1793, urbanization, and an indicator for Paris/dept. Seine. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

that otherwise average out across regiments. Nevertheless, the coefficients for anti-feudal revolts and volunteer companies remain positive and significant at 1%. For political societies and elite emigration, the coefficients are smaller and insignificant, but remain positive.

In Panel B, we now turn to the combatants who were discharged or retired from the *Soissonnais* regiment between the return to France in September 1783 and the end of the regimental book. Despite the even smaller group of 230 mapped discharged or retired combatants (222 in the core sample), the coefficients for anti-feudal revolts and volunteer companies remain positive, significant at 5% and 10%, respectively, and similar in size to those in Panel A. The political-society estimate is positive but imprecise, and the elite-emigration estimate is close to zero. The comparison therefore supports the presence of the association among veterans who had re-entered civilian life.

C.4. Spatial Spillovers at the Arrondissement and Département Levels

In Table 5, we showed that exposure spilled over to neighboring arrondissements. A one-SD increase in neighbors' Rochambeau combatants raises anti-feudal revolts by about 50 percent, and political societies and volunteer companies by 27–29 percent.

Table A.7 asks whether these spillovers follow département boundaries. As in the main analysis, the specifications omit département fixed effects and identify the effects by comparing Rochambeau exposure with comparison-group exposure, which enters at the same spatial levels. For political societies and volunteer companies, the spillovers run within the département. A one-SD increase in exposure in the rest of the département, or in neighboring arrondissements within it, raises either outcome by 27–39 percent. Exposure in neighboring arrondissements across the border has small and insignificant effects. For anti-feudal revolts, only exposure in neighboring arrondissements outside the département has a statistically significant effect, of about 30 percent per SD. The own-arrondissement effect is positive in every specification but significant only for volunteer companies. So the role of the département boundary differs by outcome, and the table does not show that one geographic channel dominates.

C.5. Heterogeneity

To examine whether the effect of Rochambeau exposure varies with local conditions, we estimate for each of the four main outcomes a PPML model that interacts log Rochambeau exposure with an indicator for whether département characteristic C_i is above its median $\tilde{C}$ across départements:

$$\mathrm{E}[y_i \mid \cdot] = \exp\Big(\eta_1 \ln \text{Rochambeau}_i + \eta_2 \ln \text{Rochambeau}_i \times \mathbb{1}(C_i > \tilde{C}) + \eta_3 \mathbb{1}(C_i > \tilde{C}) + X_i'\gamma\Big) \tag{A.2}$$

Here, η_1 is the Rochambeau effect in below-median départements and $\eta_1 + \eta_2$ the effect in above-median départements.

Table A.8 reports the results for seven characteristics: two Old Regime institutions, the two components of the 1788 weather shock, *Encyclopédie* subscribers, and two measures of access to

Table A.6: Effect of discharged Rochambeau combatants

	Dep. variable: [support for revolution]			
	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigration
Panel A				
Ln(1 + Soissonnais combatants)	0.655***	0.114	0.240***	0.070
	(0.193)	(0.107)	(0.089)	(0.072)
Baseline controls	✓	✓	✓	✓
Comparison exposures	✓	✓	✓	✓
N (Obs = département)	80	81	81	65
Pseudo R^2	0.26	0.17	0.21	0.49
1 SD Soissonnais effect (%)	96.4	12.4	27.8	7.6
Panel B				
Ln(1 + discharged Soissonnais combatants)	0.537**	0.150	0.227*	−0.006
	(0.237)	(0.116)	(0.118)	(0.085)
Baseline controls	✓	✓	✓	✓
Comparison exposures	✓	✓	✓	✓
N (Obs = département)	80	81	81	65
Pseudo R^2	0.19	0.17	0.20	0.48
1 SD discharged Soissonnais effect (%)	53.7	12.7	19.8	−0.5

The *Soissonnais* regiment was one of three French infantry regiments that served under Rochambeau in New England. For this regiment, we observe regular discharges and retirements with pension from the return to France in 1783 until the regimental book ends in 1786. All specifications include logged not-sailed and de Grasse comparison exposures, their positive-exposure indicators, and the baseline controls: log other soldiers, infantry and cavalry garrison counts in levels, log population in 1793, urbanization, and an indicator for Paris/dept. Seine. Unlike in the main specification, *Soissonnais* exposure enters as $\ln(1 + x)$, for returned combatants in Panel A and for discharged or retired combatants in Panel B. The check rests on comparing coefficients across the two panels, which share this functional form, not on the level of the point estimates. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.7: Spatial exposure within and across département boundaries

	Dep. var.: [support for revolution]					
	Anti-feudal revolts		Political societies		Volunteer companies	
	(1)	(2)	(3)	(4)	(5)	(6)
Ln Rochambeau combatants	0.433	0.333	0.057	0.035	0.182***	0.144**
	(0.291)	(0.299)	(0.073)	(0.077)	(0.063)	(0.063)
Ln Roch.—department	0.227		0.332***		0.241***	
	(0.156)		(0.090)		(0.066)	
Ln Roch.—neighb within dept		0.187		0.282***		0.259***
		(0.157)		(0.088)		(0.064)
Ln Roch.—neighb outside dept		0.276**		0.069		0.074
		(0.124)		(0.097)		(0.071)
Comparison exposures	✓	✓	✓	✓	✓	✓
Baseline controls	✓	✓	✓	✓	✓	✓
N (Obs = arrondissement)	338	339	340	340	339	339
Pseudo R^2	0.18	0.20	0.11	0.11	0.18	0.19
1 SD Rochambeau effect (%)	54.0	39.4	5.9	3.6	20.0	15.5
1 SD Roch.—dept effect (%)	25.2		38.9		27.0	
1 SD Roch.—within effect (%)		19.8		31.4		28.5
1 SD Roch.—outside effect (%)		30.1		6.8		7.3

PPML regressions with the outcome variables in levels. Odd columns add exposure in the rest of the département to own-arrondissement exposure; even columns instead add exposure in neighboring arrondissements within and outside the département. As in the main analysis, the specifications omit département fixed effects and identify the effects by comparing Rochambeau exposure with not-sailed and de Grasse exposure, which enter at the same spatial levels. The one-SD effect rows use the SD of log intensity among positive-exposure observations in each estimation sample.

Military exposures enter as logs among positive observations together with positive-exposure indicators for every zero-containing measure. Regressions include the arrondissement-level baseline controls of Table 5: log other soldiers among positive observations with a positive-exposure indicator, infantry and cavalry garrison counts, log population in 1793, the urbanization rate, and an indicator for Paris. Robust standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

communication networks. The Rochambeau effect is positive in below-median départements in every specification, and the implied effect in above-median départements is positive in all but one. For Old Regime institutions, the results differ by outcome. The parlement interaction is positive but imprecise for anti-feudal revolts and political societies. It is negative for volunteer companies and elite emigration, significant at 1% and 10%, respectively, and for elite emigration the implied effect in parlement départements is negative. The royal-tax interaction is negative but small and insignificant for all four outcomes. The interactions with the 1788 weather shocks are positive for all four outcomes and significant for anti-feudal revolts and elite emigration. For these two outcomes, the Rochambeau effect in below-median départements is small and insignificant, so the effect is concentrated where the 1788 shock was larger. Interactions with *Encyclopédie* subscribers and communication networks are mostly insignificant and do not share a sign across outcomes. The effect on volunteer companies is larger where subscribers and markets were more numerous, the effect on political societies is smaller where markets were more numerous, and the effect on anti-feudal revolts is smaller where postal relays were denser. Overall, nine of the 28 interactions are significant at the 10% level, but only royal taxation and the weather shocks have interactions of the same sign across all four outcomes.

The Rochambeau effect is therefore not confined to particular local settings. Because most characteristics are not randomly assigned and only Rochambeau exposure is interacted, the interactions describe where the effect was larger rather than identify the mechanisms behind it.

Table A.8: Heterogeneity results

Panel A: anti-feudal revolts

	(1) Parlement	(2) Royal tax	(3) Temp. shock	(4) Prec. shock	(5) Subscribers	(6) Markets/fairs	(7) Postal relays
Ln Rochambeau	0.807***	1.054***	0.229	0.364	0.989***	0.708***	1.092***
	(0.270)	(0.259)	(0.346)	(0.318)	(0.267)	(0.249)	(0.287)
Ln Rochambeau × above median	0.605	-0.277	0.667*	0.537	-0.329	0.258	-0.751*
	(0.775)	(0.459)	(0.389)	(0.407)	(0.470)	(0.447)	(0.402)
Above-median indicator	-2.766	0.428	-1.174	-0.869	0.780	-0.684	1.835
	(2.997)	(1.457)	(1.185)	(1.290)	(1.530)	(1.437)	(1.306)
Observations	80	80	80	80	80	80	80

Panel B: political societies

	(1) Parlement	(2) Royal tax	(3) Temp. shock	(4) Prec. shock	(5) Subscribers	(6) Markets/fairs	(7) Postal relays
Ln Rochambeau	0.353**	0.376**	0.270*	0.177	0.322*	0.663***	0.405***
	(0.144)	(0.191)	(0.141)	(0.127)	(0.193)	(0.186)	(0.136)
Ln Rochambeau × above median	0.054	-0.024	0.058	0.088	0.053	-0.410**	-0.064
	(0.253)	(0.211)	(0.180)	(0.184)	(0.209)	(0.203)	(0.184)
Above-median indicator	-0.173	0.051	0.255	0.443	0.135	1.632**	-0.348
	(0.881)	(0.652)	(0.595)	(0.621)	(0.725)	(0.657)	(0.617)
Observations	81	81	81	81	81	81	81

Note: Each column reports a PPML regression of the outcome on log Rochambeau exposure, an indicator for whether the département characteristic in the column header is above its median, and their interaction (equation A.2). The coefficient on Ln Rochambeau is the effect in below-median départements; adding the interaction gives the effect in above-median départements. Temp. and Prec. shock are the deviations of growing-season temperature and precipitation in 1788 from their 1750–1800 means. All columns include log not-sailed and de Grasse exposure, with positive-exposure indicators where exposure is zero for some départements, and the baseline controls: log other soldiers, infantry and cavalry garrisons, log population in 1793, the urbanization rate, and an indicator for Paris (département Seine). Robust standard errors in parentheses. The 28 interaction tests across Panels A–D are exploratory and not adjusted for multiple testing. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.8: Heterogeneity results (continued)

Panel C: volunteer companies

	(1) Parlement	(2) Royal tax	(3) Temp. shock	(4) Prec. shock	(5) Subscribers	(6) Markets/fairs	(7) Postal relays
Ln Rochambeau	0.402***	0.393**	0.340**	0.302**	0.268**	0.225**	0.323*
	(0.119)	(0.170)	(0.145)	(0.138)	(0.134)	(0.102)	(0.168)
Ln Rochambeau × above median	-0.320***	-0.066	0.124	0.206	0.306**	0.363*	0.161
	(0.119)	(0.193)	(0.180)	(0.193)	(0.146)	(0.201)	(0.175)
Above-median indicator	1.660***	0.559	-0.358	-0.565	-1.056**	-1.301**	-0.036
	(0.472)	(0.565)	(0.541)	(0.621)	(0.519)	(0.655)	(0.488)
Observations	81	81	81	81	81	81	81

Panel D: elite emigration

	(1) Parlement	(2) Royal tax	(3) Temp. shock	(4) Prec. shock	(5) Subscribers	(6) Markets/fairs	(7) Postal relays
Ln Rochambeau	0.214**	0.220	0.068	0.084	0.148	0.102	0.260*
	(0.106)	(0.145)	(0.113)	(0.114)	(0.122)	(0.121)	(0.141)
Ln Rochambeau × above median	-0.417*	-0.082	0.299**	0.328**	0.091	0.224	-0.183
	(0.243)	(0.174)	(0.130)	(0.140)	(0.139)	(0.152)	(0.198)
Above-median indicator	1.861**	0.372	-1.184***	-1.141***	-0.470	-0.753	0.846
	(0.901)	(0.553)	(0.373)	(0.431)	(0.465)	(0.477)	(0.632)
Observations	65	65	65	65	65	65	65

Note: Specifications and inference as in Panels A and B.

C.6. Individual-level Evidence

We draw on existing individual-level evidence and present novel evidence documenting the revolutionary involvement of some French officers and soldiers who had served in America.

Officers Several officers from the American campaign became involved in politics during the Revolution and were elected as deputies for the nobility to the Estates-General. Table A.9 documents the officers' experience in America and their political affiliation as liberals (in favor of the Revolution) or royalists (against the Revolution). We find that five of the seven officer-deputies who served under Rochambeau were liberals and only one was a royalist. Likewise, Lafayette, the one officer-deputy who served under George Washington, was a liberal. These men were among a small group of deputies for the nobility who defected from their own group and broke the traditional order by sitting together with the Third Estate or voting for the abolition of feudalism on the night of August 4.[31] In contrast, none of the officer-deputies who served under de Grasse was a liberal, while two of the three were royalists who fiercely opposed the Revolution.[32]

While this evidence is known to historians (e. g. Tackett, 1986), we add novel evidence that officers serving under Rochambeau became involved in the Revolution by joining the Jacobin Club of Paris (Table A.10). The *Société des Amis de la Constitution* of Paris, informally known as the Jacobin Club of Paris, was a key organization in propelling and steering the French Revolution. We manually identified officers from the American campaign among the 1,100 members listed in December 1790.[33] As Table A.10 shows, 10% of the 241 officers serving under Rochambeau (and thus experiencing the United States and New England firsthand) were members of the Jacobin Club of Paris by December 1790. In contrast, only 4.8% of the 208 officers serving under de Grasse (and thus not experiencing New England firsthand) became members of this revolutionary society.

Soldiers Sources on soldiers are generally poor, and only a few anecdotes on soldiers' acts of revolution are known. For example, one soldier who served under Rochambeau "risked his life" in the Storming of the Bastille and helped the Parisian crowds capture the "fortress-prison-armory" in his capacity as a cannoneer (Scott, 1998, 137).[34] Also, more than a dozen former soldiers under Rochambeau enlisted in the Parisian National Guard at a time when the decision represented a clear commitment to the cause of the Revolution (Scott, 1998, 137). In another episode already alluded to in Section C.2, a group of soldiers from *Soissonnais* deserted

[31] For example, Vicomte de Noailles, who served under Rochambeau as colonel-in-second in *Soissonnais*, initiated the revolutionary Night of August 4 during which nobles voluntarily renounced their feudal rights.

[32] Vicomte de Mirabeau sat on the "extreme right" and, unlike his brother, was a famous counter-revolutionary (Bodinier, 1983, 406).

[33] Membership is based on the list printed in Paris, December 21, 1790, on behalf of the *Société des Amis de la Constitution*. (Scans are accessible via Google Books and HathiTrust.) To our knowledge, this is the earliest extant and complete membership list. We linked officers primarily by surname, adjusting for spelling differences and retaining only unambiguous matches. In 1790, "passive citizens" below the wealth threshold were excluded from membership. This effectively excluded the vast majority of regular soldiers.

[34] The participants were later commemorated as *Vainqueurs de la Bastille*, but the retrospective lists are studded with mistakes, not least due to the absence of orthographic rules. The modal conqueror was a carpenter living in the neighboring Paris faubourg. Among the conquerors who were neither Parisians nor carpenters were two foreigners who had participated in the Geneva Revolution of 1782 (Godechot, 1970).

Table A.9: Officers as deputies to the Estates-General, 1789

Name	Regiment	Newport	Yorktown	Liberal	Royalist
Rochambeau's special expedition					
Duc de Biron	Lauzun (cavalry)	✓	✓	✓	
Duc de Castries	Saintonge	✓	✓		✓
Comte de Custine	Saintonge	✓	✓	✓	
Comte de Lameth	General staff	✓	✓	✓	
Thibault de Menonville	General staff	✓	✓	✓	
Comte de Montmorency	Bourbonnais	✓	✓		
Vicomte de Noailles	Soissonnais	✓	✓	✓	
de Grasse's army					
Vicomte de Mirabeau	Touraine		✓		✓
Marquis de Rostaing	Gatinais		✓		
Marquis de Saint-Simon*	Touraine		✓		✓
Others					
Marquis de Lafayette	Washington	(✓)	✓	✓	

Sample: Officers who fought in the Siege of Yorktown and were elected deputies to the Estates-General in 1789. All officers belonged to the nobility and thus represented the Second Estate. *Political affiliation*: Liberal deputies voted for the abolition of feudalism on the night of August 4 or sat together with the Third Estate. Royalists were expressly in favor of monarchical institutions. Deputies classified as neither liberal nor royalist belonged to the group of moderates. *Sources*: Bodinier (1983); Tackett (1996).

* Marquis de Saint-Simon refers to Claude-Anne de Rouvroy, not Claude Henri de Rouvroy, the philosopher.

upon rumors that their lieutenant-colonel would collaborate with the counter-revolution. As it turned out, the 89 deserting soldiers formed the nucleus of an army of revolutionaries in the département Vaucluse (Susane, 1876, Vol. 4, 15).

Beyond these scattered anecdotes, however, it appears that those who became revolutionaries are lost to history. Especially for veterans who returned home after being discharged or retired from service, documenting systematic individual-level evidence of their involvement in the Revolution of 1789 appears a Herculean challenge. The absence of "lists of participants" is especially salient for anti-feudal revolts, which were among the first instances of revolutionary insurrection of common people across the country. These revolts were not systematically policed, and participants would not have drawn up such lists voluntarily for fear of retribution.[35] Taken together, the regional results and these individual cases are consistent with some returning veterans contributing directly to revolutionary activity. The surviving historical sources do not allow us to trace such participation systematically at the individual level, which is where the aggregate empirical evidence is useful.

[35] If one views the Storming of the Bastille as an anti-feudal revolt, it was the exception to the rule. This single event was (and still is) commemorated by a holiday on July 14, and by medals of honor awarded to the *Vainqueurs de la Bastille* (see also footnote 34).

Table A.10: Officers in the Paris Jacobin Club, 1790

Army	Officers	Jacobins	Share
Rochambeau	241	24	10.0%
de Grasse	208	9	4.3%

This table shows that officers who served under Rochambeau were twice as likely as officers who served under de Grasse to become members of the Paris Jacobin Club by 1790. Membership is based on the list of members of the *Société des Amis de la Constitution* (informally known as the Jacobin Club), which was printed on behalf of the society in Paris, dated December 21, 1790. We linked officers primarily by surname, adjusting for spelling differences and retaining only unambiguous matches.

D. Additional Results

D.1. Unconditional Correlations and Coefficients on Controls

Table A.11: Full PPML results for baseline regression

	Dep var: [support for revolution]							
	Anti-feudal revolts		Political societies		Volunteer companies		Elite emigration	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ln Rochambeau combatants	0.526***	0.791***	0.414***	0.333**	0.414***	0.390***	0.308***	0.170*
	(0.172)	(0.272)	(0.097)	(0.136)	(0.071)	(0.107)	(0.070)	(0.095)
Ln other soldiers		0.159		−0.003		0.145		−0.095
		(0.233)		(0.125)		(0.102)		(0.101)
Infantry garrisons		0.013		0.062		−0.006		0.030
		(0.105)		(0.038)		(0.035)		(0.031)
Cavalry garrisons		−0.408**		−0.162*		0.032		0.099
		(0.169)		(0.089)		(0.069)		(0.073)
Ln population 1793		−0.030		0.509		−0.032		−0.140
		(0.494)		(0.368)		(0.282)		(0.292)
Urbanization rate 1793		−2.349		0.679		−1.700**		2.137***
		(1.782)		(0.541)		(0.793)		(0.617)
𝟙: Paris (dept Seine)		−1.798		−2.761***		0.346		−0.585
		(1.164)		(0.435)		(0.622)		(0.421)
Constant	0.132	−0.648	−0.026	−6.274	1.500***	1.442	5.570***	7.788**
	(0.508)	(5.833)	(0.326)	(4.272)	(0.242)	(3.316)	(0.251)	(3.414)
N (Obs = département)	81	81	81	81	81	81	65	65
Pseudo R^2	0.10	0.21	0.09	0.16	0.16	0.21	0.18	0.41
1 SD Rochambeau effect (%)	65.2	112.7	48.4	37.4	48.4	45.0	36.1	18.5

PPML estimates with count outcomes in levels. Odd columns report unconditional estimates and even columns include the baseline controls. Rochambeau exposure enters in logs; controls are specified as in Table 1. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

D.2. Intention to Treat Interpretation

Our baseline specification uses as the explanatory variable the number of combatants who returned to France. Here, we document that results are very similar if we instead use the number of combatants who were *deployed* to the United States. This supports an intention-to-treat interpretation of our baseline results.

As we discussed in the data appendix and the historical background appendix, 85% of combatants had returned to France by the summer of 1783. The chief reason why combatants did not return to France was disease mortality due to malaria, which combatants contracted in Virginia.[36] Based on this historical evidence, it is reasonable to conjecture that attrition, the difference between the number of combatants deployed to the United States and the number of combatants returning to France, was essentially a random proportional loss among the deployed and unrelated to the combatants' French origins. Under this assumption, using the deployed rather than the returning combatants should leave the point estimates unchanged in expectation, while the standard errors may be somewhat larger.[37] The estimates provide a direct check of this prediction.

Table A.12 re-estimates the PPML comparison of Rochambeau and de Grasse combatants in Table 3, now measuring each exposure by the number of combatants deployed to the United States. The estimates are close to the baseline. The Rochambeau coefficients remain positive and significant for all four outcomes. They are nearly unchanged for anti-feudal revolts (0.84 versus 0.83), slightly larger for political societies and volunteer companies, and larger for elite emigration (0.26 versus 0.19), and their standard errors are similar or slightly larger, in line with the prediction. The coefficients on not-sailed and de Grasse combatants also change little, except that the de Grasse coefficient for political societies falls to about zero. The Rochambeau coefficients therefore remain larger than those on both comparison groups, and the tests of equality give similar or lower p-values than in the baseline. The overall similarity supports the intention-to-treat interpretation of the baseline results based on returning combatants.

[36] Another disease many combatants suffered from was scurvy, which resulted from poor nutrition during the voyage to and from America, but mortality was lower. There were casualties from combat, in particular at the Siege of Yorktown, but those were quantitatively less important. Desertion rates were very low throughout.

[37] Write $R_i = s_i D_i$, where D_i and R_i are the numbers of combatants from département i who were deployed and who returned, and s_i is the share who returned. In logs, $\ln R_i = \ln D_i + \ln s_i$. Because attrition occurred after deployment, the error $\ln s_i$ is independent of the observed regressor $\ln D_i$, not of the true regressor $\ln R_i$. This is known as Berkson measurement error, and unlike classical measurement error it does not attenuate the estimated coefficient. In our PPML specification, $E[y_i \mid R_i, X_i] = \exp(\alpha + \beta \ln R_i + X_i'\gamma)$. If s_i is independent of D_i and the controls X_i, then $E[y_i \mid D_i, X_i] = \exp(\alpha + \beta \ln D_i + X_i'\gamma)\, E[s_i^{\beta}]$. Attrition thus only shifts the constant and leaves β unchanged. The variation in s_i enters the residual, which tends to increase standard errors.

Table A.12: Effects of Rochambeau and de Grasse combatants deployed to America, rather than those who returned to France

	Dep. variable: [support for revolution]			
	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigration
Ln deployed Rochambeau combatants	0.839***	0.371***	0.424***	0.264***
	(0.298)	(0.143)	(0.123)	(0.097)
Ln not sailed combatants	0.071	−0.199*	−0.066	−0.203***
	(0.164)	(0.106)	(0.091)	(0.067)
Ln deployed de Grasse combatants	−0.342	0.005	−0.046	0.040
	(0.238)	(0.153)	(0.124)	(0.114)
Baseline controls	✓	✓	✓	✓
N (Obs = département)	81	81	81	65
Pseudo R^2	0.22	0.18	0.23	0.50
1 SD Rochambeau effect (%)	119.8	41.6	49.0	29.8
1 SD Notsailed effect (%)	9.3	−22.1	−8.0	−22.8
1 SD de Grasse effect (%)	−25.7	0.4	−3.9	3.7
p Rochambeau = Notsailed	0.056	0.001	0.005	0.000
p Rochambeau = de Grasse	0.002	0.096	0.012	0.136

When exposure is measured by *deployed* rather than *returning* combatants, the PPML estimates are close to the baseline in Table 3: the Rochambeau coefficient is nearly unchanged for anti-feudal revolts, slightly larger for political societies and volunteer companies, and larger for elite emigration, while the coefficients on the comparison groups change little. This is consistent with the historical evidence that the main reason why combatants deployed to America did not return to France was disease mortality, especially from malaria, which combatants contracted in Virginia. Regressions are at the département level. Deployed military exposures use the logged intensive-margin construction, with positive-exposure indicators for the zero-containing not-sailed and de Grasse exposures. Baseline controls are log other soldiers, infantry and cavalry garrison counts in levels, log population in 1793, urbanization, and an indicator for Paris/dept. Seine. p Rochambeau = … reports the robust Wald-test *p*-value for equality of coefficients on Rochambeau combatants and comparison combatants. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

D.3. Balance and Robustness to Complete Control Blocks

The main-text balance figures are descriptive diagnostics. Each coefficient comes from a separate regression of a standardized covariate on the standardized log ratio of Rochambeau to not-sailed combatants (Figure 3) or to de Grasse combatants (Figure 5). Because the log ratio is undefined where comparison exposure is zero, these regressions drop six départements for the not-sailed comparison and one for the de Grasse comparison.

In this Appendix, we show that the results are robust to adding the predetermined covariates from the balance diagnostics. All specifications are estimated by PPML with outcomes in levels and include the preferred military-exposure construction and the baseline controls. Column 1 reproduces Table 3, and column 2 restricts the sample to observations with complete data on all covariates. Columns 3–5 add the geography, Old Regime institution, and human-capital/economy blocks one at a time; column 6 adds all blocks jointly, and column 7 adds the first principal component of each block. Adding complete blocks makes the exercise independent of arbitrary significance cutoffs in the balance diagnostics. Because the unbalanced covariates fall into different blocks, a single block addresses only part of the imbalance. As in the main text, we therefore consider columns 6 and 7, which control for all dimensions jointly, more appropriate.

The Rochambeau coefficient remains positive and significant in every specification and for every outcome, although for volunteer companies it is somewhat smaller once human-capital/economy controls are included. The not-sailed coefficient is never significantly positive, except for anti-feudal revolts with geography controls. The Rochambeau–not-sailed contrast therefore remains significant at the 10% level throughout for political societies, volunteer companies, and elite emigration. For anti-feudal revolts, where the not-sailed estimate is imprecise, the contrast in columns 6 and 7 is somewhat smaller than in the baseline and no longer significant ($p = 0.12$ and 0.13). In column 7, the de Grasse comparison matches the main text: the Rochambeau coefficients are significantly larger for anti-feudal revolts and volunteer companies, but not for political societies and elite emigration, which are the two outcomes for which the not-sailed placebo indicates negative selection. With all controls in column 6, the de Grasse coefficients move away from the baseline, becoming large and negative for anti-feudal revolts and exceeding the Rochambeau coefficient for political societies.

Table A.13: Robustness to Complete Control Blocks: Anti-Feudal Revolts

	(1) Original	(2) Constant sample	(3) + Geography	(4) + Institutions	(5) + Human/economy	(6) All controls	(7) One PC/block
Ln Rochambeau combatants	0.834***	0.774***	0.520**	0.961***	0.608***	0.695***	0.731***
	(0.279)	(0.299)	(0.214)	(0.217)	(0.234)	(0.246)	(0.271)
Ln not sailed combatants	0.0883	0.0725	0.313*	0.0537	0.0897	0.120	0.130
	(0.166)	(0.180)	(0.173)	(0.149)	(0.169)	(0.207)	(0.193)
Ln de Grasse combatants	-0.324	-0.277	-0.393	-0.0297	-0.206	-0.977***	-0.114
	(0.197)	(0.206)	(0.279)	(0.241)	(0.295)	(0.298)	(0.232)
1 SD Rochambeau effect (%)	121.6	104.8	61.9	143.5	75.7	90.3	96.8
p Rochambeau = Notsailed	0.053	0.096	0.514	0.002	0.123	0.117	0.133
p Rochambeau = de Grasse	0.001	0.003	0.020	0.001	0.039	0.000	0.013
Observations	80	77	77	77	77	77	77
Pseudo R-squared	0.23	0.18	0.32	0.30	0.30	0.48	0.21

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: The Rochambeau coefficient remains positive and significant across specifications, but its difference from the not-sailed coefficient is not significant once the geography or human-capital/economy block, all blocks, or the principal components are included. PPML estimates with the anti-feudal-revolt count in levels. All columns include Rochambeau, not-sailed, and de Grasse exposure using the preferred intensive-margin construction, together with the baseline controls. The "Original" column reproduces Table 3. The constant-sample column holds the estimation sample fixed before additional covariates are added. The thematic columns add every predetermined covariate in the named block; "All controls" includes all three blocks; "One PC/block" includes the first principal component from each block. Positive quantities enter in logs, and quantities with observed zeros enter in levels; indicators, rates, and weather shocks retain their natural scales. The equality rows report robust Wald-test *p*-values.

Table A.14: Robustness to Complete Control Blocks: Political Societies

	(1) Original	(2) Constant sample	(3) + Geography	(4) + Institutions	(5) + Human/economy	(6) All controls	(7) One PC/block
Ln Rochambeau combatants	0.359***	0.357**	0.283**	0.288**	0.395**	0.267***	0.346**
	(0.138)	(0.142)	(0.129)	(0.134)	(0.163)	(0.102)	(0.146)
Ln not sailed combatants	-0.224**	-0.267***	-0.189	-0.0413	-0.204**	0.0575	-0.195*
	(0.105)	(0.102)	(0.134)	(0.116)	(0.101)	(0.0894)	(0.112)
Ln de Grasse combatants	0.137	0.152	0.208	0.211*	0.219*	0.423***	0.292**
	(0.120)	(0.116)	(0.140)	(0.115)	(0.126)	(0.151)	(0.126)
1 SD Rochambeau effect (%)	40.8	39.2	29.9	30.6	44.2	28.0	37.8
p Rochambeau = Notsailed	0.001	0.000	0.006	0.056	0.001	0.079	0.000
p Rochambeau = de Grasse	0.242	0.279	0.715	0.667	0.355	0.344	0.787
Observations	81	78	78	78	78	78	78
Pseudo R-squared	0.19	0.19	0.25	0.26	0.23	0.33	0.22

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: The Rochambeau coefficient remains positive, significant, and significantly larger than the not-sailed coefficient across specifications; the de Grasse coefficient grows with additional controls. PPML estimates with the early-political-society count in levels. The specification and column construction are identical to Table A.13. The equality rows report robust Wald-test p-values for the displayed intensive-margin coefficients.

Table A.15: Robustness to Complete Control Blocks: Volunteer Companies

	(1) Original	(2) Constant sample	(3) + Geography	(4) + Institutions	(5) + Human/economy	(6) All controls	(7) One PC/block
Ln Rochambeau combatants	0.410***	0.420***	0.387***	0.352***	0.283**	0.284**	0.239**
	(0.113)	(0.112)	(0.126)	(0.114)	(0.114)	(0.119)	(0.110)
Ln not sailed combatants	-0.0538	-0.0189	-0.0608	0.0286	-0.140	-0.0406	-0.0515
	(0.0899)	(0.0836)	(0.112)	(0.0815)	(0.0871)	(0.116)	(0.0869)
Ln de Grasse combatants	-0.0633	-0.0953	0.0405	-0.110	-0.167*	0.0563	-0.0270
	(0.0936)	(0.0926)	(0.128)	(0.0928)	(0.0865)	(0.131)	(0.0981)
1 SD Rochambeau effect (%)	47.9	47.6	43.2	38.5	30.0	30.1	24.7
p Rochambeau = Notsailed	0.004	0.005	0.017	0.032	0.006	0.063	0.046
p Rochambeau = de Grasse	0.002	0.000	0.082	0.002	0.001	0.251	0.075
Observations	81	78	78	78	78	78	78
Pseudo R-squared	0.24	0.27	0.40	0.32	0.36	0.44	0.33

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: The Rochambeau coefficient remains positive, significant, and larger than both comparison coefficients across specifications, although it declines once the human-capital/economy block is included. PPML estimates with volunteer companies in levels. The specification and column construction are identical to Table A.13. The equality rows report robust Wald-test *p*-values for the displayed intensive-margin coefficients.

Table A.16: Robustness to Complete Control Blocks: Elite Emigration

	(1) Original	(2) Constant sample	(3) + Geography	(4) + Institutions	(5) + Human/economy	(6) All controls	(7) One PC/block
Ln Rochambeau combatants	0.193**	0.267***	0.256***	0.262***	0.317***	0.270**	0.239**
	(0.0972)	(0.0882)	(0.0895)	(0.101)	(0.101)	(0.107)	(0.0997)
Ln not sailed combatants	-0.233***	-0.231***	-0.202**	-0.110	-0.277***	-0.168*	-0.185**
	(0.0680)	(0.0670)	(0.0834)	(0.0765)	(0.0785)	(0.0956)	(0.0872)
Ln de Grasse combatants	0.0857	0.155*	0.160*	0.160**	0.206**	0.154	0.162*
	(0.100)	(0.0910)	(0.0837)	(0.0682)	(0.0978)	(0.127)	(0.0962)
1 SD Rochambeau effect (%)	21.3	29.3	27.9	28.6	35.6	29.6	25.8
p Rochambeau = Notsailed	0.000	0.000	0.000	0.014	0.000	0.011	0.001
p Rochambeau = de Grasse	0.369	0.354	0.430	0.403	0.362	0.479	0.555
Observations	65	63	63	63	63	63	63
Pseudo R-squared	0.51	0.55	0.65	0.69	0.58	0.77	0.59

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Note: The Rochambeau coefficient remains positive, significant, and significantly larger than the not-sailed coefficient across specifications; it is larger than the de Grasse coefficient, but not significantly so. PPML estimates with the elite-emigration count in levels. The specification and column construction are identical to Table A.13. The equality rows report robust Wald-test p-values for the displayed intensive-margin coefficients.

D.4. Robustness

This section examines three dimensions of robustness: changes to the estimation sample, spatially correlated errors, and alternative PPML exposure specifications. In each case, we vary the relevant feature while otherwise keeping the preferred specification fixed.

D.4.1. Alternative Samples

Table A.17 first excludes the three départements associated with the historical homelands of Rochambeau's French regiments: Allier (Bourbonnais), Charente-Maritime (Saintonge), and Aisne (Soissonnais). If these regiments had been selected for the expedition for reasons specific to their homelands, neither comparison group could account for this selection, since their regiments had different homelands. Excluding these départements addresses this concern.

The results are close to the preferred specification. The Rochambeau coefficients remain positive and similar in size for all four outcomes, although the elite-emigration coefficient is significant only at 10%. The comparisons follow the same pattern as before. The Rochambeau–not-sailed contrast is significant for political societies, volunteer companies, and elite emigration, and borderline for anti-feudal revolts ($p = 0.065$). The Rochambeau–de Grasse contrast is significant for anti-feudal revolts and volunteer companies, but not for political societies and elite emigration.

Table A.18 then extends the sample to the two départements in Alsace, which the baseline excludes for two reasons. First, the German-speaking regiments, Deux-Ponts among Rochambeau's troops and Anhalt/Salm-Salm among the not-sailed units, likely included many combatants born in Alsace. We lack origin data for these regiments, and de Grasse's troops included no German-speaking regiment, so exposure in Alsace cannot be measured comparably across the three groups. Second, Rochambeau himself commanded the troops restoring order in Alsace in the summer of 1789. Excluding Alsace keeps any direct effect of his personal presence separate from the effect of his former combatants (see Section C.2).

With Alsace included, the political-society estimate is nearly unchanged, but the other Rochambeau coefficients are smaller. The anti-feudal-revolt coefficient falls by about a quarter, from 0.83 to 0.61, and the elite-emigration coefficient falls from 0.19 to 0.12 and is no longer significant. Because the not-sailed coefficients barely change, the Rochambeau–not-sailed contrast remains significant for political societies, volunteer companies, and elite emigration, but not for anti-feudal revolts ($p = 0.163$). The Rochambeau–de Grasse comparisons match the preferred specification.

D.4.2. Spatially Correlated Errors

Because outcomes and military recruitment may be spatially correlated across nearby départements, Table A.19 reports spatial-HAC standard errors for the specifications in Tables 1–3. They are similar to the robust standard errors, and the conclusions are unchanged at bandwidths of 100, 200, and 300 km. The only exception is elite emigration, whose Rochambeau coefficient is significant only at 10% at 100 and 300 km. The arrondissement-level spillover specifications in Table 5, where spatial correlation across neighboring units is a more immediate concern, report the same 200 km spatial-HAC standard errors in square brackets

Table A.17: Excluding regiments' homelands

	Dep. variable: [support for revolution]			
	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigration
Ln Rochambeau combatants	0.825***	0.295**	0.391***	0.173*
	(0.280)	(0.137)	(0.119)	(0.103)
Ln not sailed combatants	0.112	−0.247**	−0.067	−0.235***
	(0.167)	(0.110)	(0.093)	(0.070)
Ln de Grasse combatants	−0.291	0.181	−0.083	0.052
	(0.206)	(0.114)	(0.096)	(0.101)
Baseline controls	✓	✓	✓	✓
N (Obs = département)	77	78	78	63
Pseudo R^2	0.23	0.20	0.24	0.51
1 SD Rochambeau effect (%)	120.4	32.7	45.5	18.9
1 SD Notsailed effect (%)	15.2	−26.8	−8.1	−26.1
1 SD de Grasse effect (%)	−22.6	17.2	−7.1	4.8
p Rochambeau = Notsailed	0.065	0.001	0.005	0.001
p Rochambeau = de Grasse	0.002	0.540	0.003	0.338

The effect of Rochambeau combatants on support for the revolution is not driven by the homelands of Rochambeau's regiments. Specifically, we exclude the départements Allier (*Bourbonnais*), Charente-Maritime (*Saintonge*), and Aisne (*Soissonnais*).

The PPML regressions use logged Rochambeau exposure, logs and positive-exposure indicators for the zero-containing comparison groups, and baseline controls consisting of log other soldiers, infantry and cavalry garrison counts in levels, log population, urbanization, and Paris. For each two-part exposure, the one-SD effect uses the SD of log intensity among positive observations in that estimation sample. p Rochambeau = . . . reports the robust Wald-test *p*-value for equality of coefficients on Rochambeau combatants and comparison combatants. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

alongside the robust ones; they are at most about fifteen percent larger, and the significance of the own and neighbor Rochambeau coefficients is unchanged.

Table A.18: Extended sample including départements in Alsace

	Dep. variable: [support for revolution]			
	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigration
Ln Rochambeau combatants	0.610**	0.352***	0.318***	0.116
	(0.302)	(0.130)	(0.117)	(0.091)
Ln not sailed combatants	0.065	−0.225**	−0.060	−0.250***
	(0.156)	(0.105)	(0.092)	(0.075)
Ln de Grasse combatants	−0.322*	0.135	−0.083	0.075
	(0.188)	(0.119)	(0.095)	(0.095)
Baseline controls	✓	✓	✓	✓
N (Obs = département)	82	83	83	67
Pseudo R^2	0.16	0.19	0.22	0.54
1 SD Rochambeau effect (%)	79.8	40.3	35.8	12.4
1 SD Notsailed effect (%)	8.4	−24.4	−7.2	−27.0
1 SD de Grasse effect (%)	−24.5	12.5	−7.0	7.0
p Rochambeau = Notsailed	0.163	0.001	0.020	0.004
p Rochambeau = de Grasse	0.009	0.233	0.007	0.745

This table extends the sample to Alsace (Bas-Rhin and Haut-Rhin). The first three Rochambeau coefficients remain positive and statistically significant; the elite-emigration estimate is positive but imprecise.

The PPML regressions use logged Rochambeau exposure, logs and positive-exposure indicators for the zero-containing comparison groups, and baseline controls consisting of log other soldiers, infantry and cavalry garrison counts in levels, log population, urbanization, and Paris. For each two-part exposure, the one-SD effect uses the SD of log intensity among positive observations in that estimation sample. p Rochambeau = … reports the robust Wald-test *p*-value for the equality of coefficients on Rochambeau combatants and placebo combatants. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

D.4.3. Alternative PPML Functional Forms

The preferred specification uses $\ln R_i$ for positive Rochambeau exposure and, for the two comparison groups that include zeros, separates whether exposure is positive from the log amount among positive observations. This avoids assigning an arbitrary scale to zeros: with $\ln(1 + x)$, changing the unit in which x is measured changes the relative importance of the added constant. PPML accommodates zeros in the count-valued dependent variable without transforming that outcome, but it does not by itself determine how a zero-valued regressor should enter. Tables A.20–A.22 compare the preferred right-hand-side construction with two transparent alternatives: all military exposures and count-valued baseline controls in levels, and military exposures per 1,000 residents. All three specifications retain PPML and the untransformed count outcomes.

Under all three constructions, the Rochambeau coefficient is positive for every outcome and significant for anti-feudal revolts, political societies, and volunteer companies; for elite emigration, it is significant only in the preferred specification. The implied effects are smaller in levels and per capita: a one-standard-deviation increase raises anti-feudal revolts by 77 and 51 percent, respectively, compared with 122 percent in the preferred specification. The comparison-group contrasts depend more on the scale. The Rochambeau–not-sailed contrast remains significant for political societies and volunteer companies, but not for anti-feudal revolts and elite emigration. For elite emigration, the negative not-sailed coefficient of the preferred specification is close to zero in both alternatives. The Rochambeau–de Grasse contrast remains significant for anti-feudal revolts in all three specifications, but not for volunteer companies.

Table A.19: Robustness to Spatially Correlated Errors

	Anti-feudal revolts	Political societies	Volunteer companies	Elite emigration
Panel A: Baseline specification (main Table 1)				
Ln Rochambeau combatants	0.791	0.333	0.390	0.170
	(0.272)	(0.136)	(0.107)	(0.095)
	[0.264]	[0.115]	[0.100]	[0.092]
N (départements)	81	81	81	65
Panel B: Not-sailed comparison (main Table 2)				
Ln Rochambeau combatants	0.787	0.382	0.401	0.214
	(0.291)	(0.136)	(0.112)	(0.097)
	[0.284]	[0.116]	[0.109]	[0.096]
Ln not-sailed combatants	0.025	−0.197	−0.071	−0.195
	(0.161)	(0.094)	(0.082)	(0.064)
	[0.163]	[0.114]	[0.084]	[0.075]
N (départements)	81	81	81	65
p: R = N, robust	0.0562	0.0009	0.0031	0.0005
p: R = N, spatial 200 km	0.0562	0.0016	0.0048	0.0008
Panel C: Full comparison (main Table 3)				
Ln Rochambeau combatants	0.834	0.359	0.410	0.193
	(0.279)	(0.138)	(0.113)	(0.097)
	[0.276]	[0.115]	[0.109]	[0.098]
Ln not-sailed combatants	0.088	−0.224	−0.054	−0.233
	(0.166)	(0.105)	(0.090)	(0.068)
	[0.149]	[0.126]	[0.093]	[0.074]
Ln de Grasse combatants	−0.324	0.137	−0.063	0.086
	(0.197)	(0.120)	(0.094)	(0.100)
	[0.226]	[0.134]	[0.089]	[0.106]
N (départements)	80	81	81	65
p: R = N, robust	0.0530	0.0010	0.0042	0.0004
p: R = N, spatial 200 km	0.0492	0.0026	0.0068	0.0003
p: R = G, robust	0.0009	0.2416	0.0017	0.3694
p: R = G, spatial 200 km	0.0026	0.1818	0.0009	0.4350
Panel D: Bandwidth sensitivity, full specification				
p: Rochambeau, 100 km	0.0025	0.0081	0.0005	0.0560
p: Rochambeau, 200 km	0.0025	0.0017	0.0002	0.0498
p: Rochambeau, 300 km	0.0022	0.0003	<0.0001	0.0607
p: R = N, 100 km	0.0519	0.0011	0.0052	0.0005
p: R = N, 200 km	0.0492	0.0026	0.0068	0.0003
p: R = N, 300 km	0.0399	0.0017	0.0031	0.0002
p: R = G, 100 km	0.0013	0.2315	0.0019	0.3977
p: R = G, 200 km	0.0026	0.1818	0.0009	0.4350
p: R = G, 300 km	0.0035	0.1636	0.0005	0.4881

Panels A–C reproduce the PPML coefficients, samples, and controls in main Tables 1–3. Conventional heteroskedasticity-robust standard errors appear in parentheses; spatial-HAC standard errors with a 200 km bandwidth appear in square brackets. The covariance estimator applies Bartlett weights, $\max\{1 - d_{ij}/h, 0\}$, to cross-products of the PPML scores, using great-circle distances between département centroids and the PPML Hessian. It includes the intercept, baseline controls, and comparison-group exposure indicators, including those suppressed in the table, and retains the $N/(N-1)$ scaling of the conventional PPML robust covariance.

R, N, and G denote the displayed intensive-margin coefficients for Rochambeau, not-sailed, and de Grasse combatants. Equality rows report two-sided asymptotic Wald-test p-values. Panel D reports p-values for the full specification at 100, 200, and 300 km; 200 km is the principal spatial-inference comparison. No coefficient stars are used: the two covariance estimators can imply different significance levels.

Table A.20: Preferred PPML specification: logged intensive margins

	Dep. variable: [support for revolution]			
	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigration
Ln Rochambeau combatants	0.834***	0.359***	0.410***	0.193**
	(0.279)	(0.138)	(0.113)	(0.097)
Ln not sailed combatants	0.088	−0.224**	−0.054	−0.233***
	(0.166)	(0.105)	(0.090)	(0.068)
Ln de Grasse combatants	−0.324	0.137	−0.063	0.086
	(0.197)	(0.120)	(0.094)	(0.100)
Baseline controls	✓	✓	✓	✓
N (Obs = département)	80	81	81	65
Pseudo R^2	0.23	0.19	0.24	0.51
1 SD Rochambeau effect (%)	121.6	40.8	47.9	21.3
1 SD Notsailed effect (%)	11.8	−24.6	−6.6	−25.7
1 SD de Grasse effect (%)	−24.8	12.8	−5.4	8.1
p Rochambeau = Notsailed	0.053	0.001	0.004	0.000
p Rochambeau = de Grasse	0.001	0.242	0.002	0.369
p Roch.–Notsailed = de Grasse	0.009	0.017	0.002	0.006

Count outcomes remain in levels. Rochambeau exposure enters in logs. Not-sailed and de Grasse exposure use logs among positive observations plus positive-exposure indicators in every column; the indicators are suppressed. Baseline controls are log other soldiers, infantry and cavalry garrison counts in levels, log population, urbanization, and Paris. One-standard-deviation effects are percentage changes in the PPML conditional mean, with log-intensity SDs calculated among positive-exposure observations in the estimation sample. Robust standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.21: PPML with exposure and count controls in levels

	Dep. variable: [support for revolution]			
	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigrants
Rochambeau combatants	0.021**	0.008**	0.010***	0.004
	(0.010)	(0.004)	(0.003)	(0.003)
Not sailed combatants	−0.001	−0.009**	−0.004	−0.000
	(0.009)	(0.004)	(0.003)	(0.005)
De Grasse combatants	−0.027	−0.001	0.011*	0.010
	(0.018)	(0.010)	(0.006)	(0.011)
Baseline controls	✓	✓	✓	✓
N (Obs = département)	81	81	81	65
Pseudo R^2	0.17	0.17	0.16	0.46
1 SD Rochambeau effect (%)	77.2	25.4	32.7	11.7
1 SD Notsailed effect (%)	−3.7	−28.9	−13.7	−1.9
1 SD de Grasse effect (%)	−32.0	−0.9	17.8	17.1
p Rochambeau = Notsailed	0.177	0.005	0.004	0.332
p Rochambeau = de Grasse	0.042	0.409	0.878	0.542

Count outcomes, the three military exposures, other soldiers, infantry garrisons, cavalry garrisons, and population enter in levels; regressions also include urbanization and Paris. The one-standard-deviation rows report $100[\exp\{\widehat{\beta}\ \mathrm{sd}(X)\} - 1]$. Robust standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A.22: PPML with military exposure per 1,000 residents

	Dep. variable: [support for revolution]			
	(1) Anti-feudal revolts	(2) Political societies	(3) Volunteer companies	(4) Elite emigrants
Rochambeau combatants per 1,000	6.287**	3.113**	3.685***	1.443
	(3.186)	(1.368)	(0.913)	(0.934)
Not sailed combatants per 1,000	1.502	−3.488*	−0.572	−0.622
	(3.157)	(2.090)	(1.286)	(1.454)
De Grasse combatants per 1,000	−8.937	0.472	3.114	2.205
	(5.499)	(3.317)	(2.320)	(3.421)
Baseline controls	✓	✓	✓	✓
N (Obs = département)	81	81	81	65
Pseudo R^2	0.18	0.17	0.18	0.42
1 SD Rochambeau effect (%)	51.4	22.8	27.5	10.4
1 SD Notsailed effect (%)	11.3	−22.0	−4.0	−4.6
1 SD de Grasse effect (%)	−23.9	1.5	10.0	6.8
p Rochambeau = Notsailed	0.365	0.010	0.011	0.182
p Rochambeau = de Grasse	0.023	0.447	0.821	0.820

Count outcomes remain in levels. Rochambeau, not-sailed, de Grasse, and general military recruitment are expressed per 1,000 residents. Infantry and cavalry garrison counts remain in levels; population enters in thousands, and the regressions also include urbanization and Paris. The one-standard-deviation rows report $100[\exp\{\widehat{\beta}\,\mathrm{sd}(X)\}-1]$. Robust standard errors are in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

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