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"The Road to Rebellion: Rural Uprisings and State-Building in the Run-Up to the French Revolution"

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The Road to Rebellion: Rural Uprisings and State-Building in the Run-Up to the French Revolution*

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Abstract

Early modern European powers were beset by episodic unrest as they sought to consolidate authority and build empires. We examine how growing state communication networks and increased state activity impacted rural unrest by combining original and detailed parish-level data from pre-revolutionary France on the expansion of the horse-post relay network with rural rebellion in this period. Using a staggered difference-in-differences framework, we find that new horse-post relays are associated with more local rebellion. We argue that the main mechanisms are the material consequences of state efforts at monopolization. New horse-post relays are associated with more rebellion against high-profile state agents—the military, police, and judiciary—that conscripted civilians, enforced taxes and laws, and increasingly monopolized roads. We find no evidence that relays fostered broader rebellion against the nobility or Church, or that the effects stem from informational or infrastructural changes occurring contemporaneously. Our findings have implications for the scholarly understanding of the co-evolution of states and violence.

Keywords State-building, rebellion, social order, postal network, Western Europe

JEL codes N44, P41, R42

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Social scientists and historians have long studied rebellion and unrest. Social conflict expresses underlying discontent and competition over power disparities within society, as well as values, perceptions of fairness and respect, and expectations for the future. Because of its critical role in social transformation and long-term development (Thompson, 1964; Tilly, 1986; Skocpol, 1979), scholars have examined how conflict shapes phenomena as wide-ranging as state formation (Slater, 2010), political consciousness (Porchnev, 1963; Thompson, 1971), regime durability (Levitsky and Way, 2013), and identity and beliefs (Ladurie, 1966).

Many early students of conflict focused on episodes of violence in early modern Europe (Ladurie, 1966; Porchnev, 1963; Tilly, 1986; Thompson, 1971), which was undergoing rapid social, cultural, and economic change together with state formation. Because of the historical importance and prominence of this violence, as well as rapid improvements in data availability and processing, a branch of emerging scholarship has turned to reexamining rebellion and unrest in this era (e.g., Chambru, 2019; Degrave, 2023; Jha and Wilkinson, 2023; Chambru and Maneuvrier-Hervieu, 2024; Waldinger, 2024).

We contribute to this emerging body of work with an empirical focus on eighteenth-century France in the run-up to the French Revolution. The French Revolution has played an outsized role in history and is one of the most studied political events of the past two centuries (e.g., Andress, 2013). The thousands of localized uprisings scattered across the French countryside in the decades prior to the Revolution have received comparatively less attention (Nicolas, 2002). Regional rebellions and protests simmered and at times were suppressed by state agents (Aubert, 2015). These local uprisings would eventually culminate in a nationwide revolution.

We examine how the expansion of the state's communication networks affected rural uprisings by combining original data on the development of France's horse-post relay network during the eighteenth century with the most comprehensive data ever collected on rural rebellion in pre-Revolutionary France.[1] The period was marked by major efforts at centralized state-building as the monarchy sought to expand its coercive, infrastructural, and informational capacities. The investments made by the monarchy in the eighteenth century nearly doubled the nationwide network of horse-post relays, establishing throughout the territory attended lodging quarters and a well-prepared set of fresh horses for messengers carrying information for the royal administration where there had previously been no support. The

[1]Our dataset on eighteenth-century rebellions uses the same source as HiSCoD (Chambru and Maneuvrier-Hervieu, 2024), i.e., Nicolas's (2002) survey. However, it is more comprehensive in that it contains *all* of the variables available in this source. The horse-post network data we construct is also more comprehensive than that in existing literature, in particular data by Bretagnolle and Verdier (2005; 2007) used in Bretagnolle and Verdier (2006), Verdier (2007; 2009), and Bretagnolle and Franc (2017). We provide more details on these points in the Data Appendix.

horse-post relay network became one of the primary means of consolidating the hierarchical French state's informational capacity throughout the territory, as it sought to rule and implement policy consistently across space (Marchand, 2006). Even so, the state struggled to monopolize and control local activity and many of its efforts were contested.

Using a staggered difference-in-differences framework centered on parishes—the smallest territorial unit in pre-Revolutionary France—we show that the introduction of a new horse-post relay in a parish was associated with more local rebellion in subsequent decades. We attribute this finding mainly to the material consequences of state efforts at the monopolization and ordering of local society.

The increasingly present state that was behind and facilitated by new horse-post relays became a target of popular ire for its activities: heavy-handed efforts at forced conscription, tax enforcement, monopolization of the roads, and inflexible enforcement of royal acts and laws perceived as unfair. Accordingly, we find that new postal nodes are strongly associated with rebellions against agents with coercive powers to maintain and enforce order: the military, the police, and the judiciary. They are also associated with rebellions against various forms of taxes and rebellions by notables that had private interests along the roads. Furthermore, we find a "gathering" effect on rebellion locally: new relays appear to have attracted some share of rebellions that otherwise might have occurred nearby. Together, these effects outweighed improvements in the ability of the state to discern and contain dissent.

Our empirical approach and additional data give us a unique opportunity to evaluate and challenge several alternative explanations, namely the erosion of traditional social hierarchies, the role of war zones and war involvement, information and collective action possibly spurred by the contemporaneous letter-post system, changes in the recording of rebellions by police (*maréchaussée)* brigades charged with keeping order, and contemporaneous transit infrastructure. These latter three alternatives are often hard to dismiss in more commonly studied cases where communication and transportation networks are built together from scratch and can be widely used. In eighteenth-century France, however, horse-post relays were built atop existing transit routes and were used prominently by state agents. They were not accompanied by new police or letter-post offices.

Our findings have implications for the scholarly understanding of the co-evolution of states and violence, as well as for the vast corpus of work on the origins of the French Revolution. While greater state capacity may ultimately support political stability and order, the process of state-building itself can be disruptive to pre-existing social structures and contested, even for decades at a time. This process likely fueled the accumulation of grievances and repertoires of resistance that ultimately exploded during the Revolution.

Contested State-Building

Scholars have long observed that weaknesses in state authority as well as rapid changes to society and to state-society relations can foster instability and rebellion. States are critical in establishing and maintaining social order (Huntington, 1968; Skocpol, 1979). By monopolizing the legitimate use of force and funneling resources into the military and policing, states can establish and enforce order, change citizen expectations and behaviors, and forestall or minimize civil conflict, crime, and localized rebellion (Elias, 1994 [1939]; Fearon and Laitin, 2003; Blattman and Miguel, 2010).[2]

Building a strong state, however, is a long, complex, and often contested process. As Elias (1994 [1939]) emphasizes, it has taken most states centuries to come close to monopolizing the legitimate use of force and centralizing power. Many states around the world still face fundamental weaknesses (Soifer, 2015; Centeno et al., 2017). Furthermore, efforts to extend control often come with social disruption and contention.

A core component of state-building throughout the world has been the expansion of transportation and communication routes. Prior to industrialization, states and empires built paths, stone roads, postal routes, ports, and canals to reach remote populations, transmit information and correspondence, and deploy military forces (Bulliet, 1990; Rogowski et al., 2022). This is closely tied to what Mann (1984) termed state infrastructural power: the institutional capacity to exercise control and implement state policy within the territory it governs. This implicates both the state's material capabilities and its territoriality (Soifer, 2008).

Transportation and communication infrastructure remain a central focus of state-building in many countries today. Governments throughout Latin America, Southeast Asia, Africa, and even in industrialized countries continue to build and improve roads in remote rural areas, expand railway networks, construct telecommunications infrastructure, and establish military stations and outposts. Alongside these efforts—and in some cases facilitated by them—states typically seek to strengthen other dimensions of their capacity as they progressively "monopolize" society (Elias, 1994 [1939]). This includes administration, taxation, military strength, the provision of public goods, and the broader ability to project power into society (Centeno et al., 2017; Lindvall and Teorell, 2016; Müller-Crepon, Hunziker and Cederman, 2021).[3]

[2]Of course, states can deploy that same capacity to perpetrate violence against civilians or armed groups (Straus, 2006).

[3]Infrastructure can also enable state repression and appropriation of resources like land, as occurred in Paraguay under Stroessner (González et al., 2025). On the interrelationships between various dimensions of state capacity, see Hanson and Sigman (2021).

While stronger states can more effectively enforce rules, deter violence, and order the interactions of powerful social groups, some scholarship also provides important foundations for understanding why this relationship does not always hold in the *process* of capacity building. One reason that improvements in infrastructure and communication may actually foster rebellion is that greater connectivity associated with transportation networks can facilitate collective action. For instance, García-Jimeno, Iglesias and Yildirim (2022) show that railroads and telegraphs mediated information flows during the US Women's Temperance Crusade events in the 1870s, with greater connections fostering more protest and social interaction effects. Relatedly, Pengl et al. (2025) demonstrate that the gradual expansion of the European railway network over the nineteenth and twentieth centuries increased separatist mobilization and secession in part by facilitating local mobilization capacity.

A related consequence of the expansion of transportation networks is improved market access. The creation or improvement of local transportation routes can reduce the transaction costs that people face in selling their goods. Producers can access markets more easily and travel farther to sell their goods in larger markets. This increases access to large gatherings where information can flow freely and organization can take place, again reducing the transaction costs of collective action (Geloso and Kufenko, 2019; Pengl et al., 2025).[4]

Strengthening the state through improvements in infrastructure and communication can also trigger rebellion by disrupting existing social hierarchies and networks and threatening local elites. Particularly in rural areas, landowners and elites who socially and economically dominate peasants where the state is weak may also provide for them in times of pressing need, such as food shortages, medical emergencies, family deaths, and other major events. Tight-knit communities can serve similar functions. State-building can disrupt these relationships and yield rebellion in at least two ways. Local elites themselves may resist infrastructure and associated state expansion that threatens their authority and local dominance (De Juan, 2016; Garfias and Sellars, 2022). This can spark regional rebellions fomented by local elites. Alternatively, where the successful disruption of traditional social relations weakens the monopolistic grip of local elites and social networks, it can expose rural inhabitants to severe risks and enable everyday grievances to metastasize rather than being absorbed or addressed locally (Scott, 1976; Lecce, Ogliari and Orlando, 2022). Those grievances could be targeted at declining elites or the state.

[4]On the other hand, the growth of markets associated with improved infrastructure should in turn also reduce the price volatility of agricultural incomes and commodities that can otherwise fuel rebellion during severe negative shocks (Dube and Vargas, 2013).

State-Building as Monopolization

We build on insights that state-building acts as a process of monopolization over social activity and social structures (Elias, 1994 [1939]). Transportation and communication networks that connect a given locality more directly to centers of government authority increase the ability of the state to insert itself and control activity and rules in that locality.

The material consequences of increased but incomplete state power can generate social contestation and popular resistance. That can stem from the greater capacity of the state to enforce taxes, carry out rules of justice, and conscript civilians into military service. It can also result from the crowding out of private interests and activities in spaces that the state comes to dominate. These consequences of state expansion disrupt status-quo activities and expectations, generating grievances. At the same time, the state may lack sufficient coercive power and legitimacy to deter popular challenges, a dynamic that has been documented in other contexts of state-building (e.g., Pruett, 2024). We explore these dynamics in pre-Revolutionary France.

Rural Unrest and State-building in Pre-Revolutionary France

France in the 1700s was an overwhelmingly rural country undergoing slow but dramatic change that had deep roots (Ladurie, 1966; Porchnev, 1963). The state, the nobility, and the Church all battled for pride of place in local rural life, generating frictions and contention. By Lefebvre (1947)'s classic account, this competition generated a dense web of taxes, tithes, and seigneurial rights that became an increasingly heavy burden for peasants in advance of the Revolution.

Canonical studies grapple with the consequences of these burdens. De Tocqueville (2010 [1856]) prominently argues that the erosion of services and protections of lords while obligations persisted and the freedoms for peasants to own their own land increased generated explosive grievances. In a detailed analysis of the revolution-era *cahiers de doléance*, Shapiro and Markoff (1998) find that peasants were particularly aggrieved over payments for private purposes such as seigneurial rights like monopoly hunting rights and obligatory church payments for things like burial services or tithes, but that these grievances alone were not enough to spur rebellion. Recent work also separately points to the spread of democratic ideals through French soldiers that fought in the American Revolution (Jha and Wilkinson, 2023), adverse weather conditions (Chambru, 2019; Waldinger, 2024), and the central nature of ruling authorities (Degrave, 2023) as driving factors behind political mobilization, peasant uprisings, and the lodging of grievances to the king at the outset of the French Revolution.

There is broad consensus and recognition, however, that the monarchy made major advances in the 1700s in its efforts to centralize and expand its power. The Paris region's influence spread across the national territory and into far-flung colonial possessions. As state expansion advanced and the state took on an increasingly relevant role in daily life, albeit short of an all-encompassing one, it upset the delicate equilibrium of relationships and obligations in the countryside.

The Functioning of the Horse-Post Relay Network

From its inception under Louis XI in the late 1470s, the horse post (*poste aux chevaux*) was a pivotal element of state-building efforts. It consisted of a nationwide network of relays where horse-post messengers (*postillons*) could exchange their horses for fresh ones in order to facilitate the rapid transportation of the mail of the royal administration across the kingdom (Jamaux-Gohier, 2001; Marchand, 2006; Gazagnadou, 2013, pp. 109–16). Relays were placed at regular 10–15 kilometer intervals so that a horse could be changed after an hour or two of riding. This system enabled postillons to ride at speed while minimizing the risk of injury to the horse, given the animal's physiological capabilities (Minetti, 2007). The horse-post relay network was connected by a road system maintained by an administration independent of the horse post, the Bridges and Roads (*Ponts et Chaussées*) administration (Arbellot, 1973).

Located at the entrance to towns or at crossroads in rural areas, horse-post relays were relatively large buildings—comprising horse stables, logding quarters, and often, taverns—that visibly marked the rural landscape (see Panel a of Figure 1). The postillons who galloped postal roads day and night were typically young local laborers (Marchand, 2006, pp. 258–64) wearing a distinctive uniform: a royal-blue vest, an arm badge inscribed with the name of their relay, a round leather hat, skin pants, and heavy black boots (Jamaux-Gohier, 2001, pp. 237–40; Marchand, 2006, pp. 262–4). Moreover, the horses they rode had a distinctively cut or knotted tail. This uniform made postillons easily recognizable in the public space (see Panel b of Figure 1).

The horse-post relay network was one of the main instruments of the royal authority for the consolidation of its informational capacity throughout the territory, particularly in the provinces situated outside the royal domain (Marchand, 2006, pp. 183–221). A series of regulations enabled the horse post to achieve a higher speed of information transmission than alternative postal systems, such as the letter post or private messenger companies (Jamaux-Gohier, 2001, pp. 100–8).[5] First, horses belonging to the horse post held a monopoly on

[5]For instance, when the subdélégué of Rennes sent a letter to the subdélégué of Nantes at 7:15 p.m. on Monday, December 31, 1764, the postillon of the horse post arrived in Nantes at 6 a.m. on Tuesday, after

(a) A Horse-Post Relay (b) A Horse-Post Postillon

Figure 1. Depictions of the Horse Post

Notes. This figure displays contemporary depictions of an eighteenth-century horse-post relay in Panel (a) and a postillon galloping two horses back to a relay in Panel (b). Sources: in Panel (a), lithography by Victor-Jean Adam and Louis-Philippe-Alphonse Bichebois, based on a painting of Jean-Antoine Duclaux, *La malle au relai* [sic], 1817, Musée de La Poste; in Panel (b), painting of the French School, *Postillon en livrée ramenant deux chevaux au galop*, mid-nineteenth century, Musée de La Poste.

galloping on the roads connecting relays and on traveling on these roads at night, which were better maintained and directly connected to administrative centers. Moreover, the horse post held a monopoly on the rental of horses for use on these roads. The horse post also had priority in the procurement of hay for feeding horses as well as priority of passage when roads were congested. Postmasters (*maîtres de postes*) derived substantial profits from these privileges and were quick to report any violations to the royal authorities, who generally sided with them (Jamaux-Gohier, 2001, pp. 101–4).

These privileges crowded out competing private interests on the roads. Indeed, privately owned horses were restricted to trotting on these roads during the daytime.[6] Furthermore, those who did not travel with their own horses were obliged to rent them from the horse post and to be accompanied by a horse-post employee throughout their journey, disrupting

eleven hours of travel through eleven relays (Jamaux-Gohier, 2001, pp. 39–40). In contrast, according to the *Guide des lettres* (p. 61) published in 1763 (Cauvin, Lepetit and Reymond, 1987), a letter sent through the letter post would leave Rennes on Wednesday at 4 p.m. and arrive in Nantes on Thursday at 7 a.m., after 15 hours of travel. In general, the horse post was almost 40 percent faster than the letter post.

[6]The vast majority of passengers traveled through alternative, regulated, modes: messenger services (*messageries*), coaches and carriages (*coches* and *carrosses*), or, after the Turgot reforms of 1775, stagecoaches (*diligences*). These contractors were not allowed to set up relays and had to travel with the same carriage, either walking or trotting, during the day, and on a regular schedule. They also had very local perimeters: by the early 1790s, half of the 915 messagerie services covered a distance under 40 kilometers (Marchand, 2006, p. 84). The transportation of merchandise heavier than 25 kilograms was the privilege of private companies (*voituriers* and *rouleurs*).

the businesses of pre-existing horse-renting services.[7]

The establishment of horse-post relays provided the opportunity for the royal authority to form alliances with and co-opt local elites who came to serve as postmasters. Postmasters were typically recruited among wealthy local notables, generally bourgeois farmers and innkeepers aspiring to a noble title (Jamaux-Gohier, 2001, pp. 189–94; Marchand, 2006, pp. 223–8). They held a postal certificate (*brevet de poste*) that made them the exclusive operator of a given relay. The certificate imposed obligations on the postmaster such as requirements to reside at the relay, to refrain from farming out its operations (*faire-valoir direct*), and to ensure its proper functioning, for instance by maintaining at least five or six healthy horses. In addition, postmasters were expected to act as intelligence agents and police auxiliaries at the service of the central administration. They had to control passengers passing through the relay—for instance, by maintaining records of their names, occupations, and destinations from the late eighteenth century onward—as well as to inform authorities of noteworthy local political events.

In return, postmasters enjoyed privileges that went beyond the profits from the exclusive exploitation of their relay (Tonnaire, 2005, pp. 48–59). These included a substantial exemption from taxes—including the onerous *taille*—as well as exemptions from military obligations, from accommodating passing soldiers, and from churchwarden responsibilities. As a result, postmasters were broadly loyal to the regime (Jamaux-Gohier, 2001, pp. 189–235; Marchand, 2006, pp. 200–46). Indeed, historical accounts suggest that most of them displayed portraits of the kings of France in their relays. Moreover, they were frequently accused of being accomplices of the monarchy during the Revolution, and a significant number of them ended up imprisoned or executed.

Overall, the horse-post relay network positioned the state as the sole authority controlling rapid communications across France and vastly increased its capacity to monitor and control its territory.

Potential Consequences of the Horse Post for Local Order and Rebellion

The introduction of new horse-post relays locally could have had several distinct consequences for rebellion. First, they could have come to host and to disseminate information to tax collectors and other agents tasked with enforcing taxes and cracking down on salt smuggling (*faux-saunage*) across the country's disparate and consequential salt tax zones

[7]For instance, the horse post did not reach Brittany until 1738—after a first attempt in 1648—in part due to the opposition of local messenger and horse-renting companies, which feared that its competition would undermine their profits (Jamaux-Gohier, 2001, pp. 11–28; Marchand, 2006, pp. 187–8). See also Tonnaire (2005, pp. 63–5) for a description of the conflicts between various private actors following the opening of horse-post relays on the road between Auxerre and Dijon in the 1740s in Burgundy.

(*gabelles*). Furthermore, they could have lowered the costs of conscription locally and served as a waypoint for troops, requiring locals to periodically oblige to lodging soldiers. By monopolizing the roads, the horse post also crowded out other users and operations linked to the roads, especially by notables. These disruptions to the status quo in a locale could fuel grievances and spark rebellion, even though it may take some time for the material consequences of a new horse-post relays to be felt and for grievances to subsequently boil over.

Several rebellious events in our data exhibit just such reactions against state agents and activities. In one example in 1781, a decade after the establishment of a new horse-post relay that facilitated growing state presence and information about local society in a formerly isolated part of southwest France, the monarchy sought to conscript men in the town of Mirande. As the *subdélégué* (the monarch's local agent), military representatives, and local notables gathered to draw the conscripts, peasants and farm workers armed with sticks and knives emerged from the forest yelling at the authorities, "They should all be killed!" Several arrests were made before a local notable defused the confrontation. In another example from the coastal town of Blaye in Gironde in 1783, just three years after the introduction of a horse-post relay, the crew of a Breton ship prevented the *patache* brigade—agents tasked to collect salt taxes and other tariffs who often stopped through relays—from inspecting their load. Once ashore, the brigade was stoned by the crew and the locals, encouraged by the captain of the ship and the owner of the merchandise. Members of the crew denounced the patache brigade as an "enemy of society" that had "overstepped" its duties.

Other examples point toward the crowding out of private interests along horse-post routes. For instance, in the town of Vitteaux, about a decade following the creation of the postal route between Dijon and Auxerre and the introduction of several relays along that road—including in Vitteaux—the town bourgeoisie complained that the taverns adjoining the new relays were monopolizing food and animal fodder (Tonnaire, 2005, pp. 61–4). Their appeals to the subdélégué resulted in a ban against relay innkeepers from provisioning at local markets very early in the day so that they would not crowd out competitive buyers among the bourgeoisie. They also led the mayor of Vitteaux to increase the tax on wine on these innkeepers. In response, innkeepers rebelled by closing the relays for two days, resulting in the abandonment of the tax.

Horse-post relays could have impacted rebellion through other channels as well. For instance, they could have generated local income shocks, upset traditional social hierarchies, introduced more policing, and called attention to the recording and registration of rebellious activities. We examine these and additional channels below.

Data

The dataset we use for our analysis consists of a panel of nearly 35 thousand parishes in the territory of the Kingdom of France as of 1789 over eight decades—from the 1710s to the 1780s—corresponding to approximately 282 thousand parish-decade observations. Parishes were the smallest level of administration in Ancien Régime France, and no previous study of this period has conducted analysis at this level of granularity.[8] The Data Appendix provides more details on data sources.

The Horse-Post Relay Network

To document the development of the horse-post relay network over the eighteenth century, we construct an original historical geographic information system (GIS) based on administrative sources. Starting in 1708, the General Superintendent of Posts had a list of horse-post relays printed and updated regularly in the form of small, sturdy books (Arbellot, 1980, pp. 100–2; 1992, pp. 110–4): the *Liste générale des postes de France* (henceforth, *Liste des postes*). The main objective of these publications was to provide state messengers with the locations of horse-post relays together with distances between consecutive relays. Each *Liste des postes* was organized by itinerary, with clear starting and ending points.[9] Distances were expressed in *postes*—a measure of distance equivalent to 8–12 kilometers (Bretagnolle and Verdier, 2006, pp. 68–9).

We digitized one edition of the *Liste des postes* per decade from the 1710s through the 1790s, the entire pre-Revolutionary period for which the *Liste des postes* was printed.[10] We subsequently extracted all the segments between relays within each listed itinerary and matched this set of locations to France's parishes. Finally, we drew straight lines between each node and combined segments to recreate the set of itineraries provided in the *Liste des postes*.

Figure 2 displays the spatial distribution of the horse-post relay network at the beginning and end of our period of analysis.[11] We also report the number of horse-post relays along with the length of associated postal roads between relays for each edition of the *Liste des*

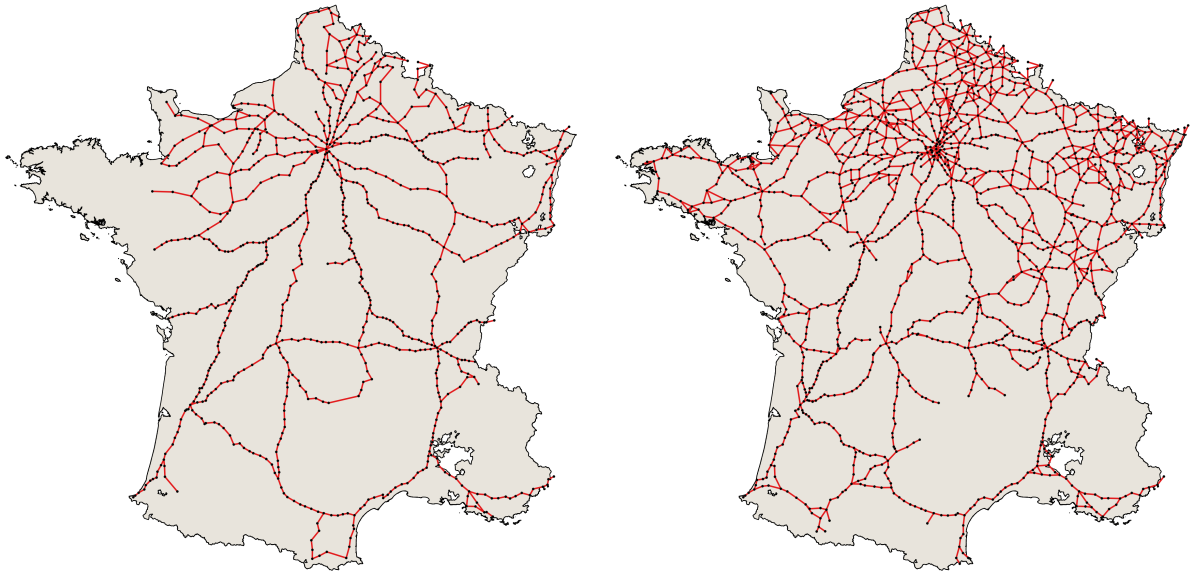
[8] Parishes were the primary forms of municipal organization that gave way to *municipalités* in 1789–93 and later to *communes* (Gorry, 2008).

[9] Appendix Figure A1 displays an excerpt of the 1751 edition of the *Liste des postes* that depicts the distribution of the 29 horse-post relays along the route from Lyon to Marseille.

[10] Because all editions of the *Liste des postes* were not systematically preserved, we rely on the editions of 1714, 1721, 1731, 1741, 1751, 1760, 1770, 1780, and 1790. We do not use the 1708 edition—the first edition of the *Liste des postes*—because the year 1709, situated in the midst of the War of the Spanish Succession and a subsistance crisis, represents an outlier year with 295 rebellions, almost as many as in 1789 (Aubert, 2023). In addition, few horse-posts were created between 1708 and 1714. See the Data Appendix for more details.

[11] Maps for the other cross-sections are available in Appendix Figures A3 and A4.

postes in our sample in Panel (a) of Figure 3.



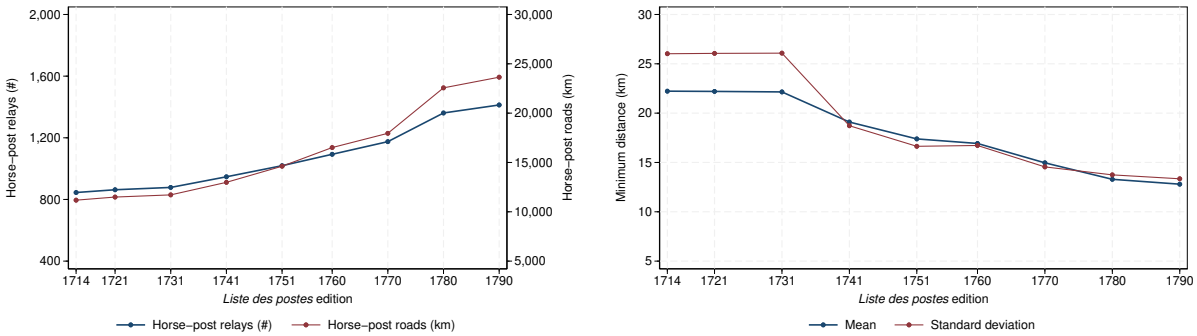
(a) 1714 (b) 1790

Figure 2. The Horse-Post Relay Network

Notes. This figure displays the horse-post relay network based on the 1714 and 1790 editions of the *Liste des postes*. The underlying shapefile of the Kingdom of France as of 1789 is based on Gay, Gobbi and Goñi's (2024) jurisdictions database.

The initial the spatial configuration of the horse-post relay network reflected the monarchy's strategic and military concerns vis-à-vis neighboring adversaries. In the late fifteenth century, relays were established in Bordeaux, Dijon, Lyon, Arras, and Amiens because of their strategic positions relative to the Kingdoms of Spain and of England, to the Duchies of Burgundy and of Savoy, to the county of Flanders, and to the Holy Roman Empire (Gazagnadou, 2013, p. 112). During the sixteenth century, postal routes were further extended to reach the borders of the kingdom, such as with the establishment of relays in Bayonne under Louis XII and in Nantes under Henry III. The network continued to expand along this strategic motive throughout the seventeenth century following territorial conquests: toward Strasbourg in the northeast with the 1648 Peace of Westphalia, toward Narbonne in the southwest with the 1659 Treaty of the Pyrenees, and toward Besançon in the east with the 1678–9 Treaties of Nijmegen (Marchand, 2006, pp. 186–8). Overall, these military concerns led to a center-periphery logic in the pattern of a star-shaped network centered on Paris with additional nodes along borders (Appendix Figure A2).

In contrast, the eighteenth century was rather a period of internal densification of the horse-post relay network, which by then had become a primary tool in the monarchy's



(a) Density of the Horse-Post Relay Network (b) Distance to the Nearest Horse-Post Relay

Figure 3. Evolution of the Horse-Post Relay Network

Notes. Panel (a) displays evolution of the number of horse-post relays and the length of postal roads in kilometers from 1721 to 1790. Panel (b) displays the mean and standard deviation of the distance from the 35 thousand parishes in our sample to the nearest horse-post relay in kilometers. Horse-post relay data are based on various editions of the *Liste des postes*.

territorial management to assert its hierarchical control more evenly over the territory and to project its power into the remotest parts of the kingdom (Marchand, 2006, p. 189). The network first densified in the north after the permanent establishment of the royal court at Versailles in 1682 and the consolidation of the kingdom's territory (Bretagnolle and Verdier, 2005; Bretagnolle and Verdier, 2007). From the mid-eighteenth century, the network experienced a densification around regional centers such as Bordeaux, Lyon, Dijon, Toulouse, and Rennes (Verdier, 2009). By the end of the eighteenth century, the horse post constituted a national network structured around the political center in the north connected to secondary centers, thus creating the conditions for the emergence of an integrated city system (Bretagnolle and Franc, 2017).

We quantify the expansion of the horse-post relay network in Panel (a) of Figure 3. The network expanded at a gradual pace, essentially doubling in length and density over the period. Whereas in 1714 it consisted of 845 relays covering 11 thousand kilometers of road, by 1790 it had reached 1,413 relays across 24 thousand kilometers of road. As a result, the average distance between any parish and the nearest horse-post relay decreased from 22 kilometers in 1714 to 13 kilometers in 1790, as shown in Panel (b) of Figure 3. These gains were spread across all parishes, as the standard deviation of this distance also decreased from 26 to 13 kilometers. More broadly, the proportion of parishes with a nearby horse-post relay substantially increased over the period, from 18 percent in 1714 to 32 percent in 1790 (Appendix Figure A5).

However, the development of the horse-post relay network was not entirely linear. In fact, part of the network was periodically reconfigured locally (Bretagnolle and

Verdier, 2007; Verdier, 2009). While net gains represented 563 horse-post relays over the period, this was the result of the creation of 1,002 relays and the retirement of 439 of them (Appendix Figure A6). Substantial reconfigurations occurred between Bordeaux and Limoges in the 1740s and between Bordeaux and Poitiers, Poitiers and Tours, and Lyon and Clermont-Ferrand in the 1750s, all in the interior of the country. These reconfigurations were generally driven by local practical considerations, such as the retirement of a postmaster or the development of nearby routes to take advantage of roads in better condition (Arbellot, 1980, p. 106).[12] A comparison of the spatial distribution of newly created and retired horse-post relays in each decade reveals that retired relays were, on average, 11 kilometers away from the nearest new relay.

While the initial configuration and expansion of the horse-post relay network may have been driven by strategic considerations at the national level, its development in the eighteenth century at the local level was the result of practical considerations. Beside the quality of the road network, the specific placement of a relay was primarily driven by the constraint of regular 10–15 kilometer intervals between relays due to the physiological capabilities of horses to ride for an hour or two over uneven terrain (Minetti, 2007). As a result, many relays were located in small towns and villages along routes between administrative centers, often on riverbanks or on foothills.[13] In fact, while approximately one-third of relays were located in cities with more than two thousand inhabitants—generally administrative centers—another one-third were located in towns with fewer than one thousand inhabitants and 16 percent in villages with fewer than five hundred inhabitants.[14] Horse-post relays established after 1714 followed the same pattern (see Panel (b) of Appendix Figure A8).

Summary statistics for the development of the horse-post relay network are provided in Panel A of Table 1.

[12]For instance, the relay of Vivier in Brittany—established in 1749—was transferred 7 kilometers away to Dol in 1760 to travel to Pontorson on a road in better condition. Similarly, the transfers of the relays of Pont-Réan to Mordelles (13 kilometers), the Plat d'Or to Plélan (16 kilometers), Guer to Campénéac (17 kilometers), Monteneuf to Ploërmel (17 kilometers), and Malestroit to Roc-Saint-André (9 kilometers) in July 1763, made it possible to shorten the route from Rennes to Lorient (Jamaux-Gohier, 2001, p. 24). See Panel (a) of Appendix Figure A7.

[13]For instance, in Touraine, in addition to administrative centers such as the towns of Tours or Amboise, horse-post relays were located in villages near rivers to facilitate their crossing, such as Montbazon. See Panel (b) of Appendix Figure A7.

[14]See Panel (a) of Appendix Figure A8. Parishes that were administrative centers—half of which had a horse-post relay and accounted for one-third of parishes with relays—had a median 1793 population of 3.2 thousand inhabitants and a mean of 6.5 thousand.

Table 1. Summary Statistics across Parish-Decades

A. The horst-post network					
	Mean	S.d.	Min.	Max.	Max. (excl. Paris)
Horse-post relay present in parish	0.029	0.167	0	1	1
Horse-post relay present in canton	0.224	0.417	0	1	1
Distance to nearest horse-post relay (km)	18.5	20.7	0	256	256
B. Rebellions					
	Mean	S.d.	Min.	Max.	Max. (excl. Paris)
All rebellions	0.021	0.404	0	102	34
Weak rebellions (4–10)	0.007	0.139	0	23	16
Moderate rebellions (11–50)	0.010	0.216	0	57	13
Strong rebellions (50+)	0.004	0.104	0	29	6
Rebellions against state authorities	0.013	0.301	0	80	23
Rebellions against non-state authorities	0.002	0.056	0	5	5
Rebellions against taxation	0.008	0.165	0	42	19
Rebellions against military	0.002	0.061	0	13	3
Rebellions against judiciary	0.003	0.150	0	51	10

Notes. This table reports summary statistics for the main variables used in the analysis. The unit of observation is a parish-decade from the 1710s to the 1780s. There are 282,296 parish-decade observations in the dataset. *State authorities* include the fiscal, military, and judiciary authorities. *Non-state authorities* include the nobility, seignioral and municipal authorities, and the Church. *S.d.* denotes *standard deviation*; *Min.*, minimum; *Max.*, maximum.

Rebellions

We collect information on eighteenth-century rebellions from the Jean Nicolas survey (Nicolas, 2002). Based on meticulous research by a wide range of researchers in national and local archives conducted throughout France in the 1980s (Nicolas, 1985), this survey contains information on 8,540 rebellious events that occurred between 1661 and 1789. It focuses on popular uprisings aimed directly at challenging authorities, expressing grievances over events such as subsistence crises, and on popular resistance to state and local initiatives, policies, and actions. It excludes brigandage and strictly criminal activities. The survey sets an inclusive threshold for rebellion, including any uprising that lasted only a few hours or involved at least four people, provided they were not family members. These restrictions thus cast a wide net, making the Nicolas survey an unprecedented thermometer of the rebellious fever sweeping France in the period leading up to the Revolution.

Figure 4 depicts trends in rebellious activity between 1714 and 1789, our period of analysis. An upward trend in rebellious activities can be observed from the 1740s together with a significant acceleration in the 1760s, with more than a hundred events per year from then on. This increase moved in tandem with increased state presence throughout the territory as well

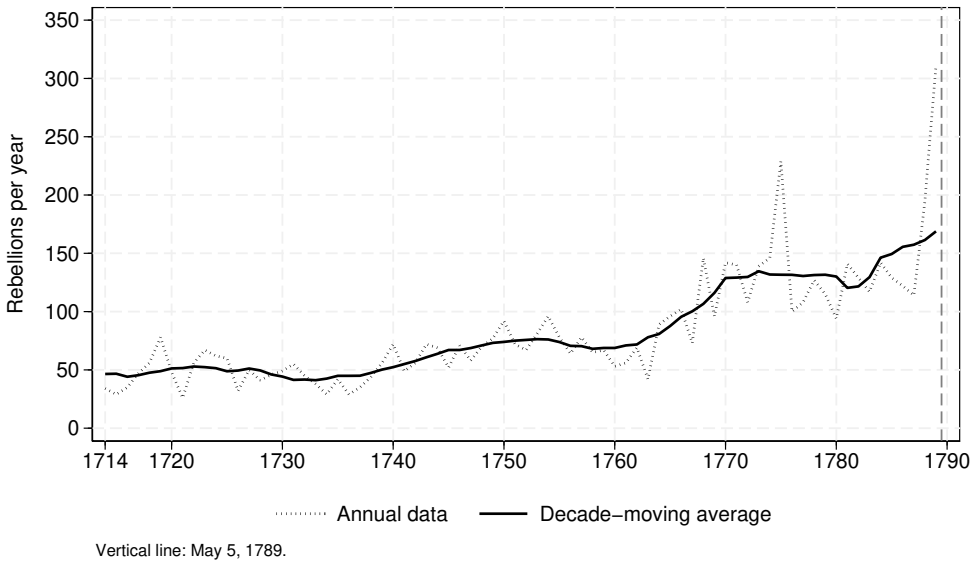


Figure 4. Annual Number of Rebellions

Notes. This figure displays the annual number of rebellions from 1714 to 1789 based on Nicolas's (2002) original survey along with a decade-moving average.

as increases in taxation, though the administrative constituencies for taxation—generally, *élections*—were independent from the horse-post administration (Touzery, 2024).[15] Rebellious activities would only intensify until the explosion of the Revolution. The territorial spread of rebellions across approximately three thousand different locations is evident in Figure 5. Relevant maps for each decade cross-section are available in Appendix Figures A3 and A4.

We digitized all forty thousand original coding sheets of Nicolas's (2002) survey to create a comprehensive database of the 6,000 rebellions that occurred in 3,172 parishes within the boundaries of the kingdom of France between 1714 and 1789, where we exclude rebellions that occurred after April 1789 and the beginning of the French Revolution. In addition to the date and location of each rebellion, we also collect information on its motives, its size, and the characteristics of its participants.[16] To measure rebellious activity, we create a variable that counts the number of rebellions that occurred in a given parish and decade as well as an indicator variable for whether there was at least one rebellion. We report summary statistics

[15] Tax administration constituencies also represented much higher levels of aggregation than those we rely on for identification, namely, parishes of the same canton.

[16] We include both primary and secondary rebellion motives from Nicolas's (2002) survey. 1,398 of the 6,000 rebellions (23 percent) in our dataset have secondary-motive information. In the Data Appendix, we highlight the ways in which our database extends beyond the HiSCoD database described in Chambru and Maneuvrier-Hervieu (2024).

in Panel B of Table 1.[17]

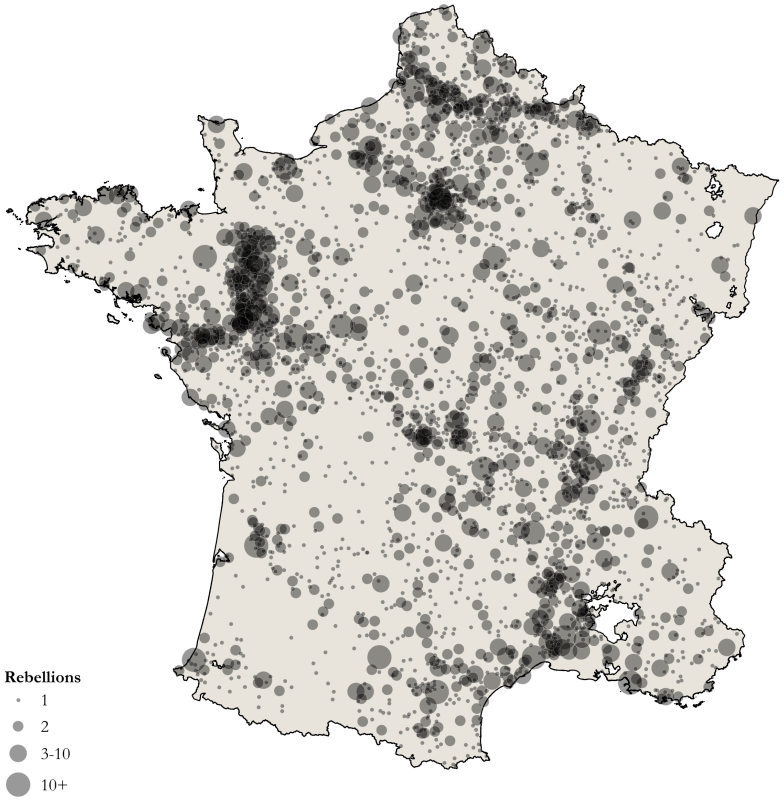


Figure 5. Spatial Distribution of Rebellions (1714–89)

Notes. This figure displays the spatial distribution of rebellions from 1714 to 1789 based on Nicolas's (2002) original survey. Each point corresponds to a parish that experienced at least one rebellion over the period—6,000 rebellions across 3,172 parishes in total. The underlying shapefile of the Kingdom of France as of 1789 is based on Gay, Gobbi and Goñi's (2024) jurisdictions database.

Nearly half of all rebellions (48 percent) that occurred across parish-decade observations over 1714–89 were of moderate size, with between 11 and 50 participants. Another 19 percent of rebellions were relatively large, with more than 50 participants. State authorities were the target of 62 percent of rebellions, while another 10 percent of them were directed against non-state authorities: the nobility, seigneurial and municipal authorities, and the Church. Rebellions against state authorities were mostly directed at taxation (62 percent), with the rest being directed at the military (15 percent) and the judiciary (23 percent).[18] Finally, nearly 70 percent of rebellions in our sample have information on the social categories of its

[17]Because Paris had the most rebellions throughout the eighteenth century—except in the 1720s—we also show sample maxima without Paris.

[18]See Appendix Table A1 for a breakdown of rebellion types between rebellions against state and non-state authorities, along with the number of cases for each type.

participant. Among this subset, 40 percent involved laborers; 32 percent, craftsmen; 23 percent, notables; and 22 percent, socially marginalized individuals (Appendix Table A2).[19] The rebellions we analyze therefore comprise a broad range of social strata of French society.

While Nicolas's (2002) survey provides the most comprehensive account of rebellious activity in France prior to the French Revolution, its use requires attention to potential gaps and reporting biases that can arise with any historical data. These include not only the archival recording of events, but also the possibility that the introduction of a horse-post relay may have increased the attention or capacity of state or local officials to record rebellions. We later assess the robustness of our results to these potential sources of bias. Details on the nature and sources of the original recording of rebellions along with a series of empirical tests cast doubt that this could drive our findings.

Administrative and Territorial Divisions

Parishes were embedded within administrative and territorial divisions, which is important for our empirical strategy. The largest were *généralités*. Created from the fourteenth century for tax collection purposes, these broad territorial divisions served as the basis for the administration of the territory under the authority of *intendants* (Gorry, 2014). On the eve of the Revolution, there were 32 généralités.[20] *Subdélégations* were territorial divisions established in the mid-seventeenth century as subdivisions of généralités and were essential to the territorial reach of the royal authority. The prerogatives of subdélégués—the royal agents who administered subdélégations under the authority of the intendant of their généralité—increased during the eighteenth century and included the fiscal, military, economic, social, and sanitary administration of their territory (Nordman and Ozouf-Marignier, 1989, pp. 47–52). There were nearly 700 subdélégations by the time of the Revolution. *Cantons* were yet a smaller administrative division. They came to have various electoral and judicial prerogatives (Nordman and Ozouf-Marignier, 1989, pp. 53–62), and next to parishes (which became municipalities), they constituted the most granular level of government, with over 4,500 of them (see Appendix Figure A9). Although they were formally created in 1790 along with *départements* and *districts*, the territorial scope of these administrative divisions reflected the historical local logic of daily exchange between parishes (Tanguy, Le Bihan and Lagadec, 2009).

Evaluated at the median, each généralité comprised 988 parishes, counted 782 thousand

[19] These categories are not all mutually exclusive, as individuals from different social categories could be involved in the same rebellion. In fact, among the 4,154 rebellions for which social categories are available (69 percent of all rebellions), 37 percent had individuals spanning more than one social category.

[20] The precise number of généralités fluctuates depending on whether we account for *intendances* as well as territories not strictly in the Kingdom of France.

inhabitants (in 1793), and had a radius of 70 kilometers; each subdélégation comprised 39 parishes, counted 31 thousand inhabitants, and had a radius of 15 kilometers; and each canton comprised 7 parishes, counted 5 thousand inhabitants, and had a radius of 6 kilometers.

Other Data

We supplement our parish-level data with several pieces of additional information, although data remains relatively sparse for this time period and our research design approach accounts for this issue. First, we construct a parish-level measure of decade-average wheat prices based on data in Ridolfi (2019) to control for changing local economic conditions and potential income shocks resulting from the local development of the horse post. Subsistence crises and more general reactions to the price of staple foods were associated with rural collective action in eighteenth-century France (Markoff, 1985; Bouton, 1993; Chambru, 2019). The most important staple food was wheat, given the importance of bread consumption and the prevalence of wheat farming (Ridolfi, 2019). Because food was a normal good, local positive income shocks should have resulted in a substantial increase in the local demand for wheat, and therefore its price, given the inelasticity of the local supply of wheat.

In addition, we measure the size of each parish by its population in the 1793 census, the first census available in France. We also assess the connectivity of parishes to the network of paved roads according to Cassini's maps published in 1756–90, we determine whether parishes were the seat of an administrative division, and we collect information on the type of gabelle (salt) taxation for each parish. Finally, we construct a historical GIS of the letter-post system and of the maréchaussée brigades, which we describe in more detail below.

Research Design

The wide variation in rebellion and the expansion of the horse-post relay network across France in the eighteenth century provides the opportunity to examine how state-building affected political stability prior to the French Revolution. Our primary estimand of interest is the causal effect of the establishment of a horse-post relay in a parish on subsequent rebellious activity in that parish over time. While rebellions are ultimately caused by social and economic changes, new relays may trigger these changes and the grievances that arise from them. We employ a staggered difference-in-differences approach that compares changes in rebellion in parishes that receive (or lose) a relay to those that would later receive (or lose) one. This strategy accounts for fixed parish-level characteristics that could influence both the establishment of new horse-post relays and rebellion, such as a prior history of political

activism, the ease of moving and organizing across territory, the nature of civil society, or the presence of natural resources. It requires the identifying assumption that parishes that received new relays and those that did not would have followed parallel trends in rebellion in the absence of these relays. While this assumption is untestable, we explore its plausibility using event-study regressions below.

The nature of our treatment is staggered, binary, and non-absorbing in that units can flip both into treatment and out of it. Within our sample, 33,601 parishes (95.2 percent) are never treated in that they never receive a horse-post relay between 1714 and 1789; 586 (1.7 percent) are always treated in that they always have a horse-post relay; and 1,100 (3.1 percent) are "ever treated" parishes that change status over the period. Of the 1,100 ever treated parishes, 203 (18.5 percent) have a relay at the beginning of the period and drop out of treatment at some point, while 897 (81.6 percent) enter treatment at least once. Of these 897 parishes, 367 (40.1 percent) of them drop out of treatment at least once. Appendix Figure A10 shows the 44 unique treatment histories among parishes that switch treatment at least once during our period of analysis.

To account for the specificity of this empirical design, we follow de Chaisemartin and D'Haultfœuille (2024), which provides consistent and unbiased event-study estimators for staggered difference-in-differences models in which treatment effects may be heterogeneous across parishes and decades as well as dynamic over time. In contrast to Callaway and Sant'Anna (2021), Sun and Abraham (2021), or Borusyak, Jaravel and Spiess (2024), this approach accommodates staggered binary treatments that are non-absorbing. It estimates period-specific average treatment effects δ_ℓ of having been treated rather than untreated for ℓ periods by comparing switchers to not-yet switchers with the same period-one treatment.[21] This also ensures that the coefficients are not "contaminated" by assuming continual exposure to treatment when that is not the case. We operationalize this approach at the parish-decade level by estimating the following regression equation:

$$(1)\ \texttt{rebellions}_{pda} = \alpha_p + \lambda_d + \sum_{\substack{\ell=-t \\ t\neq 0}}^{+T} \delta_\ell \times \mathbb{1}[\texttt{horse\_post}_{pd} = 1] \times \mathbb{1}[d = \ell] + \texttt{prices}_{pd} + \gamma_{da} + \varepsilon_{pda}$$

where $\texttt{rebellions}_{pda}$ is the number of rebellions that occurred in parish p and decade d, d is indexed from 1 to 8 for the 1710 to 1780 decades, and parish p is part of administrative division a. The indicator variable $\texttt{horse\_post}_{pd}$ equals one if parish p had a horse-post relay in decade d, α_p denotes parish fixed effects, λ_d are decade fixed effects, $\texttt{prices}_{pd}$

[21] Aside from no anticipation of treatment and parallel trends, this approach assumes that past treatments before the starting period do not affect outcomes during the analysis period (de Chaisemartin and D'Haultfœuille, 2024, pp. 9–12). We discuss this assumption in the *Robustness* section below.

are average wheat prices in parish p and decade d, and γ_{da} are decade-by-administrative division fixed effects, where we rely on subdélégations and cantons. This last term enables the coefficient δ_ℓ to be identified through the comparison of parishes belonging to the same administrative division over time, thus accounting for administration division-specific time trends. Throughout, we cluster standard errors at the parish level.

An important practical consideration is the timing of assignment of horse-post relays and rebellions in Equation 1. Specifically, we consider rebellions that occurred in a parish during the decade following the year of the *Liste des postes* edition. For instance, for the decade 1720, we consider the 1721 edition together with rebellions that occurred between 1721 and 1730.[22]

Another consideration is the number of leads t and lags T that should be used in the estimation. While de Chaisemartin and D'Haultfœuille's (2024) methodology allows up to three leads and seven lags to be computed in our context, the preferred number of leads and lags should be chosen such that the estimation is based on a comparable sample of switchers. While we present results in both ways, we mainly follow de Chaisemartin and D'Haultfœuille's (2024, pp. 39–40) rule of thumb that leads and lags should include at least half of parishes that switch at least once, which corresponds to two leads and three lags.

Identification

A causal interpretation of the estimates resulting from Equation 1 requires exogeneity in the development of the horse-post relay network relative to rebellion dynamics. As highlighted above, the initial spatial configuration of the network reflected political and military concerns, with the establishment of relays along the territorial borders with the Austrian Netherlands, the Holy Roman Empire, and the Duchy of Savoy, as well as along the coast of Normandy and the English Channel (Panel a of Figure 2). In contrast, the development of the horse-post relay network during the eighteenth century was principally defined by the expansion of state control over the interior territory, resulting in the densification of the network along major regional nodes (Panel b of Figure 2).[23]

Still, the opening of new horse-post relays in growing urban centers may not have been exogenous to population dynamics, which are a potential determinant of rebellious activity. Therefore, our preferred specifications rely on local variation through decade-by-

[22] Given the editions of the *Liste des postes* that survived and that we could access, some parish-decade observations are slightly shorter than others: for instance, for the decade 1710, we consider the 1714 edition together with rebellions that occurred between 1714 and 1720, given that the following edition is for 1721.

[23] We further show in Appendix Table A3 that more populous parishes, those closer to a road, and those that were the seat of an administrative center, were more likely to ever host a horse-post relay. However, these observable characteristics explain at most 15 percent of the variation in this variable.

administrative division fixed effects (γ_{da}). Indeed, while the decision to open a horse-post relay in an urban center may be endogenous, the precise locations of relays *between* these central nodes were limited by the 10–15 kilometer constraint imposed by the physiological limitations of horses (Minetti, 2007).

We illustrate this argument in Figure 6, where we map the postal route between Auxerre and Dijon, two regional centers—and subdélégation seats—in Burgundy that hosted horse-post relays throughout the eighteenth century. Since the early seventeenth century, this postal route ran north along pre-existing roads and waterways through Montbard—another subdélégation seat—and eleven other relays (Nougaret, 1960, pp. 30–2). However, only two of these relays were located in the most populous parishes of their respective cantons. The other nine were located in villages with fewer than 500 inhabitants. This configuration formed a relatively straight route along the available northbound road from Auxerre to Dijon, minimizing the travel distance between these two regional centers. And although there was a horse-post relay in Montbard, which was on the path of the postal road, it ran right near Bussy-le-Grand, another subdélégation seat that never hosted a relay. This postal route was rerouted to the south in 1742 through Vitteaux—a subdélégation seat—and ten other relays due to the better conditions of the southern road following public works in the early 1730s (Nougaret, 1960, pp. 32, 125–6; Tonnaire, 2005, pp. 98–9). Again, only three of these relays were located in the most populous parishes of their respective cantons. The other seven were located in villages with fewer than 500 inhabitants. This configuration also formed a relatively straight route along the available southbound road from Auxerre to Dijon, minimizing travel distance. In both cases, relays were on average 11 kilometers apart.

This example illustrates that while the localization of regional nodes of the horse-post relay network was likely endogenous to population dynamics at the national level, its local configuration *between* these nodes was likely exogenous, as it aimed to minimize travel time along pre-existing roads while constrained by the 10–15 kilometer distance between relays. Therefore, we exploit local variation in this network through decade-by-administrative division fixed effects. Because this assumption is more likely to be met the more local the variation in the network, our preferred specification relies on within-canton variation through decade-by-canton fixed effects.[24]

This strategy restricts the sampling variation used for identification, since it requires that a canton contains at least two parishes with the same period-one treatment with one of them switching treatment over time. This implies the following non-mutually exclusive

[24]There was generally only one urban center per canton, while there were several per subdélégation. Setting the threshold for an urban center at 3,000 inhabitants in 1793, we find that cantons had 1.4 urban centers on average, while subdélégations had 9.3.

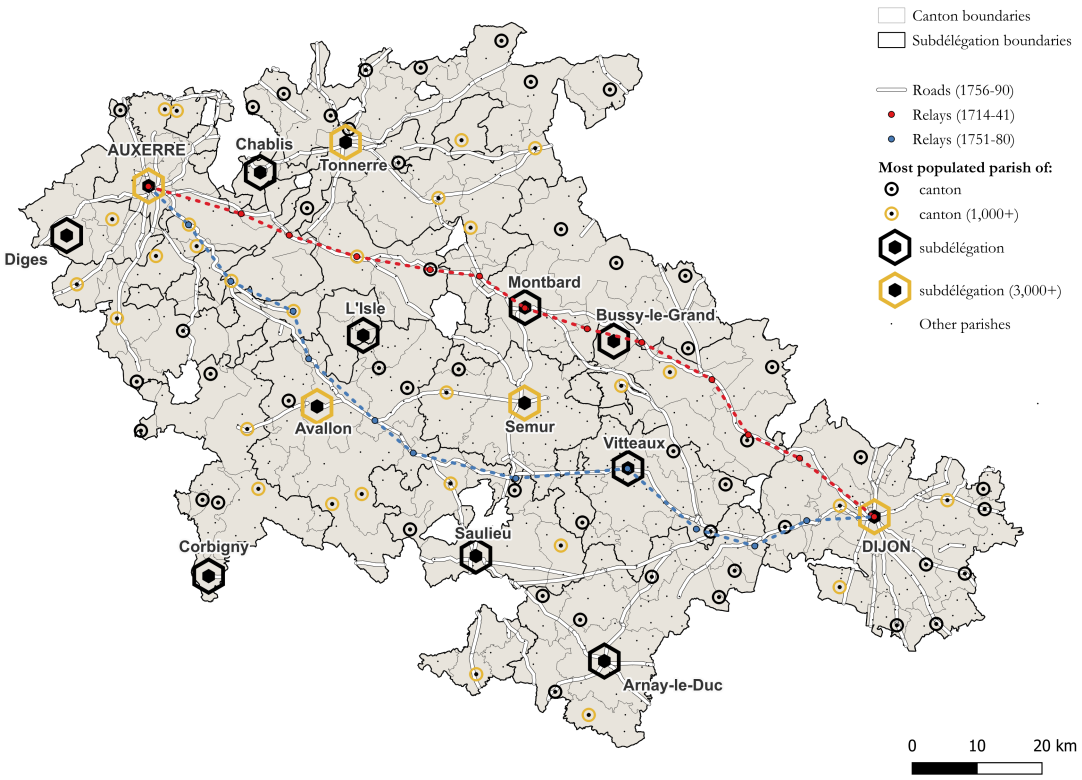


Figure 6. The Horse-Post Road from Auxerre to Dijon

Notes. This figure displays the postal road from Auxerre to Dijon in Burgundy between 1714 and 1741 (red dashed lines) and between 1751 and 1789 (blue dash lines) in RGF93 projection. The extent of the map corresponds to the subdélégations (thick boundaries) and cantons (thin boundaries) through which this postal road passes. It also displays the spatial distributions of parishes in the area (marking the most populated ones by canton and subdélégation) and of 1756–90 roads (white lines). Horse-post relay data are based on various editions of the *Liste des postes*, and 1793 census data, on Cristofoli et al. (2021). The shapefile of subdélégations is based on information in Cristofoli et al. (2021), that of cantons, on information in `cassini.ehess.fr` (Motte et al., 2003; Motte and Vouloir, 2007), and that of roads, on Perret, Gribaudi and Barthelemy (2015).

sample exclusions: 201 cantons composed of a single parish; 3,694 cantons where no parish ever switched treatment as none ever hosted a horse-post relay or those that did never lost it; 105 cantons where one parish switched treatment but no other parish had the same period-one treatment (generally cantons where a single parish started with a relay then lost it and no other parish ever hosted a relay); and 14 cantons where all parishes that ever had a horse-post relay followed the same treatment path over time. In total, these restrictions imply that 3,847 cantons (84 percent of all cantons) are omitted when decade-by-canton fixed effects are introduced. This leaves 732 cantons (out of 1,342 that ever hosted a horse-post relay) for identification. We illustrate this selection in Appendix Figure A9.[25]

[25]While parishes had 811 inhabitants in 1793 on average, those located in cantons used for identification

Main Results

Table 2 reports the main results on how the development of the horse-post relay network impacted rebellion throughout eighteenth-century France. Specifically, we report the average total effect of decade-specific event-study estimates δ_ℓ, which represent the sum of accumulated period-specific treatments (de Chaisemartin and D'Haultfœuille, 2024, pp. 24–5). This table further reports the effective number of parishes-decade and parish observations that are used for identification, the number of parish-decades that switched treatment over the period, as well as the outcome mean and residual standard deviation calculated on the effective sample.[26]

Table 2. Average Total Effect of New Horse-Post Relays on Rebellions

Outcome:	Number of rebellions					
	(1)	(2)	(3)	(4)	(5)	(6)
Horse-post relay	0.057***	0.029***	0.029***	0.040***	0.029***	0.029***
	[0.011]	[0.010]	[0.010]	[0.009]	[0.004]	[0.004]
Wheat prices	No	No	Yes	No	No	Yes
decades × subdélégations FE	No	No	No	Yes	No	No
decades × cantons FE	No	No	No	No	Yes	Yes
Parish-decades	282,296	282,296	282,296	183,904	54,672	54,672
Parishes	35,287	35,287	35,287	22,988	6,834	6,834
Switchers (overall)	3,522	2,561	2,561	2,352	1,929	1,929
Switchers (at least once)	1,099	1,099	1,099	1,018	849	849
Outcome mean	0.021	0.021	0.021	0.017	0.017	0.017
Outcome residual s.d.	0.225	0.225	0.225	0.148	0.122	0.122
Periods $(-t; +T)$	$(-3;+7)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$	$(-2;+3)$

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish fixed effects, and other controls are accounted for. Summary statistics are calculated relative to the effective sample used in the estimation. *Periods* $(-t; +T)$ denotes the number of event-study effects and placebos estimated. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Column (1) presents a model with no controls estimated on the maximum number of leads and lags allowed by the structure of the data. The establishment of a horse-post relay

had 769. However, a regression of the log parish population on an indicator variable that equals one if a parish is in such a canton yields a small and insignificant estimate when clustered at the canton level (estimate: −0.0274; standard error: 0.0205).

[26] We follow Mummolo and Peterson (2018) and rely on residual standard deviation as a measure of sampling variation when interpreting the magnitudes of regression estimates. As indicated in Table 1, the raw standard deviation in rebellions in our sample is 0.405, i.e., about twice as large as the residual standard deviation once parish and decade fixed effects are accounted for.

in a parish is associated with more rebellions over time. The average total effect implies an increase in the number of rebellions of 0.057, which is a little more than twice the average incidence of rebellion in a given parish-decade, as well as a quarter of the residual standard deviation of rebellion. Column (2) reduces the number of periods used in the estimation to two leads and three lags. The coefficient decreases but remains of sizable magnitude at 0.029 and significant at the one-percent level, roughly equal to the average incidence of rebellion and one-tenth of a residual standard deviation. Column (3) introduces wheat prices as a time-varying control to assess whether local income shocks following the introduction of horse-post relays might account for the results. The estimate remains unchanged, which suggests that the introduction of horse-post relays was unrelated to changing local economic conditions that may have spurred rebellions.[27] Columns (4) and (5) further include decade-by-administrative division fixed effects to compare parishes over time within the same subdélégation or canton.[28] Results are similar to the baseline at 0.029, suggesting little heterogeneity in treatment effects across administrative divisions. Finally, Column (6) further controls for wheat prices. The resulting coefficient of 0.029 is significant at the one-percent level, again essentially identical to the baseline in Column (2). However, its relative magnitude is about twice as large due to the reduced sampling variation after accounting for the additional controls used in this specification.

Figure 7 presents an event-study plot that encapsulates the results in Columns (1) and (2). This figure serves three purposes: first, to inspect the parallel-trends assumptions, second, to assess the dynamic nature of the treatment effect, and third, to show event-study effects without imposing restrictions on the number of periods used in the estimation. Estimates of event-study placebo leads exhibit no discernible differential trends between treated and untreated parishes, supporting the credibility of the parallel-trends assumption. In addition, we find substantial dynamic treatment effects. Rebellions increase in the second decade following the establishment of a horse-post relay and subsequently grow. Further analysis using sliding decadal intervals of rebellion shows that the first-period effects actually start to kick in with a single yearly lag and generally grow thereafter (see Appendix Table A5).[29]

[27] Relatedly, examining parish-level *taille* and *capitation* information from 1740 to 1789, Tonnaire (2005, pp. 44–62) finds no evidence that parishes that received a horse-post relay on the road between Auxerre and Dijon in the 1740s became richer.

[28] The effective sample reduces to 22,998 parishes when we include decade-by-subdélégation fixed effects because there are only 435 subdélégations (out of 696) in which at least two parishes have the same period-one treatment, with one switching treatment over the period. It further reduces to 6,834 parishes when we include decade-by-canton fixed effects because there are only 732 cantons (out of 4,579) in which at least two parishes have the same period-one treatment, with one switching treatment over the period. Because the effective samples used for identification in these specifications are substantially smaller than the original sample, we also estimated the baseline specification without interacted fixed effects on these subsamples—results are very similar, suggesting that sample selection does not drive our results.

[29] In keeping with this, our results are robust to using alternative timing specifications such as excluding

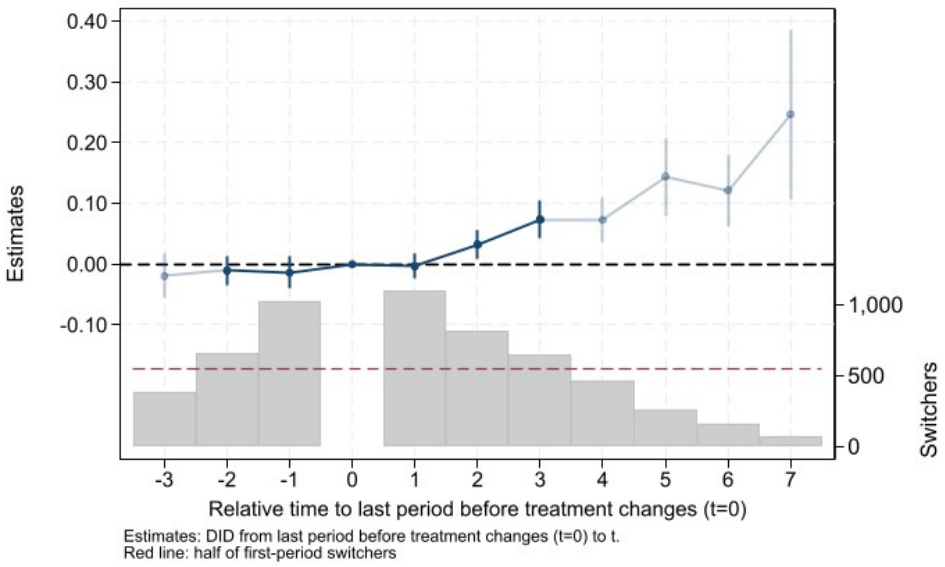


Figure 7. Event-Study Effects of New Horse-Post Relays on Rebellions

Notes. The top half of this figure reports event-study effects δ_ℓ estimated through Equation 1 along with 95 percent confidence intervals. The specifications correspond to Columns (1) and (2) in Table 2. Dark blue estimates correspond to restricting the estimation to two leads and three lags, while light blue estimates use the full three leads and seven lags in the estimation. The bottom half of this figure reports the number of switchers used for identification of each event-study effect. The red dashed line denotes half of first-period switchers. The full set of results is available in Appendix Table A4.

Given the decadal nature of the intervals, this suggests that discernible treatment effects begin, on average, about five to six years after the establishment of a new horse-post relay. Finally, the figure indicates that the third placebo lead and the fifth, sixth, seventh period estimates rely on a relatively small number of switchers, supporting our choice to emphasize estimates using two leads and three lags. An event-study plot relative to the specification in Column (6) of Table 2 and reported in Appendix Figure A11, does not change these conclusions.

Robustness

Table 3 examines the robustness of our main results. These tests build on the full specification reported in Column (6) of Table 2—reported here in Column (1)—that controls for wheat prices and includes decade-by-canton fixed effects.

rebellions that occurred during the year the *Liste des postes* was published, with an estimate of 0.027 (standard error of 0.004), or assigning rebellions to the following decade, with an estimate of 0.051 (standard error of 0.005).

Periodization To assess the credibility of the "initial conditions" assumption (de Chaisemartin and D'Haultfœuille, 2024, pp. 9–12), Column (2) excludes the 1710 decade from the sample. The resulting estimate of 0.028 is close to the baseline and significant at the one-percent level, suggesting that this assumption is reasonable.[30]

Sample composition Next, we hold constant the sample of switchers used for identification to assess whether changes in the underlying composition of the effective sample drive our results. The estimate in Column (3) of 0.035 suggests that they do not. Column (4) then restricts the estimation to parishes that switch *into* treatment (i.e., parishes that receive a new horse-post relay) as opposed to using both switchers in and switchers out (i.e., parishes that also lose a relay). The estimate declines slightly to 0.022 but is still significant at the one-percent level and in line with the baseline estimate.

Heterogeneity In Column (5), we estimate Equation 1 with 1793 population weights to gauge the heterogeneity of treatment effects across parish sizes. We find an effect of 0.075, suggesting that larger parishes may be more responsive to receiving a new relay. However, given the higher weighted outcome mean and residual standard deviation, the magnitude is still similar to the baseline. In the same vein, in Column (6), we further include a set of decade-by-rural status fixed effects, where rural status is coded as an indicator variable that equals one if the parish had fewer than two thousand inhabitants in 1793—the definition of a rural commune in the population censuses of the nineteenth century (Le Mée, 1972). We find an estimate of 0.019, again comparable to the baseline. We further investigate the nature of heterogeneous treatment effects along various characteristics in Appendix B, showing that baseline differences in population, administrative status, gabelle taxation regime, historical opposition to the central state, and mode of ruling do not account for our results.

In addition, we show in Appendix Table A7 that the treatment effect is generally homogeneous across regions.[31] The results are also robust to excluding one region at a time (Appendix Table A8), showing that no single region is driving the results. Excluding the city of Paris from the sample—an outlier in terms of rebellions (Table 1)—yields an estimate of 0.029 (standard error of 0.004).

Intensity of rebellions In Column (7), we show that the effect we identify is not driven by small rebellions. This specification uses as outcome the number of moderate to strong

[30] We further report estimates when running Equation 1 on shorter panels in Appendix Table A6. The estimates remain stable, suggesting limited decade-specific heterogeneity.

[31] We divide the territory into eight regions (see Figure A12). Only one region—Normandy—exhibits a negative coefficient, driven by four outlier subdélégations (out of 58 in Normandy). Removing these subdélégations yields an estimate of 0.017 (standard error of 0.005) for Normandy (Appendix Table A9).

Table 3. Robustness Tests of Main Results

Outcome:	Number of rebellions									$\mathbb{1}$[rebellion]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Horse-post relay	0.029***	0.028***	0.035***	0.022***	0.075***	0.019***	0.017***	0.037***	−0.005	0.023***
	[0.004]	[0.004]	[0.004]	[0.004]	[0.008]	[0.003]	[0.003]	[0.005]	[0.006]	[0.003]
Specification	Baseline	No 1710	Same switchers	Switchers in	Pop. weights	Rural-decade FE	Moderate/ strong	New relays	Reconf. relays	Indicator
Parish-decades	54,672	45,934	54,672	54,672	54,672	43,088	54,672	42,984	16,544	54,672
Parishes	6,834	6,562	6,834	6,834	6,834	5,386	6,834	5,373	2,068	6,834
Switchers (overall)	1,929	1,826	1,404	1,840	1,896	1,565	1,929	1,424	573	1,929
Switchers (at least once)	849	817	468	809	835	689	849	643	234	849
Outcome mean	0.017	0.018	0.017	0.017	0.073	0.014	0.011	0.017	0.019	0.014
Outcome residual s.d.	0.122	0.130	0.122	0.122	0.235	0.108	0.099	0.122	0.153	0.098

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags. Column (2) removes parish-decades of the 1710s. Column (6) includes an additional set of decade-by-rural status fixed effects. Column (8) restricts horse-post relays to those that are at least 15 kilometers from a retired relay in the same decade, and Column (9), to those that are within 15 kilometers, where *Reconf.* denotes reconfigured relays. The outcome is the number of rebellions in Columns (1)–(9), and an indicator for the occurrence of at least one rebellion in Column (10). *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish, and canton fixed effects, as well as wheat prices are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.

*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

rebellions. Again, the results are in line with the baseline.[32]

Type of horse-post relays Columns (8) and (9) explore the non-linear expansion dynamics of the horse-post relay network by contrasting the introduction of entirely new horse-post relays with those that are the result of local reconfigurations of the network.[33] We find that new relays are driving the results while those resulting from local reconfigurations do not affect rebellion—most likely because they do not have as strong an impact on reconfiguring state presence locally.

Indicator for rebellions Column (10) shows that results are consistent when the outcome is instead an indicator variable that equals one if there was at least one rebellion in a parish and decade.

Archival reporting biases In addition to the robustness tests in Table 3, we investigate whether archival gaps or recording biases Nicolas's (2002) rebellion data could drive our findings. For instance, information for some départements is derived solely from national archives, which are less comprehensive than départemental archives. This could lead to biases in the representativeness of rebellious events in Nicolas's (2002) survey across départements. Our empirical strategy mitigates this potential source of bias by exploiting variation in rebellious activity within the reach of départemental archives through the use of decade-by-canton fixed effects.

Other selection biases could affect our results. For instance, the expansion of the horse-post relay network may have increased the state's ability to record rebellions. However, recording rebellions was not part of the surveillance function of this institution, which was rather to control individuals passing through relays. Moreover, spatial patterns presented below suggest that there was no over-recording in the areas surrounding horse-post relays beyond host parishes themselves. Furthermore, archives of the horse-post institution are not part of Nicolas's (2002) sources: a flood in 1910 and the Second World War damaged a substantial part of the archives of Ancien Régime postal institutions, and the remainder were only deposited in the National Archives in 1998 (Krakovitch et al., 2000), so that they were hardly accessible to historians when Jean Nicolas conducted his survey in the 1980s.[34]

[32] Moderate rebellions are defined as those that gathered 10–50 individuals, and strong rebellions, more than 50. We report the average total treatment effects across each type of rebellion in Appendix Table A10. We also provide more details on the accuracy of the measure of rebellion intensity in the Data Appendix.

[33] A typical example of such local reconfiguration is provided in Panel (a) of Appendix Figure A7. We define entirely new relays as those that are at least 15 kilometers away from a retired relay in the same decade.

[34] In addition, postal administrations and its agents are absent from Nicolas's (2002) typology. The reason for this indexing gap is that this typology focuses on the main themes and actors that had been identified by

Nevertheless, the maréchaussée and judicial institutions were the main actors in monitoring and recording rebellious activities and their punishment, much as the police and the courts would be today. The main sources of information on rebellious activity are therefore to be found in the archives of these bodies, which are well preserved and which Jean Nicolas and his collaborators been thoroughly searched.

Alternatively, the introduction of a horse-post relay may have increased the recording of rebellions by other local actors. We assess this possibility by reproducing our analysis when keeping only rebellions recorded by state-level actors and stored in national archives, as opposed to local recordings stored in départemental or local archives.[35] The results are robust (Appendix Table A14). We further successively exclude rebellions that were recorded by the most frequent recording actors: the central government, the central financial administration, the maréchaussée brigades (security forces that policed the countryside), local courts and justices, and provincial administrations. Results are again in line with the baseline, suggesting little selection bias arising from Nicolas's (2002) archival sources.

Additional robustness tests In addition to the tests mentioned above, we also conducted further analyses to address the fact that our data contains many zeros and to probe robustness to clustering standard errors at higher levels of aggregation than parishes. Finally, to ensure that our estimates using canton fixed effects are not subject to post-treatment bias associated with the nature of canton boundaries created in 1790 (Homola, Pereira and Tavits, 2024), we examined substituting them for fixed effects based on arbitrary grids composed of varying square sizes that roughly correspond to the number of cantons. The results are robust to all of these tests. See Appendix C for further discussion and results.

Mechanisms

What explains why parishes that receive new horse-post relays experience a subsequent uptick in rebellion? Several pieces of information suggest that the material consequences of the expansion of the horse-post relay network are driving mechanisms. That includes consequences of increased state capacity, such as taxation, conscription, and law enforcement, as well as of crowding out and disrupting private interests.

Table 4 probes these mechanisms in several ways. Column (1) narrows the dependent

the historiography when Jean Nicolas developed his survey in the 1980s (Nicolas, 1985, p. 15). In particular, research at that time had mostly emphasized opposition to the fiscal, judicial, and military actions of the central state, the nobility, the Church, and municipal authorities (e.g., Mandrou, 1969; Bercé, 1980), but not that of the postal administration.

[35] We report the distribution of rebellions in our sample across the type of sources used by Nicolas's (2002) survey in Appendix Table A13.

variable to rebellions against state authorities including taxation, military, and judiciary authorities.[36] These agents are some of the most consequential manifestations of state authority charged with monopolizing the roads, maintaining and enforcing order and rules handed down from the monarchy, and reaching into society. Our data on rebellions capture a range of actions against these agents, such as revolts during prisoner transfers, in response to court decisions or compulsory conscription efforts, and against standing military and police forces. Results indicate a robust link between the establishment of new horse-post relays and rebellions against these authorities. These rebellions against state authorities account for more than three-fifths of the total effect of horse-post relays on rebellions that we identify. Furthermore, this finding contrasts notably with rebellions against non-state authorities—the nobility, the Church, as well as seigneurial and municipal authorities. Indeed, Column (2) indicates that new horse-post relays were unrelated to rebellions against these non-state agents.

Column (3) turns to rebellions specifically against taxation. As the French state expanded, obligations to the local nobility declined, but there were new and increasing taxes to the French state (Touzery, 2024). These were an object of popular anger. In an analysis of Revolution-era *cahiers de doléance*, Shapiro and Markoff (1998) find evidence that peasants harbored grievances over tax burdens driven by concerns of utility and fairness. While new horse-post relays did not introduce changes in local taxation, the greater presence of state agents may have increased tax enforcement and crystallized ire against state tax obligations. Column (3) shows that this indeed translated into greater local rebellion. Further analysis indicates that new horse-posts are linked both to rebellions related to the smuggling of salt as well as for rebellions related to other taxes such as the *taille* and *capitation*.[37] The coefficient indicates that rebellions against taxation account for about one-fourth of the total effect we uncover.

Column (4) focuses on rebellions targeting the military, including its activities such as conscription and the lodging and garrisoning of troops. We also include rank-and-file mutinies against military authority and rebellions against the maréchaussée, a state-sponsored security forces that policed the countryside. The effect of new horse-post relays on this subset of rebellions is positive and statistically significant. Consistent with this result, we

[36] See Appendix Table A1 for a breakdown of rebellion types between rebellions against state and non-state authorities, along with the number of cases for each type.

[37] Rebellions related to salt smuggling represent 72 percent of rebellions against taxation in our dataset. Our estimates remain positive and statistically significant when removing cantons that are directly contiguous to the frontier of the *grandes gabelles*—the main gabelles (salt tax) zone—as well as those contiguous to other frontiers of gabelles (Appendix Figures A14 and A15). We report these results in Appendix Table A15. We also do not find higher rates of rebellion following new relays in parishes subject to higher salt taxes (Appendix Table B1). If anything, the reverse occurred (Appendix Table B2).

Table 4. Mechanisms Tests

Outcome:	Number of rebellions					
	(1)	(2)	(3)	(4)	(5)	(6)
Horse-post relay	0.018***	−0.001	0.007***	0.006***	0.007***	0.005***
	[0.002]	[0.001]	[0.002]	[0.002]	[0.001]	[0.002]
Authorities	State	Non-state	Taxation	Military	Judiciary	
Protagonists						Notables
Parish-decades	54,672	54,672	54,672	54,672	54,672	54,672
Parishes	6,834	6,834	6,834	6,834	6,834	6,834
Switchers (overall)	1,929	1,929	1,929	1,929	1,929	1,929
Switchers (at least once)	849	849	849	849	849	849
Outcome mean	0.009	0.002	0.006	0.002	0.002	0.003
Outcome residual s.d.	0.089	0.040	0.073	0.043	0.039	0.046

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags. The outcomes are rebellions against state authorities in Column (1), non-state public authorities (seigneurial, nobility, municipal, Church) in Column (2), taxation authorities in Column (3), military authorities in Column (4), and judiciary authorities in Column (5). Column (6) includes rebellions involving local notables as protagonists. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish fixed effects, and other controls are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

find that rebellions are more responsive to horse-posts in locations that were relatively larger providers of troops over the eighteenth century (Appendix Table A16).[38] The coefficient in Column (4) comprises about one-fifth of the total effect of horse-posts on rebellion.

We then turn to rebellions against the judiciary in Column (5). This includes rebellions in reaction to judicial actions like court orders for imprisonment and the repossession of property. Strict enforcement of order and rules set by the monarchy—facilitated by greater information flow through the horse-post—could have disrupted local social life and generated grievances. New horse-posts are again positively linked to this subset of rebellions. The coefficient in Column (5) comprises another one-fourth of the total effect of horse-posts on rebellion.

[38]Specifically, we divide the kingdom of France into low and high military recruitment areas based on data from Corvisier (1964, pp. 410–48) for 1716 and Komlos (2003) for 1716–84. See the Data Appendix for more details.

Column (6) takes a different approach, focusing on the protagonists of rebellion rather than the targets. It examines whether rebellions by notables ticked up following the introduction of new horse-post relays. The private interests of notables on the roads, including travel and the transportation and provisioning of goods, could have been disrupted as the state used new horse-post relays to monopolize roads and enforce new traffic regulations. Consistent with this, we find a positive link between new relays and rebellions by notables, the magnitude of which represents about one-fifth of the total effect of horse-posts on rebellion.[39]

Beyond the tests of the mechanisms reported in Table 4, we also examine whether the establishment of horse-post relays impacted rebellious activity in nearby parishes. If relays brought material changes to society beyond the parish where they were placed, they could have "gathered" rebellion from nearby as people coordinated locally to express grievances at the locales of this new state authority. Horse-post relays and new horse-post messengers clearly identified with the markings of state could have also increased state visibility and represented to some people a disruptive threat to the status quo. This expanded state visibility is a complementary potential mechanism.

To test these propositions, we estimate three versions of Equation 1 where the treatment is defined as an indicator variable that equals one for the presence of a horse-post relay in neighboring parishes up to 5 kilometers away from the parish of hosting the relay, 5–10 kilometers away, and 10–15 kilometers away.[40] Results in Figure 8 imply that the number of rebellions *decreased* by 0.007 up to 5 kilometers away from a new horse-post relay, and by 0.005 in parishes 5–10 kilometers away, with both estimates significant at the 5-percent level. Rebellions further decreased by 0.002 in parishes 10–15 kilometers away, but the estimate is not significant.

We interpret this as suggestive evidence that a portion of the main effect we identify may be the result of a local reconfiguration of rebellion from nearby parishes toward the parish in which a new horse-post relay was established. Given the small size of parishes and their proximity, it would be easy for people to coordinate their resistance within close locales and target it at state authorities nearby. It is worth noting that even accounting for this "gathering effect" of rebellion, the overall net effect of a new relay on rebellious activity remains positive and twice as large as the cumulated spillover effects.

[39] Unfortunately, Nicolas's (2002) survey does not document whether other non-state elite actors—such as members of the clergy or the nobility—participated in rebellions.

[40] Recall that we are comparing parishes over time within cantons, and the average radius of a canton is 6 kilometers.

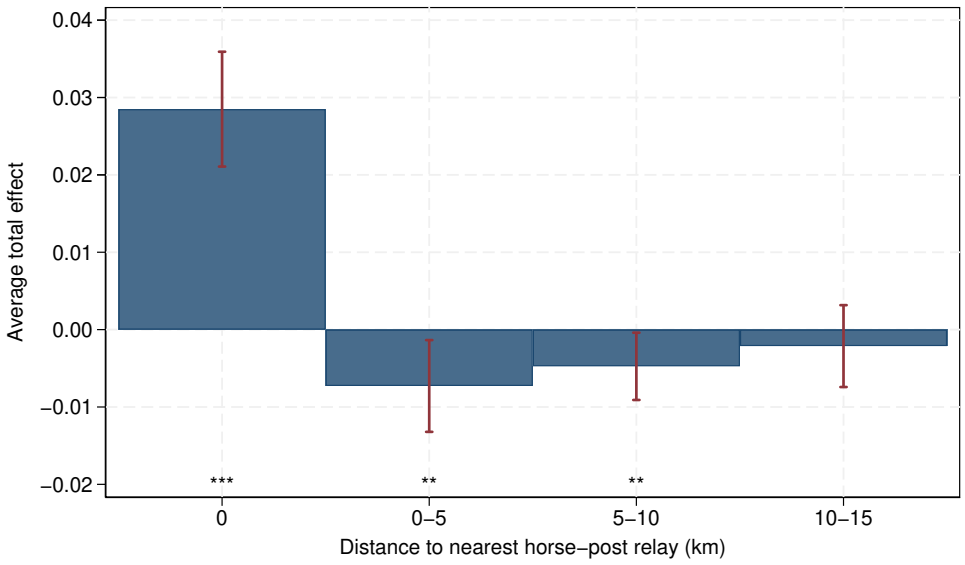


Figure 8. Average Total Effect of New Horse-Post Relays on Rebellions Across Distance to Nearest Horse-Post Relay

Notes. This figure reports the average total effect of a new horse-post relay on rebellion when various treatment variables are input into Equation 1, along with 95-percent confidence intervals: a horse-post in a given parish and decade, up to 5 kilometers away from a new horse-post (excluding parishes with a relay), 5–10 kilometers away, and 10–15 kilometers away. All regressions include parish and decade fixed effects as well as wheat prices, decade-by-canton fixed effects, and distance to the nearest horse-post relay. Standard errors are clustered at the parish level. The full set of results are available in Appendix Table A17. *** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Alternative Explanations

We explore five main alternative explanations that could drive a link between new horse-post relays and rebellions separate from the our main hypothesized channels: the disruption of local social hierarchy, the role of wartime and war zones, an increased ability of the populace to act collectively through an expanding information network that grew with the simultaneous development of the letter-post system, changes in underlying transit infrastructure through the road network, and shifts in the presence of the main public security police force, the maréchaussée.

Disruption of Local Social Hierarchy

Research in other contexts suggests that the weakening of traditional social hierarchies and networks that help to structure society locally can give way to disorder and to reprisals against declining authorities. If the expansion of the state near horse-post relays weakened traditional authorities like the Church, the nobility, and seigniorial authorities without elim-

inating the rents and tithes they levied, resulting grievances against these declining figures could generate the observed link between new horse-post relays and rebellion. Grievances could also aim at the state if it did not cover their functions through state-provided services.

Several pieces of evidence cast doubt on this competing explanation. The introduction of new horse-post relays was more often done by forging alliances with a few local elites rather than weakening them (Jamaux-Gohier, 2001; Marchand, 2006), suggesting little disruption of traditional hierarchies. Accordingly, we find little impact of new horse-post relays on rebellions against traditional non-state authorities. Unpacking the null coefficient in Column (2) of Table 4, we find no impact on rebellions against the Church or municipal authorities, and, if anything, a slightly negative impact on rebellions against seigneurial authorities and nobles. We also find no effect of new horse-post relays on the broader set of local civilian elites such as notables and labor authorities.[41]

War Zones and Wartime

War considerations could also have impinged on the horse-post network and rebellion by driving the network's expansion and grievances against the military in border areas prone to or exposed to war. While most changes to the network during the eighteenth century occurred in the interior of the country, substantial extensions affected northeastern regions along the border with the Holy Roman Empire in the 1740s and 1750s, and along the border with Switzerland in the 1760s (Appendix Figure A4).[42] However, these border areas are not necessarily where conscription was heaviest (Appendix Figure E3). In addition, rebellions against the military were not concentrated in these areas (Appendix Figure A13). Moreover, the supply routes and stations for troops were managed through the *routes d'étape*, a system distinct from the horse post (Kroener, 1980).[43] Nonetheless, to ensure that the geography of war is not confounding our results, we exclude subdélégations that experienced a battle or that were along a border of the Kingdom of France (Appendix Figure A13).[44] The results, reported in Appendix Table A11, are similar to baseline estimates.

We also examined the impact of wartime involvement by excluding all rebellions that occurred during wartime. We define wartime as those years during which France was involved

[41]Specifically, the estimate for rebellions against the Church is 0.0002 (standard error: 0.0009); that against municipal authorities, 0.0002 (standard error: 0.0002); that against seigneurial authorities and nobles, −0.0016 (standard error: 0.0009); that against notables, −0.0001 (standard error: 0.0002); and that against labor authorities, 0.0009 (standard error: 0.0007).

[42]Note that we show in Appendix Tables A7 and A8 that the treatment effect is generally homogeneous across regions and is not driven by a single region.

[43]The spatial distribution of this system was substantially different from that of the horse post. See, for instance, the map of the routes d'étape in 1787 at `https://gallica.bnf.fr/ark:/12148/btv1b7100446h`.

[44]We collect information on the locations of battles from Miller and Bakar's (2023) Historical Conflict Event Dataset (HCED). See the Data Appendix for more details.

in a military conflict in Europe.[45] The results are again similar (see Appendix Table A12).

Information and Collective Action Through the Letter-Post System

Another potential alternative explanation is the role of the simultaneous development of the letter-post system, which may have increased rebellion by lowering the barriers to collective action among the populace through the spread of information.[46] Similar dynamics around the expansion of information networks have been highlighted in the cases of nineteenth- and twentieth-century United States (García-Jimeno, Iglesias and Yildirim, 2022) and Europe (Pengl et al., 2025). The letter post operated as a private service for the collection, forwarding, and distribution of letters based on an infrastructure of post offices (Marchand, 2006, pp. 95–180). If the establishment of letter-post offices was correlated with the establishment of horse-post relays, and if the presence of these offices facilitated collective action, this could confound our findings. To carefully examine this alternative possibility, we collected information on the location of letter-post offices for the same years as our data on the horse-post relay network.[47]

Critically, the spatial configuration of letter-post offices followed a different logic than that of horse-post relays, as their establishment followed economic rather than strategic considerations (Cauvin, Lepetit and Reymond, 1987; Verdier and Chalonge, 2018). Letter-post offices were as numerous as horse-post relays and experienced roughly similar growth throughout the eighteenth century (Appendix Figure A16). By the early eighteenth century, these offices covered most of the territory (Appendix Figure A17). However, because they were not conceived as a network, their development was not constrained by the need to establish an office at regular intervals. As a result, letter-post offices were located in the most populous towns, in sharp contrast to horse-post relays (Appendix Figure A18). Their buildings were also much smaller, since they managed only the distribution of letters and did not provide a resting place or fresh horses for passing messengers. To transport the mail, the letter post employed private couriers (*entrepreneurs de dépêches*), who rode their own horses, and mail coaches (*malles-poste*), which consisted in two-wheeled carts driven by

[45] This includes the War of the Austrian Succession (1744–7), the Seven Years' War (1756–62), and the American Revolutionary War (1778–83) during the Anglo-French War.

[46] Although the horse-post relay network began with exclusive use by the state administration for official correspondence, by the eighteenth century, it also accepted private correspondence and the transportation of individual passengers. However, rates for private use of this network were prohibitive in comparison with the letter-post and private-messenger companies, so that it was essentially limited to wealthy individuals (Arbellot, 1980, p. 115; Jamaux-Gohier, 2001, pp. 35–80).

[47] We rely on the *Ordre général des courriers* available in the annual editions of the *Almanach royal*, the contents of which we cross-validated with the *Cartes des bureaux de postes* of 1741 and with the 1754 and 1782 editions of the *Dictionnaires des postes*. See the Data Appendix for more details.

employees of the letter-post administration.[48]

To empirically assess the potential interfering role of the development of letter-post offices, we turn to de Chaisemartin and D'Haultfœuille's (2023) estimator, which accommodates staggered designs with binary and non-absorbing *multiple* treatments that may have heterogeneous and dynamic effects. Specifically, we expand Equation 1 by further including a set of event-study coefficients on an indicator variable that equals one if a letter-post office was present in a given parish and decade. The results, reported in Panel (a) of Appendix Figure A19, are similar to baseline estimates. The average total effect of the horse post on rebellion, accounting for the concurrent development of the letter post, is 0.027 (standard error of 0.011), suggesting that the development of the letter post cannot explain our results.[49]

Transit Infrastructure and the Roads Network

The underlying road system on which the horse-post relay network relied is another consideration, although it was managed by the separate Bridges and Roads administration (Arbellot, 1973). If improvements to the road network ran in tandem with the establishment of new horse-post relays, it may be that the underlying transit infrastructure is driving the results, whether by advancing economic change, disrupting non-state local authorities, or facilitating popular coordination.

In the early eighteenth century, French roads were in a disastrous state (Arbellot, 1973, p. 766). This issue had been lamented since the Colbert administration in the late seventeenth century as an obstacle to the expansion of internal trade (Blond, 2013, p. 65). However, it was not until the 1730s—when the state of the roads had become critical—that the Controller General of Finance launched a major program of road repair and construction.[50] Under the leadership of Daniel-Charles Trudaine, this plan would result in the opening of nearly 26 thousand kilometers of roads by the 1780s, although only two-thirds of them were

[48]The mail could also be transported by agents of the letter-post administration (*courriers*) using horses of the horse-post relay network and escorted by postillons. But their numbers remained limited throughout the eighteenth century: there were only 6 courriers in 1694; 18 in 1741; 29 in 1771; 79 in 1785; and 173 in 1792 (Marchand, 2006, pp. 162–4). In contrast, there were four thousand postillons in 1763 and up to seven thousand in 1790 (Marchand, 2006, p. 259).

[49]We also show in Panel (b) of Appendix Figure A19 event-study estimates of the treatment effect of letter-post offices on rebellion. We find a positive effect, but pre-trends are such that one cannot have a causal interpretation of these results: letter-post offices developed in locations that were already experiencing upward trends in rebellion, consistent with the economically-oriented development logic of the letter post.

[50]The practical implementation of this program was ensured by the introduction of the *corvée des chemins*, a system of forced labor by which able-bodied men living within twenty kilometers of a road became liable for up to one month's work per year on road repair and construction (Conchon, 2016). Though the corvée was highly unpopular and generated discontent (Tonnaire, 2005, pp. 78–80), only ten rebellions were directed against this labor institution in our data.

still in passable condition at the time (Arbellot, 1973, pp. 772–3).

The order of priority for the opening of new roads, however, was not directly linked to the presence of a horse-post relay: new roads followed a strict priority and those linking relays passed after those linking Paris to ports, provincial capitals, and the borders of the kingdom. While the maintenance of existing roads may have favored those where horse-post relays were located (Arbellot, 1973, p. 766), it was exceedingly rare that the creation of a horse-post relay was accompanied with a demand of road opening or maintenance to the Bridges and Roads administration, or that maintenance demands by postmasters would be met (Verdier, 2009, p. 13). Overall, existing accounts indicate that the horse post was not tied to the roads system and followed its own logic, and that the actual routes taken by postillons between relays varied according to the season and conditions (Jamaux-Gohier, 2001, pp. 125–45).

A comprehensive empirical test of this alternative is nonetheless impossible because of the severe limitations of quantitative information on the opening and maintenance of roads at the local level for the eighteenth century.[51] Nevertheless, we show in Columns (4) and (8) of Appendix Table B1 that there is no heterogeneity in the treatment effect of horse-post relays when comparing parishes located at the same distance to a paved road according to Cassini's maps published in 1756–90, where we divide parishes along quartiles of distance: under 500 meters, 0.5–1 kilometer, 1–3, and over 3 kilometers. This suggests that it is unlikely that our results are driven by connectivity to the roads network.

Policing by the Maréchaussée Brigades

A final potential alternative mechanism—somewhat related to the development of the road network—is the role of maréchaussée brigades, the only state-sponsored security forces that policed the countryside. These men-at-arms were part of the security apparatus of the royal authority and ensured public safety along the roads of the kingdom (Fressin, 2022). After their consolidation in 1720 by the Secretary of State for War, brigades of 4–5 men were stationed in barracks located in the heart of towns and urban areas (Fressin and Georges, 2022). Their spatial distribution was similar to that of letter-post offices: they covered the entire territory (Appendix Figure A17) and were generally located in the most populous towns (Appendix Figure A18).[52] Their development, however, was not as dynamic: the number of brigades stagnated at five hundred units in the first half of the eighteenth century, before growing to about eight hundred units in the 1750s and 1760s and remaining stable until the Revolution (Appendix Figure A16). While this security force embodied the symbolic

[51] This is in part due to the Bridge and Roads administration's reliance on local topographic maps rather than statistical tables (Lepetit, 1984, pp. 17–44; Blond, 2013).

[52] We collect information on the spatial distribution of maréchaussée brigades from Fressin's (2021) *Atlas historique de la gendarmerie*. See the Data Appendix for more details.

presence of the state, it never mustered more than three thousand men and generally operated near towns and major roads.[53]

Maréchaussée brigades could potentially account for our results in two ways. First, if brigades systematically accompanied the establishment of new horse-post relays, then the effects we identify could be driven by the presence of the maréchaussée rather than that of the horse post. Second, if the presence of brigades made rebellious events more likely to be registered by these state actors, then the effects we identify could be driven by selection bias in the archival sources we use to measure rebellious activity.

We address these concerns in a number of ways. First, we show that while parishes that received a horse-post relay were more likely to later host a maréchaussée brigade, pre-treatment relative trends are such that they were also more likely to have received a brigade *prior* to the establishment of a relay (Appendix Figure A20).[54] In other words, while the spatial development of the two institutions was correlated, there is no causal relationship between them. Second, we expand Equation 1 and control for the potential incidence of maréchaussée brigades using de Chaisemartin and D'Haultfœuille's (2023) estimator for multiple treatments. The results reported in Panel (a) of Appendix Figure A21 are similar to baseline estimates. The average total effect of the horse post on rebellion, accounting for the concurrent development of the maréchaussée, is 0.030 (standard error of 0.012), suggesting that it cannot explain our results.[55] Third, we examine the effects of horse-post relays on rebellion strictly among parishes that never hosted either a letter-post office or a maréchaussée brigade. Results in Appendix Table A18 suggest that these "uncontaminated" parishes still exhibit a positive causal relationship between the establishment of horse-post relays and rebellion. Finally, we test the robustness of the findings to dropping rebellions recorded in the archives of the maréchaussée. The results, reported in Column (6) of Appendix Table A14, are similar.

[53] Urban security was the responsibility of municipal authorities. More generally, policing in Ancien Régime France was characterized by its fragmentation, with each jurisdiction having its own police corps. Rebellions against municipal security forces were limited with only 39 cases recorded in our data.

[54] Our data contain 300 cases of rebellions explicitly against the maréchaussée (5 percent of all rebellions). Consistent with the response of rebellions against military authorities in Column (4) of Table 4, we find that the development of the horse-post relay network fostered rebellions against the maréchaussée (estimate: 0.0037; standard error: 0.0012).

[55] We also show in Panel (b) of Appendix Figure A21 event-study estimates of the treatment effects of maréchaussée brigades on rebellion. We find a positive effect, but pre-trends are such that one cannot have a causal interpretation of the results as maréchaussée brigades developed in locations that were already experiencing upward trend in rebellion, suggesting that their localization was endogenous to rebellion trends.

Conclusion

Alongside ongoing international rivalries and wars on the European stage in the early modern period, major powers—especially France and England—also experienced episodic but significant outbreaks of rebellion and revolt (Chambru and Maneuvrier-Hervieu, 2024). This disorder took place against a backdrop of ambitious state-building. France was one of the first states to systematically embark on state-building through a wide range of infrastructural, communication, and extractive initiatives. Its main European competitors quickly followed suit, and eventually state-building spread globally.

But state-building initiatives can become a site of contestation even if the ultimate goal is the monopolization of control and order within society. We find that improvements in communications through the expansion of France's horse-post relay network sparked episodic rebellions across the national territory in the run-up to the French Revolution. We attribute this relationship to pushback against the material consequences of state monopolization such as control over the roads, greater tax and law enforcement, conscription, and crowding out of private interests.

The dynamics we identify could also have had important consequences for the French Revolution at the end of our period of study. Exploratory analysis indicates that although the horse-post relay network in itself did not spread information among citizens or lower their collective action costs, locales that received horse-post relays and an associated uptick in rebellion were more likely to later have organized political societies that formed throughout the course of the Revolution.[56] These societies served to coordinate revolutionary action and take control of local affairs as the French state collapsed. Prior grievances fostered by the development of the horse-post relay network appear to have been reborn once a subsequent shock provided the opportunity for people to mobilize, adding fuel to more short-run dynamics linked to the 1788 drought and the spread of democratic ideals by French soldiers that participated in the American Revolutionary War (Jha and Wilkinson, 2023; Waldinger, 2024). This suggests that building state strength also has long-term consequences for social order that, like the short-term effects, are not always what state planners would predict or desire.

The findings underscore the importance of conceptually separating the process of state-building from state strength per se. There are many channels through which state-building can potentially impact order and disorder, from material consequences such as taxation

[56]The relationship between the horse-post relay network and later political societies holds both in an OLS and in a 2SLS framework with horse-post relays as an instrument for rebellion in predicting political societies, along with controls and canton fixed effects. The link holds both for Jacobin societies and all political societies, including popular ones. See Appendix D and Appendix Table D1.

and conscription to information diffusion, ease of communication, and popular coordination. Scholars might fruitfully examine these channels in other canonical cases of early contested state-building in order to enhance our understanding of historical state-making as well as to inform ongoing state-building efforts in today's world.

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The Road to Rebellion: Rural Uprisings and State-Building in the Run-Up to the French Revolution

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Supplementary Online Appendix

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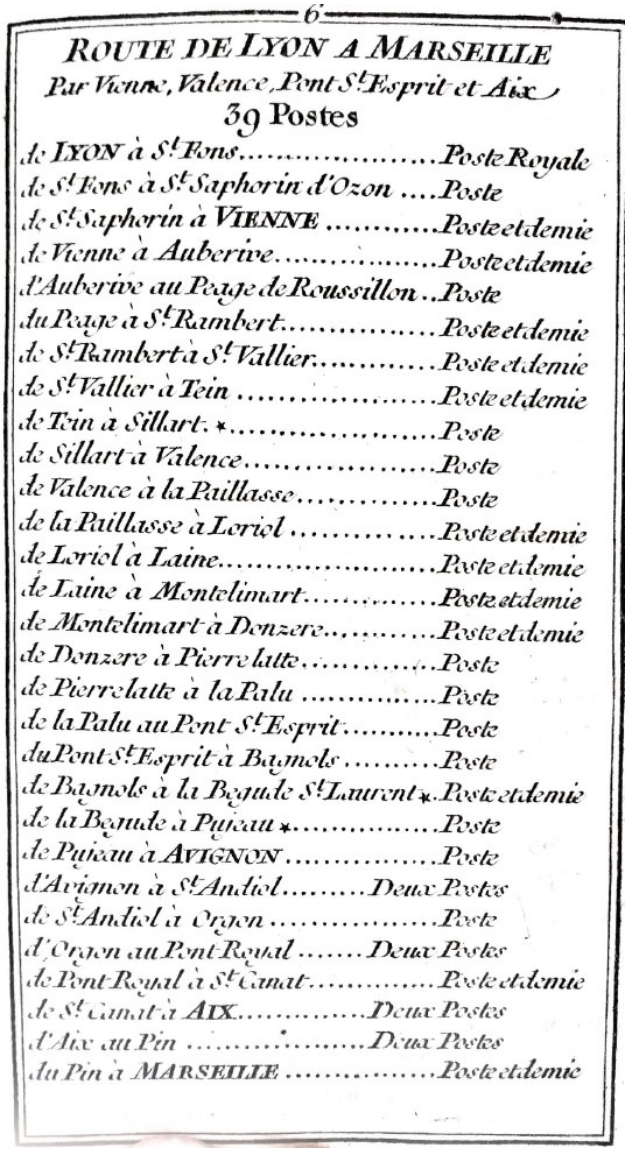
A. Supplementary Figures and Tables



6

ROUTE DE LYON A MARSEILLE
Par Vienne, Valence, Pont St. Esprit et Aix
39 Postes

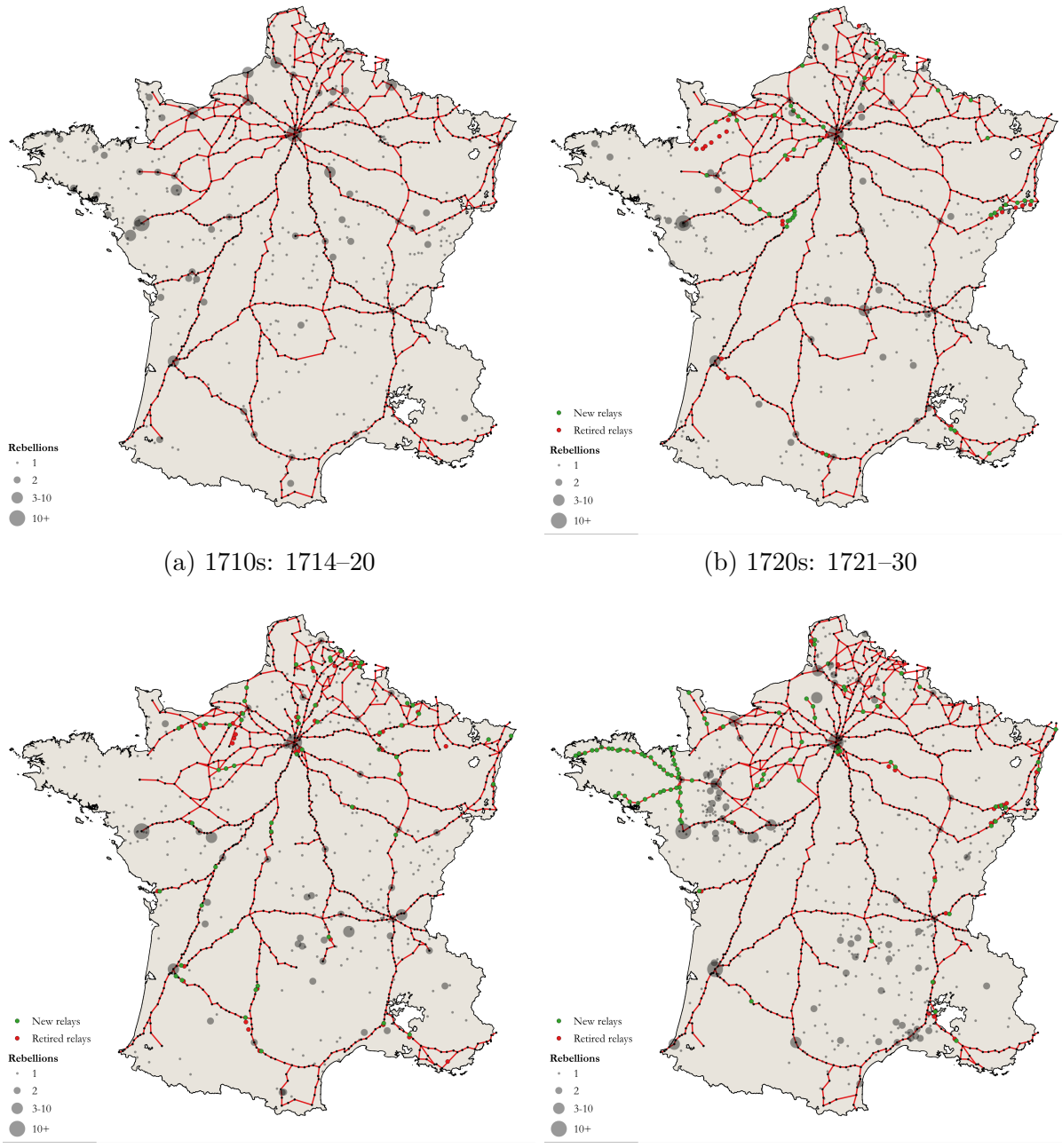
de LYON à St. Fons ..... Poste Royale
de St. Fons à St. Saphorin d'Ozon .... Poste
de St. Saphorin à VIENNE ..... Poste et demie
de Vienne à Auberive ..... Poste et demie
d'Auberive au Peage de Roussillon .. Poste
du Peage à St. Rambert ..... Poste et demie
de St. Rambert à St. Vallier ..... Poste et demie
de St. Vallier à Tein ..... Poste et demie
de Tein à Sillart. * ..... Poste
de Sillart à Valence ..... Poste
de Valence à la Paillasse ..... Poste
de la Paillasse à Loriol ..... Poste et demie
de Loriol à Laine ..... Poste et demie
de Laine à Montelimart ..... Poste et demie
de Montelimart à Donzere ..... Poste et demie
de Donzere à Pierrelatte ..... Poste
de Pierrelatte à la Palu ..... Poste
de la Palu au Pont St. Esprit ..... Poste
du Pont St. Esprit à Bagnols ..... Poste
de Bagnols à la Begude St. Laurent *. Poste et demie
de la Begude à Pujeau * ..... Poste
de Pujeau à AVIGNON ..... Poste
d'Avignon à St. Andiol ..... Deux Postes
de St. Andiol à Orgon ..... Poste
d'Orgon au Pont Royal ..... Deux Postes
de Pont Royal à St. Canat ..... Poste et demie
de St. Canat à AIX ..... Deux Postes
d'Aix au Pin ..... Deux Postes
du Pin à MARSEILLE ..... Poste et demie

Figure A1. List of Horse-Post Relays between Lyon and Marseille in 1751

Notes. This figure provides an excerpt from the 1751 edition of the *Liste des postes*. It depicts the distribution of the 29 horse-post relays along the 39-*poste* route from Lyon to Marseille (about 312 kilometers).

Figure A2. The Horse-Post Relay Network in 1632

Notes. This figure displays the horse-post relay network in 1632. Source: *Carte géographique des postes qui traversent la France* by Nicolas Sanson and edited by Melchior Tavernier, 1632, Bibliothèque nationale de France, département Cartes et plans, GE D–13.433. Available from Gallica at `https://gallica.bnf.fr/ark:/12148/btv1b8490759k`.



(a) 1710s: 1714–20

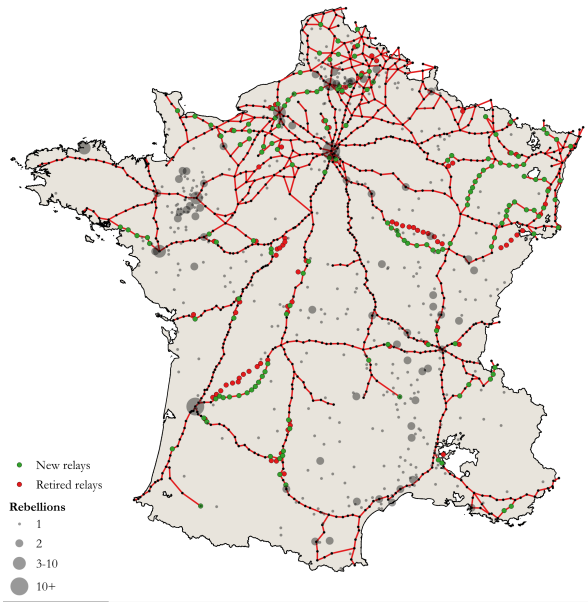
(b) 1720s: 1721–30

(c) 1730s: 1731–40

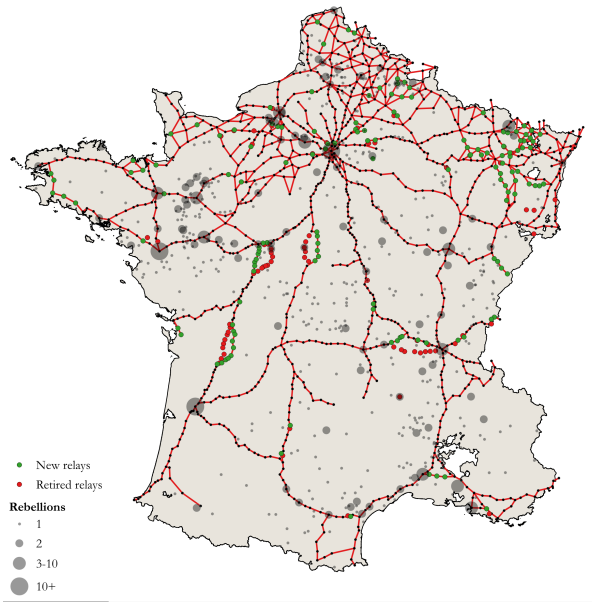
(d) 1740s: 1741–50

Figure A3. The Horse-Post Network and Rebellions (1710s–1740s)

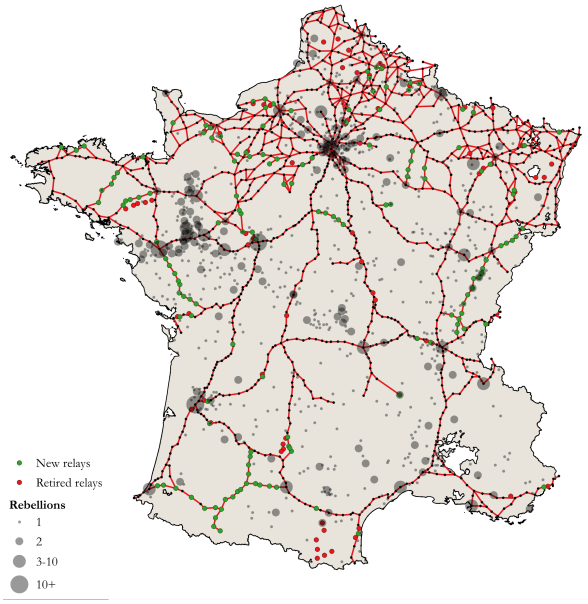
Notes. This figure displays decennial cross sections of the horse-post relay network along with the spatial distribution of rebellions from the 1710s to the 1740s in RGF93 projection. It also highlights the set of newly created and retired horse-post relays in each preceding decade. Horse-post data are based on the 1714, 1721, 1731, and 1741 editions of the *Liste des postes*. Rebellion data are based on Nicolas's (2002) original survey. The underlying shapefile of the Kingdom of France as of 1789 is based on Gay, Gobbi and Goñi's (2024) jurisdictions database.



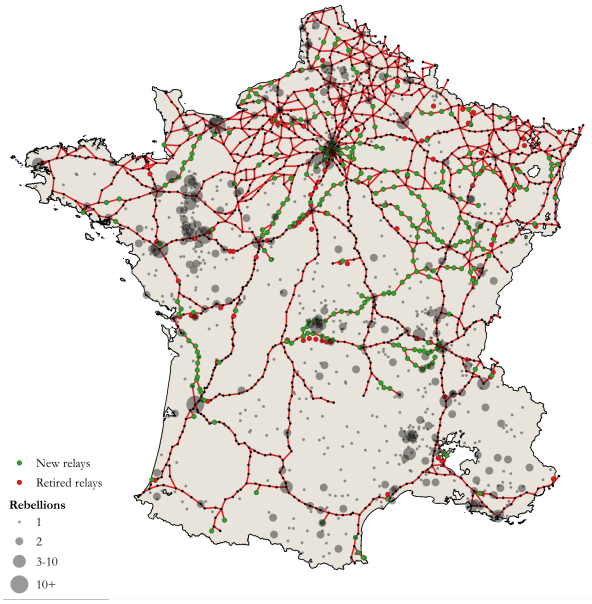
(a) 1750s: 1751–59



(b) 1760s: 1760–69



(c) 1770s: 1770–79



(d) 1780s: 1780–89

Figure A4. The Horse-Post Network and Rebellions (1750s–1780s)

Notes. This figure displays decennial cross sections of the horse-post relay network along with the spatial distribution of rebellions from the 1750s to the 1780s in RGF93 projection. It also highlights the set of newly created and retired horse-post relays in each preceding decade. Horse-post data are based on the 1751, 1760, 1770, and 1780 editions of the *Liste des postes*. Rebellion data are based on Nicolas's (2002) original survey. The underlying shapefile of the Kingdom of France as of 1789 is based on Gay, Gobbi and Goñi's (2024) jurisdictions database.

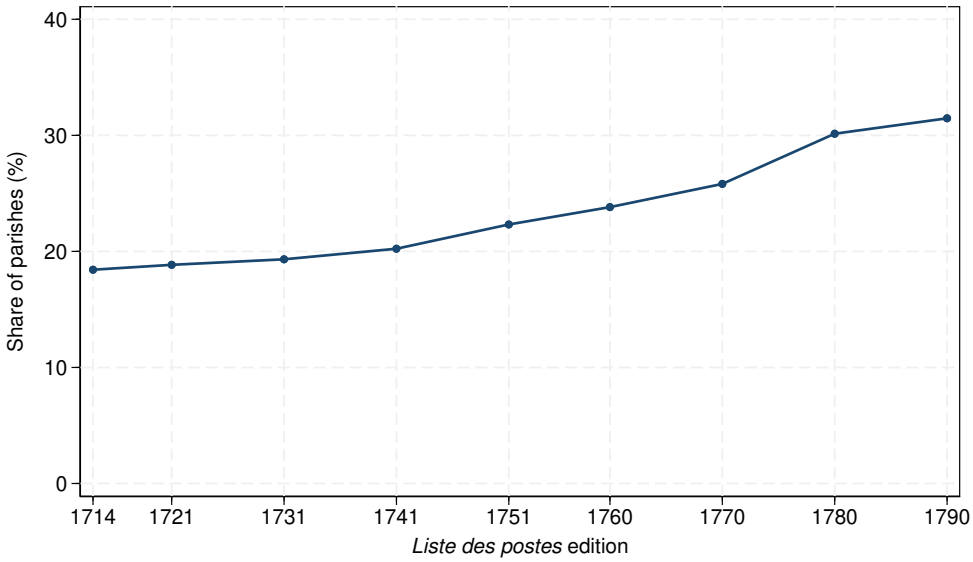


Figure A5. Share of Parishes with a Nearby Horse-Post Relay

Notes. This figure displays the share parishes with a nearby horse-post relay, i.e., a relay in their 1793 canton between 1714 and 1790. Horse-post relay data are based on various editions of the *Liste des postes*. We assign each parish to a 1793 canton based on information in `cassini.ehess.fr` (Motte et al., 2003; Motte and Vouloir, 2007).

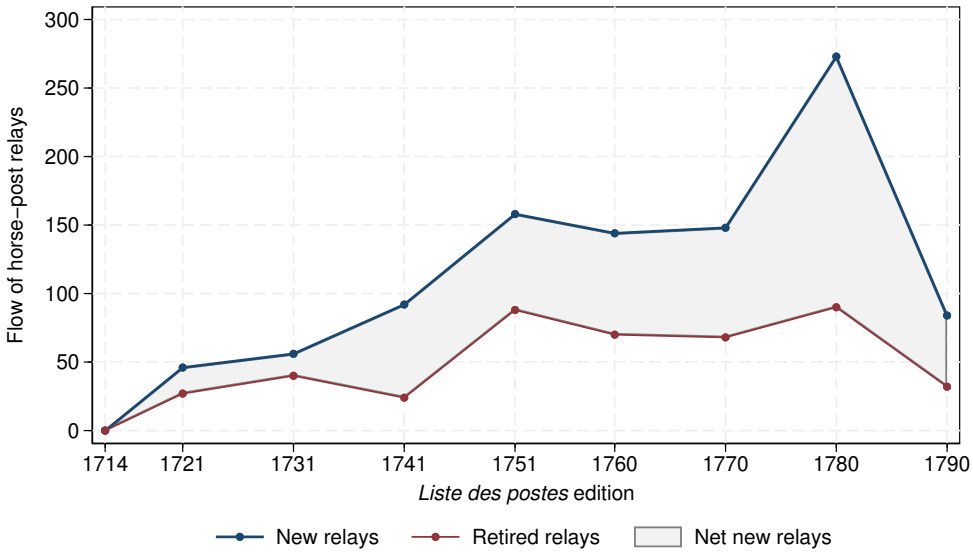
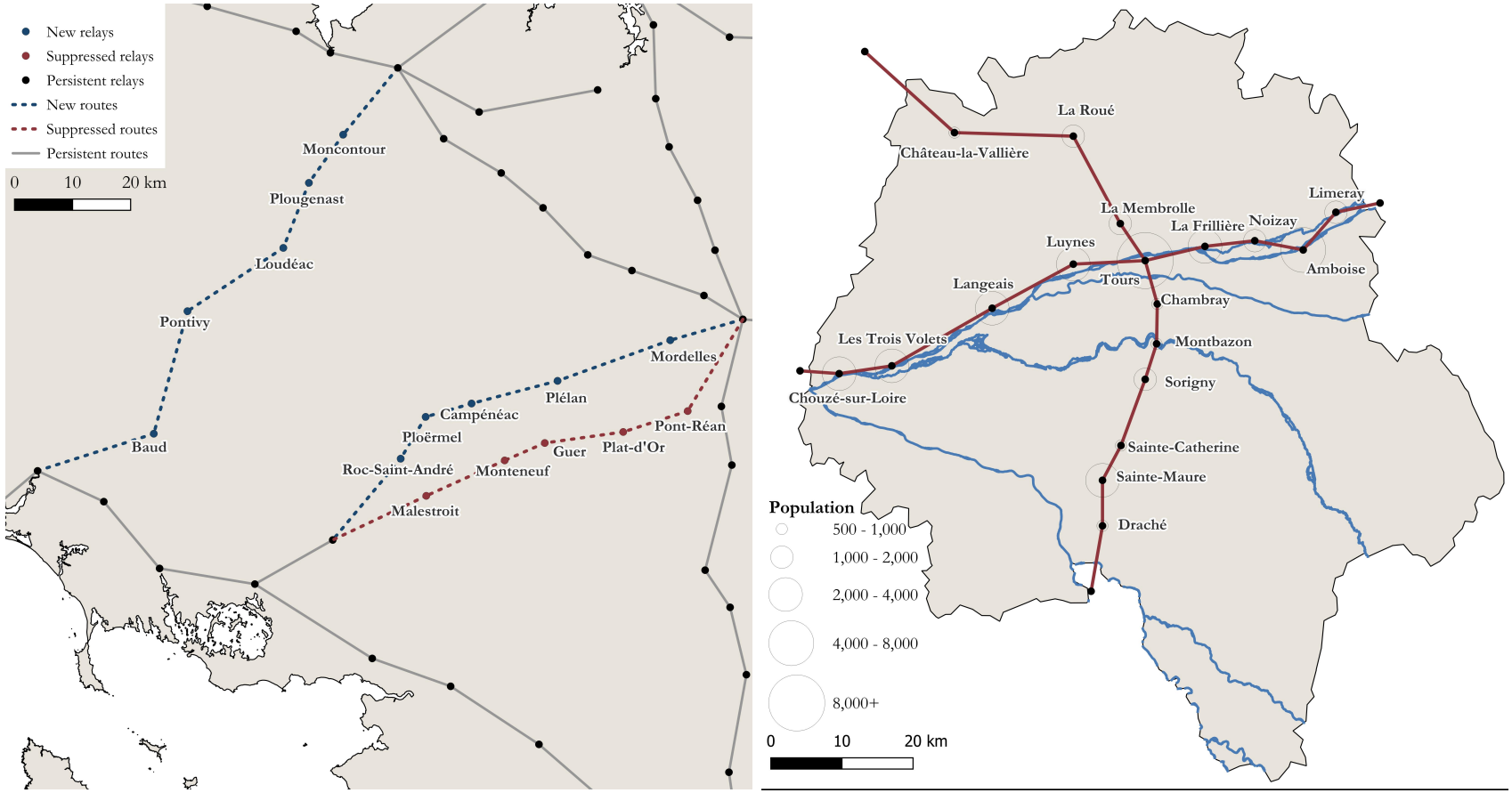


Figure A6. Flow of Horse-Post Relays

Notes. This figure displays the flow of new and retired horse-post relays between 1714 and 1790. *New relays* stands for newly created relays in the preceding decade, while *Retired relays* stands for retired relays in the preceding decade. Horse-post relay data are based on various editions of the *Liste des postes*.

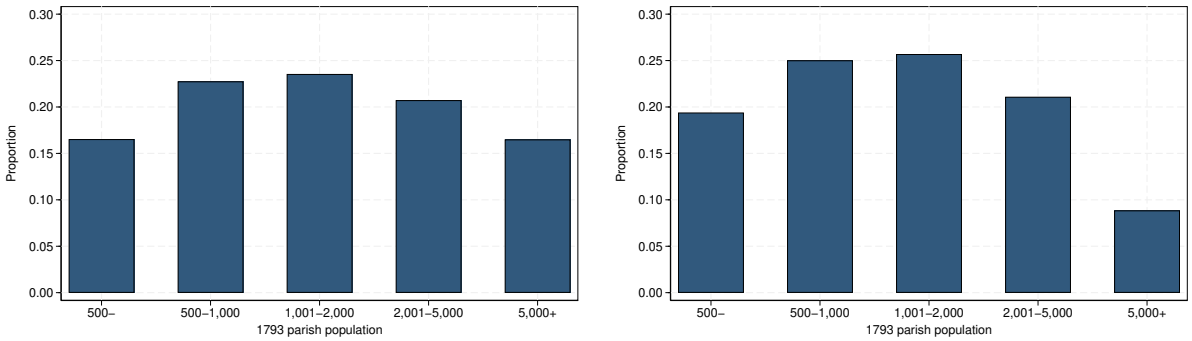


(a) New and Retired Horse-Post Relays and Routes (1760–70)

(b) Horse-Post Relay Network in Touraine (1770)

Figure A7. Local Spatial Distribution of the Horse-Post Relay Network in the 1760s and 1770s

Notes. This figure displays two instances of the local spatial distribution of the horse-post relay network based on the 1760 and 1770 editions of the *Liste des postes* in RGF93 projection. Panel (a) focuses on the newly created and retired horse-post relays and routes in the region of Brittany between 1760 and 1770. *Persistent* relays and routes correspond to relays and routes that were present in both 1760 and 1770. Panel (b) focuses on the region of Touraine in 1770—more precisely, in the post-Revolution département of Indre-et-Loire—along with its hydrographic network. In Panel (b), horse-post relays are displayed in black, horse-post roads, in red, and rivers, in blue. Population data are from the 1793 census.



(a) All Horse-Post Relays

(b) New Horse-Post Relays

Figure A8. Population of Parishes with a Horse-Post Relay

Notes. This figure displays the distribution of the 1793 population among the parishes that had a horse-post relay in 1714–89. Panel (a) contains the 1,748 parishes that ever had a relay—population information for 14 of them is missing in the 1793 census. Panel (b) contains the 892 parishes that ever had a new relay between 1721 and 1790—population information for 10 of them is missing in the 1793 census. Horse-post relay data are based on various editions of the *Liste des postes* and 1793 census data, on Cristofoli et al. (2021).

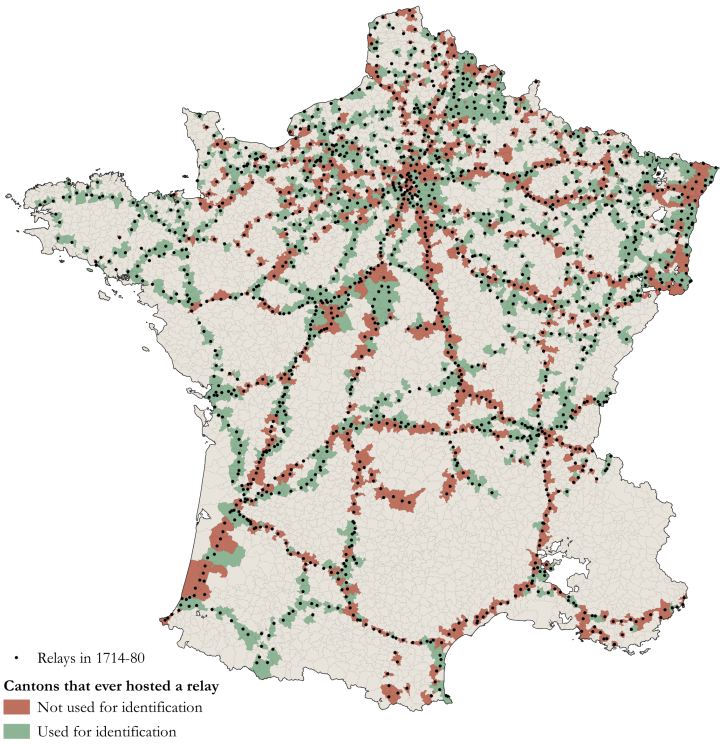


Figure A9. Distribution of Cantons Used for Identification

Notes. This figure displays the spatial distribution of the 4,579 cantons that are used in the analysis in RGF93 projection. It highlights those 1,342 cantons that ever hosted a horse-post relay between 1714 and 1780, and those that are used for identification in regressions using decade-by-canton fixed effects, i.e., cantons in which there were at least two parishes with the same period-one treatment, with one switching treatment over time. The shapefile of cantons is based on information in `cassini.ehess.fr` (Motte et al., 2003; Motte and Vouloir, 2007). The underlying shapefile of the Kingdom of France as of 1789 is based on Gay, Gobbi and Goñi's (2024) jurisdictions database.

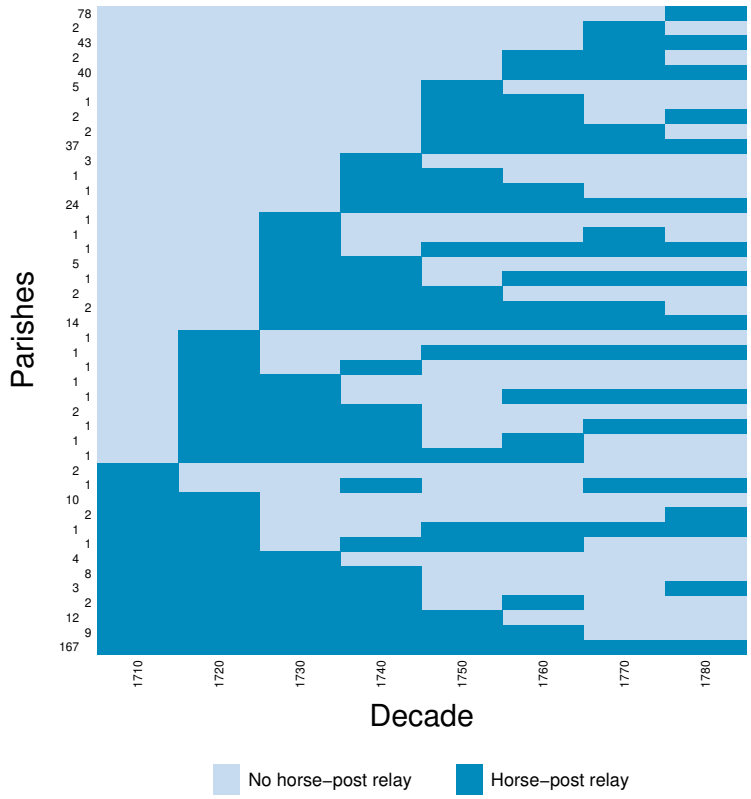


Figure A10. Collapsed Treatment Histories

Notes. This figure displays the 44 treatment histories among parishes that switched treatment at least once between 1714 and 1780. Numbers on the y-axis indicate the number of parishes with each treatment history. Figure produced with Mou and Xu's (2023 [2022]) `panelview` Stata command.

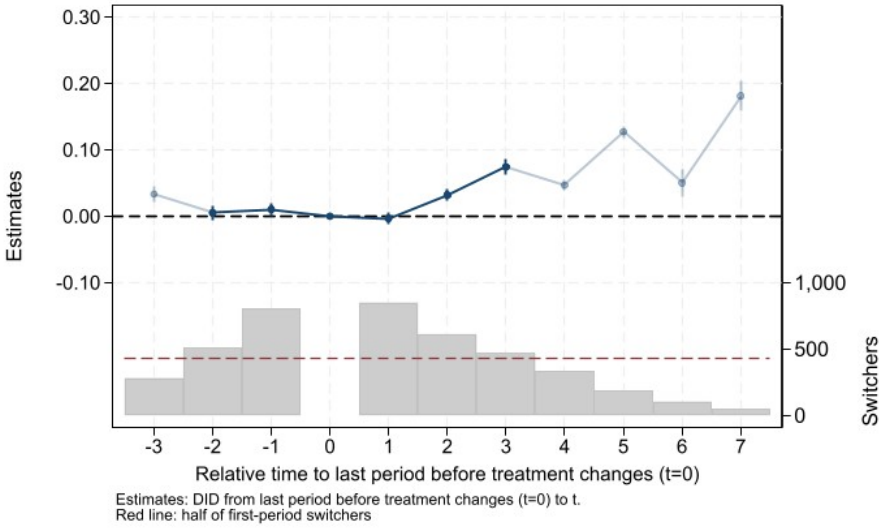


Figure A11. Event-Study Effects of New Horse-Post Relays on Rebellions

Notes. The top half of this figure reports event-study effects δ_ℓ estimated through Equation 1 along with 95 percent confidence intervals. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. The specifications correspond to Column (6) in Table 2. Dark blue estimates correspond to restricting the estimation to two leads and three lags, while light blue estimates use the full three leads and seven lags in the estimation. The bottom half of this figure reports the number of switchers used for identification of each event-study effect. The red dashed line denotes half of first-period switchers.

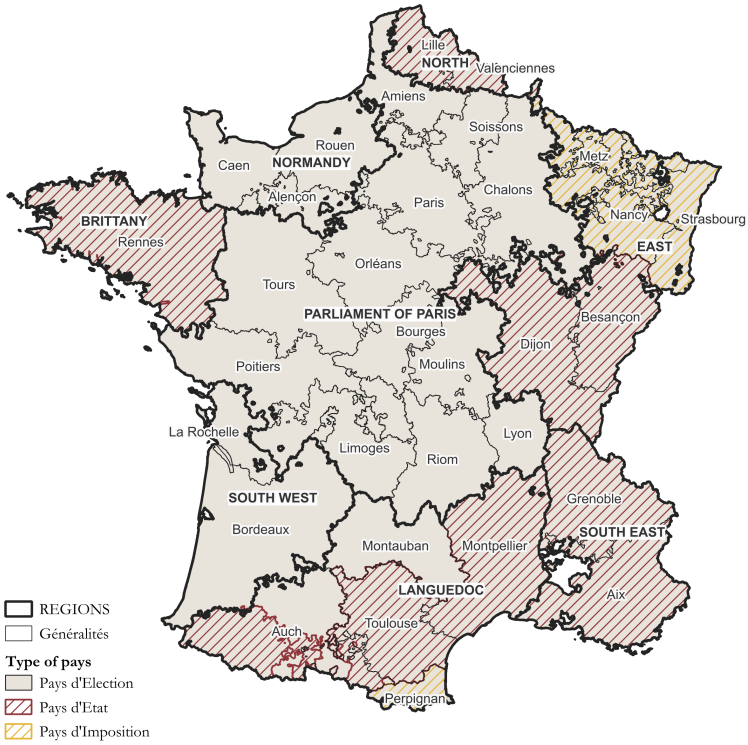


Figure A12. Généralités, Regions, and Pays in 1789

Notes. This figure displays the spatial distribution of généralités and the regions we create for analyses in Tables A7 and A8 in RGF93 projection. It further displays the spatial distribution of *pays d'Election*, *pays d'Etats*, and *pays d'Imposition*. Information on généralités is based on Cristofoli et al.'s (2021) dataset, which draws from Arbellot et al.'s (1986) historical atlas. The underlying shapefile of the Kingdom of France as of 1789 is based on Gay, Gobbi and Goñi's (2024) jurisdictions database.

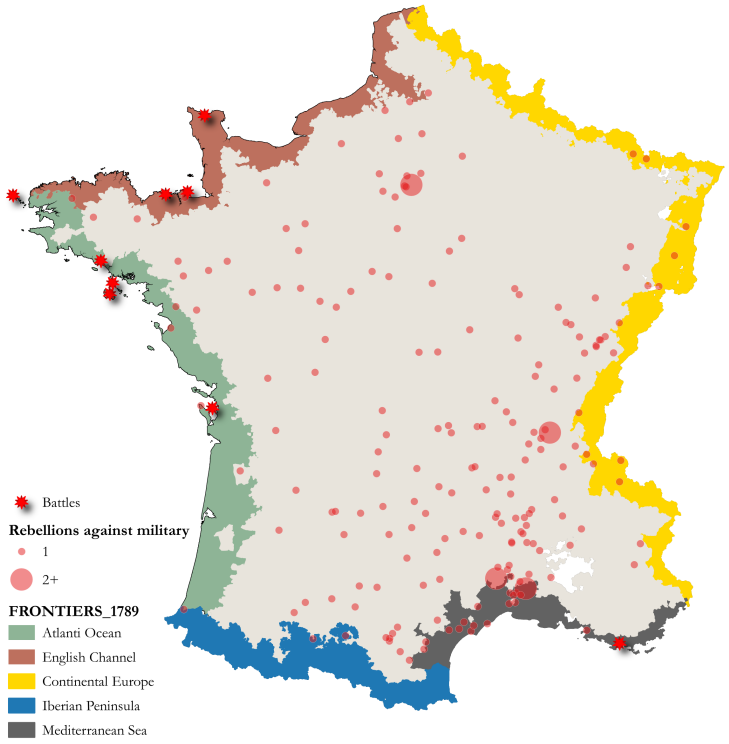


Figure A13. Battles, Border Subdélégations, and Rebellions

Notes. This figure displays battles, the subdélégations that bordered of the Kingdom of France, and rebellions against the military over 1714–89 in RGF93 projection. *Continental Europe* includes borders with the Austrian Netherlands, the Holy Roman Empire, Switzerland, and the Duchy of Savoy. Battles information is from Miller and Bakar's (2023) Historical Conflict Event Dataset. Rebellion data are based on Nicolas's (2002) original survey. The underlying shapefile of the Kingdom of France as of 1789 is based on Gay, Gobbi and Goñi's (2024) jurisdictions database.

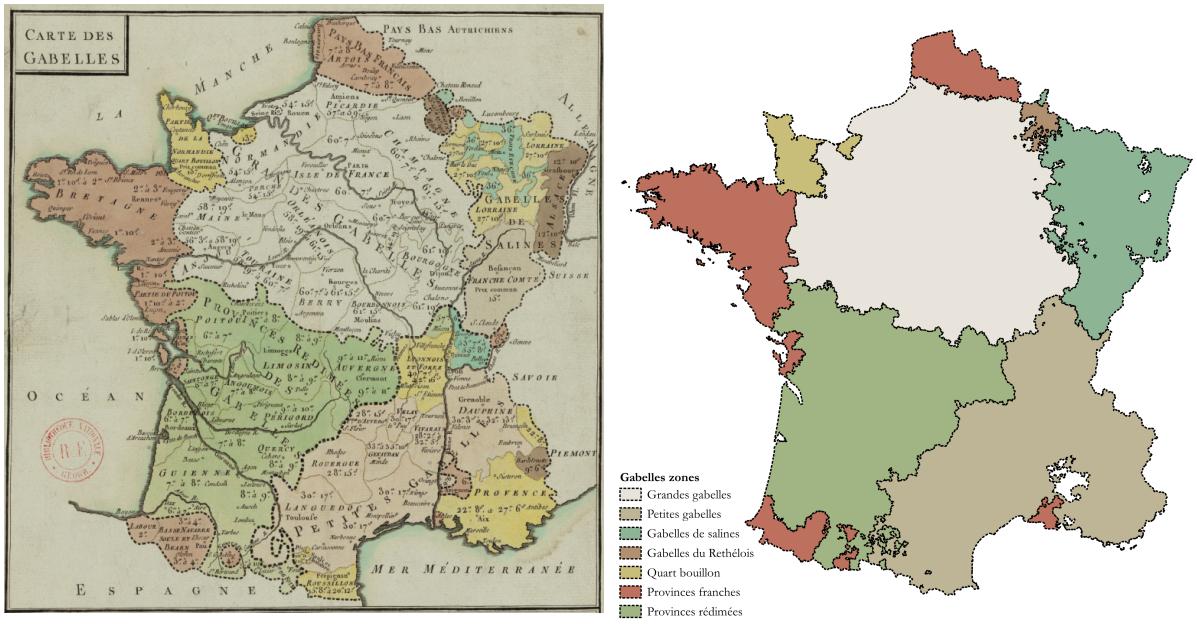


Figure A14. Distribution of Gabelles Taxation Zones

Notes. This figure displays distribution of gabelles taxation zones based on the 1781 *Carte des gabelles* in Panel (a). The vectorization of the different gabelles taxation zones on this map is shown in Panel (b) in RGF93 projection. The underlying shapefile of the Kingdom of France as of 1789 is based on Gay, Gobbi and Goñi's (2024) jurisdictions database.

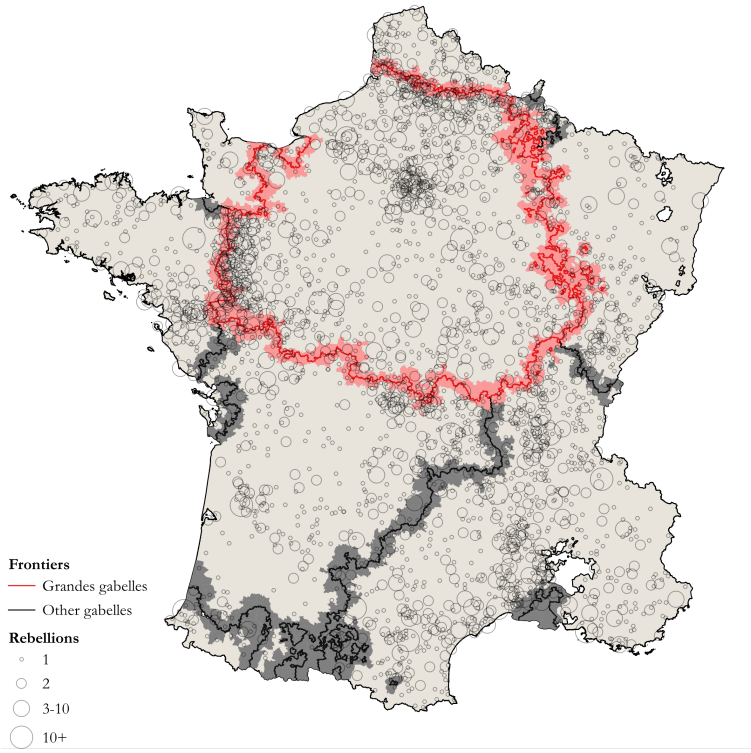


Figure A15. Canton-Adjacent Buffers around Gabelles Taxation Zones

Notes. This figure displays the canton-adjacent buffers around gabelle taxation zones based on the 1781 *Carte des gabelles* in RGF93 projection. Red areas correspond to the canton-adjacent buffer around the frontiers of the *grandes gabelles*. Gray areas correspond to the canton-adjacent buffer around the frontiers of other gabelles taxation zones. Rebellion data are based on Nicolas's (2002) original survey. The shapefile of cantons is based on information in `cassini.ehess.fr` (Motte et al., 2003; Motte and Vouloir, 2007). The underlying shapefile of the Kingdom of France as of 1789 is based on Gay, Gobbi and Goñi's (2024) jurisdictions database.

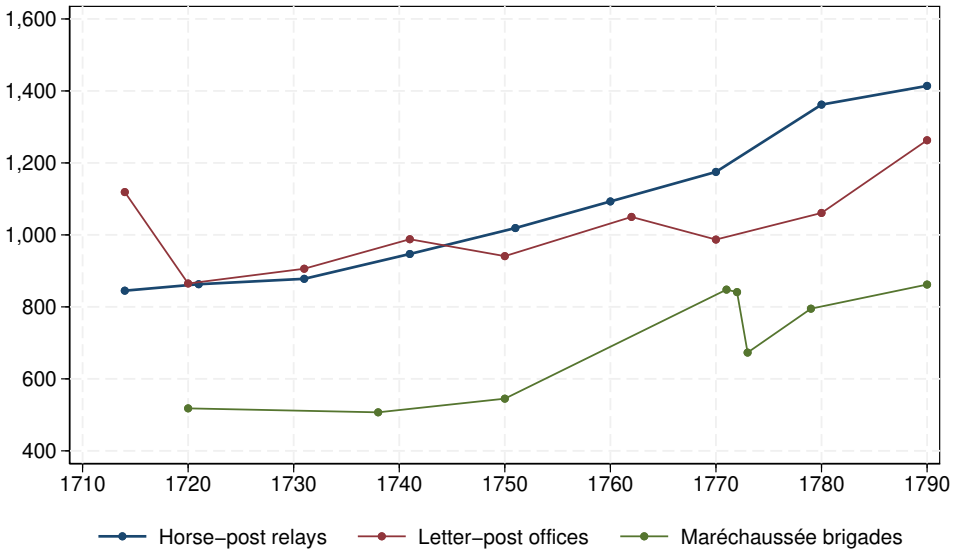
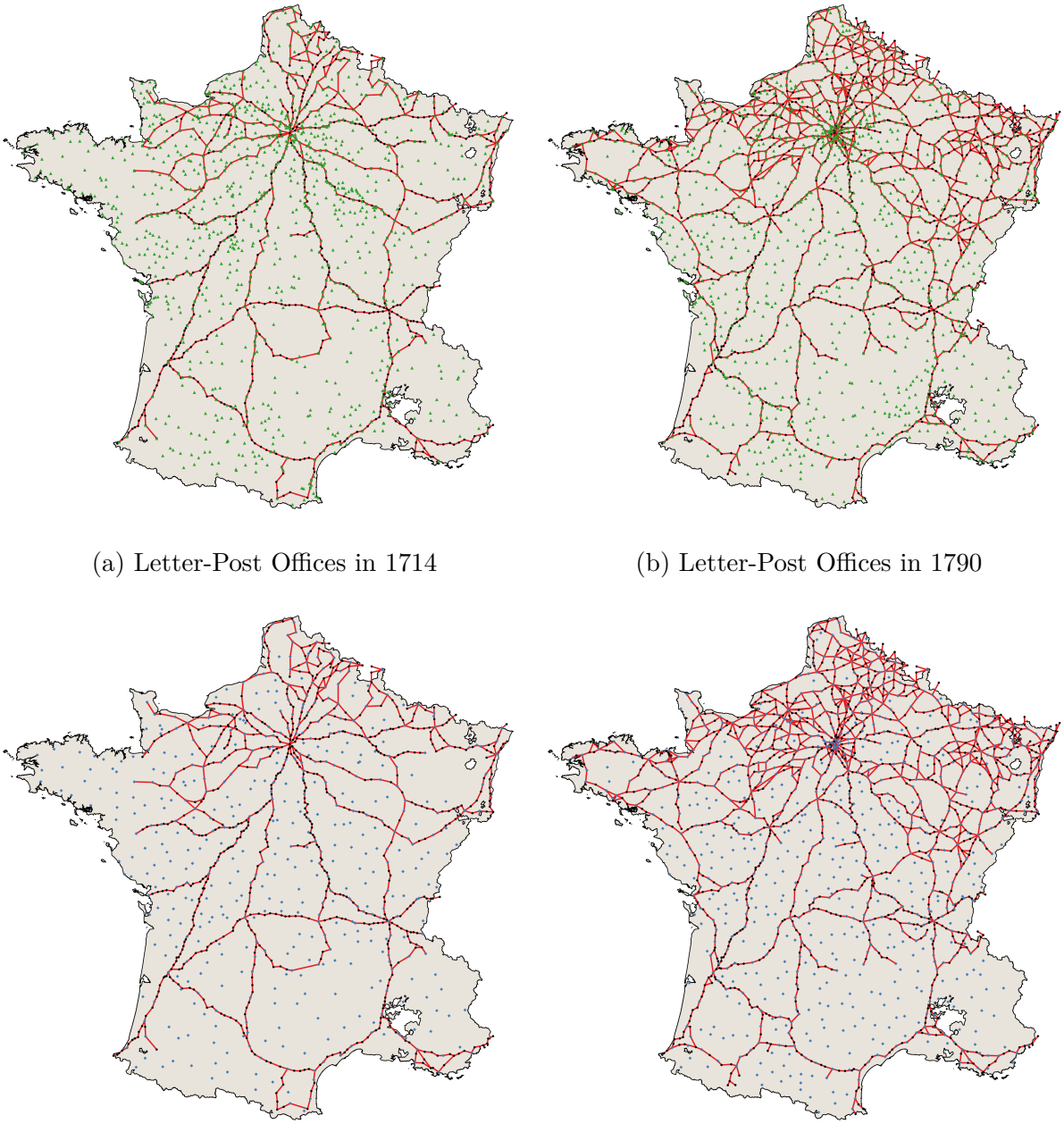


Figure A16. Horse-Post Relays, Letter-Post Offices, and Maréchaussée brigades (1714–90)

Notes. This figure displays the evolution of the number of horse-post relays, letter-post offices, and maréchaussée brigades from 1714 to 1790. Horse-post relay data are based on various editions of the *Liste des postes*, letter-post office data, on various editions of the *Almanach royal*, and maréchaussée brigade data, on Fressin's (2021) *Atlas historique de la gendarmerie*.



(a) Letter-Post Offices in 1714

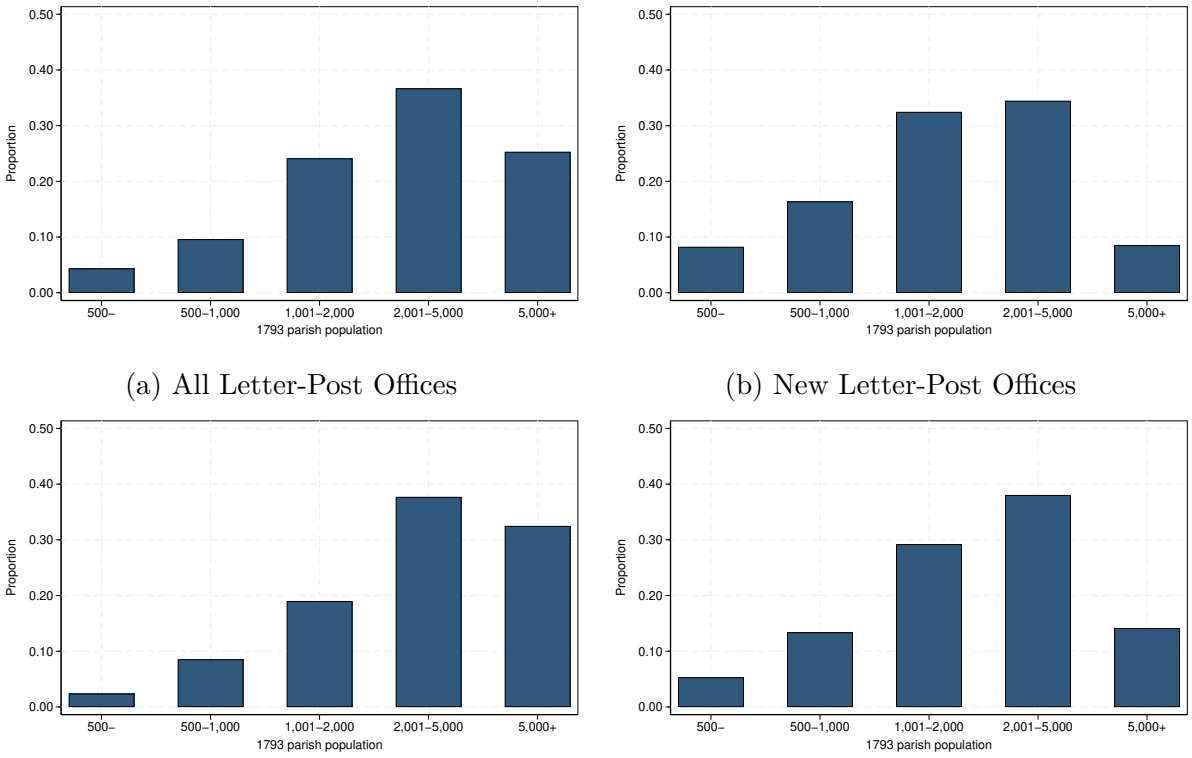
(b) Letter-Post Offices in 1790

(c) Maréchaussée Brigades in 1720

(d) Maréchaussée Brigades in 1790

Figure A17. The Horse-Post Relay Network, Letter-Post Offices, and Maréchaussée Brigades

Notes. This figure displays distribution of horse-post relays (black) based on the 1714, 1720, and 1790 editions of the *Liste des postes* together with the distribution of letter-post offices (green) based on the 1714 and 1790 editions of the *Almanach royal* and the distribution of maréchaussée brigades (blue dots) based on Fressin's (2021) *Atlas historique de la gendarmerie* in RGF93 projection. The underlying shapefile of the Kingdom of France as of 1789 is based on Gay, Gobbi and Goñi's (2024) jurisdictions database.



(a) All Letter-Post Offices

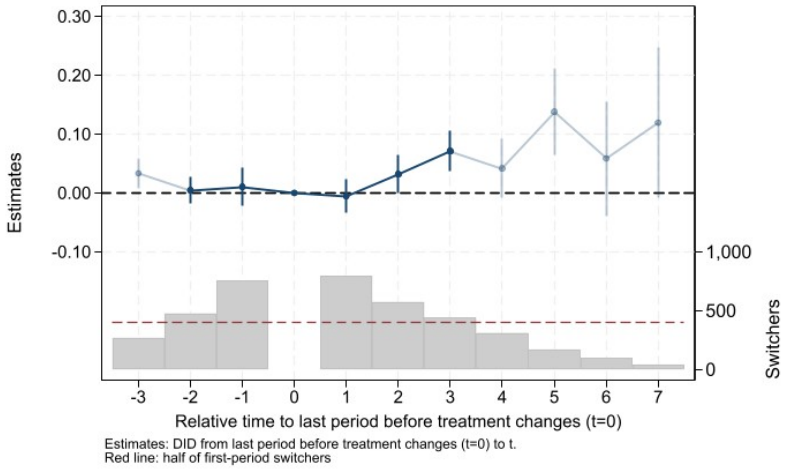
(b) New Letter-Post Offices

(c) All Maréchaussée Brigades

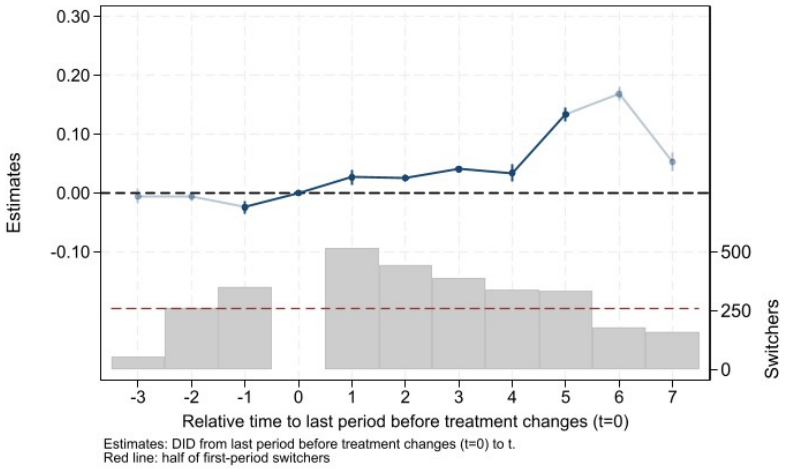
(d) New Maréchaussée Brigades

Figure A18. Population of Parishes with a Letter-Post Office or a Maréchaussée Brigade

Notes. This figure displays the distribution of the 1793 population among the parishes with a letter-post office or a maréchaussée brigade during the eighteenth century. Panel (a) contains all 1,722 parishes that ever had a letter-post office between 1714 and 1790. Panel (b) contains the 615 parishes that did not initially have a letter-post office in 1714 but later had one between 1721 and 1790. Panel (c) contains all 1,099 parishes that ever had a maréchaussée brigade between 1720 and 1790. Panel (d) contains the 586 parishes that did not initially have a maréchaussée brigade in 1720 but later had one between 1738 and 1790. Letter-post office data are based on various editions of the *Almanach royal*, maréchaussée brigades data, on Fressin's (2021) *Atlas historique de la gendarmerie*, and 1793 census data, on Cristofoli et al. (2021).



(a) Horse-Post Relays, Accounting for Letter-Post Offices



(b) Letter-Post Offices

Figure A19. Event-Study Effects of New Horse-Post Relays and Letter-Post Offices on Rebellion

Notes. Panel (a): the top-half of this figure reports event-study effects δ_ℓ estimated through Equation 1 along with 95 percent confidence intervals extended to include letter-post offices as an additional treatment variable. Estimates are calculated using de Chaisemartin, D'Haultfoeuille and Guyonvarch's (2024 [2019]) `did_multiplegt` Stata command. Panel (b): the top-half of this figure reports event-study effects δ_ℓ estimated through Equation 1 along with 95 percent confidence intervals where the treatment variable is the presence of letter-post offices. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Both panels: the unit of observation is a parish-decade from the 1710s to the 1780s. All regressions include parish and decade fixed effects as well as canton-by-decade fixed effects and parish-decade average wheat prices. Dark blue estimates correspond to restricting the estimation to two leads and three lags, while light blue estimates do not impose this restriction and uses three leads and seven lags in the estimation. The bottom-half of these figures report the number of switchers used for identification of each event-study effect. The red dotted lines denote half of first-period switchers.

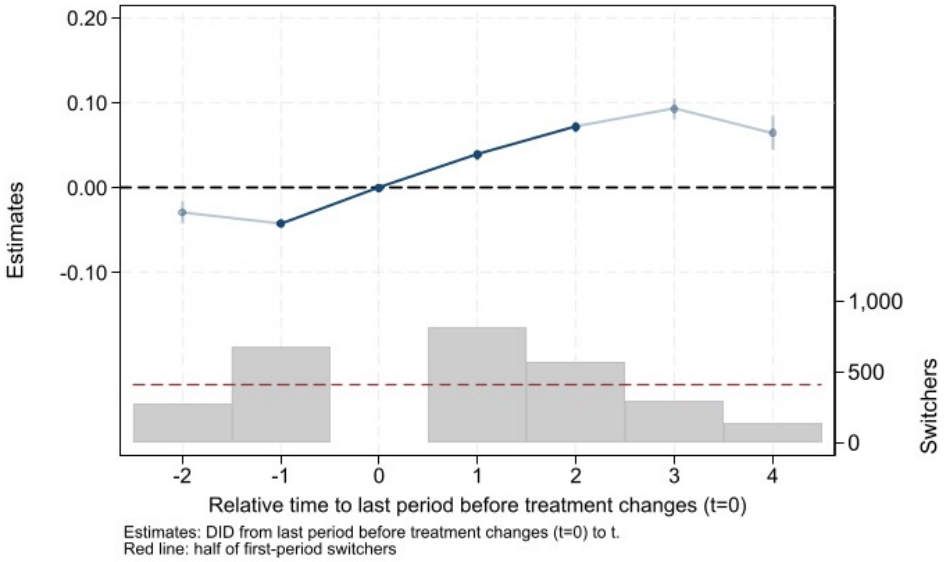
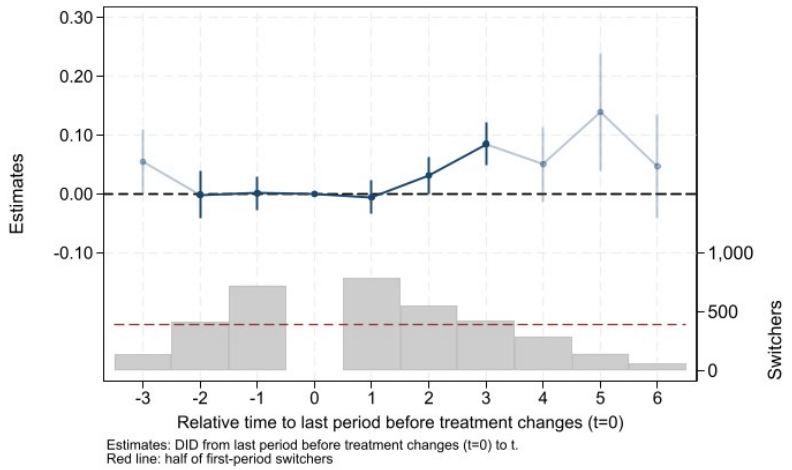
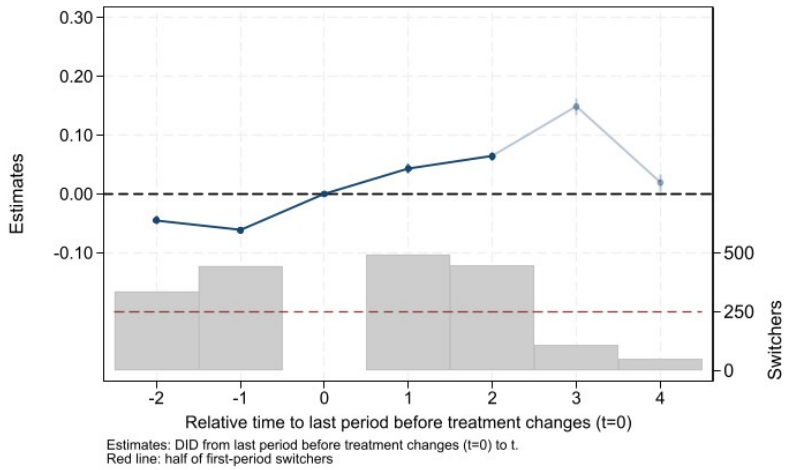


Figure A20. Event-Study Effects of New Horse-Post Relays on Maréchaussée Brigades

Notes. The top-half of this figure reports event-study effects δ_ℓ estimated through Equation 1 along with 95 percent confidence intervals. The unit of observation is a parish-decade from the 1720s to the 1780s. The outcome is an indicator variable that equals to one if a parish-decade hosts a maréchaussée brigade. All regressions include parish and decade fixed effects as well as canton-by-decade fixed effects and parish-decade average wheat prices. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Dark blue estimates correspond to restricting the estimation to one leads and two lags, while light blue estimates do not impose this restriction and uses two leads and four lags in the estimation. The bottom-half of this figure reports the number of switchers used for identification of each event-study effect. The red dotted line denotes half of first-period switchers. This regression excludes decades 1710, 1730, and 1760 as data on maréchaussée brigades are missing for these periods.



(a) Horse-Post Relays, Accounting for Maréchaussée Brigades



(b) Maréchaussée Brigades

Figure A21. Event-Study Effects of New Horse-Post Relays and Maréchaussée Brigades on Rebellion

Notes. Panel (a): the top-half of this figure reports event-study effects δ_ℓ estimated through Equation 1 along with 95 percent confidence intervals extended to include letter-post offices as an additional treatment variable. Estimates are calculated using de Chaisemartin, D'Haultfoeuille and Guyonvarch's (2024 [2019]) `did_multiplegt` Stata command. Panel (b): the top-half of this figure reports event-study effects δ_ℓ estimated through Equation 1 along with 95 percent confidence intervals where the treatment variable is the presence of letter-post offices. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Both panels: the unit of observation is a parish-decade from the 1720s to the 1780s as data on maréchaussée brigades are missing for the 1710s. All regressions include parish and decade fixed effects as well as canton-by-decade fixed effects and parish-decade average wheat prices. Dark blue estimates correspond to restricting the estimation to two leads and three lags in Panel (a) and two lead and two lags in Panel (b), while light blue estimates do not impose this restriction and uses three leads and six lags in the estimation in Panel (a) and two leads and four lags in Panel (b). The bottom-half of these figures report the number of switchers used for identification of each event-study effect. The red dotted lines denote half of first-period switchers. The regression in Panel (b) further excludes decades 1730 and 1760 as data on maréchaussée brigades are missing for these periods. We assume constant spatial distribution for these years in Panel (a).

Table A1. Breakdown of Rebellion Types

Rebellions		Motives			
		General		Detailed	
		Description	Cases	Description	Cases
Against state authorities	Taxation	Resistance to state taxation or incidental taxation	2,203	Unrest related to the distribution of direct taxes	16
(3,301 cases)				Unrest related to the collection of indirect taxes	28
				Fear of overtaxation	3
				Confrontation related to the smuggling of salt and/or tobacco	1589
				Confrontation related to the collection of taxes on goods (food and especially drink) and similar items	363
				Confrontation related to the collection of trade and associated tariffs	181
				Refusal to discharge corvées royales on roads or other public works	7
				Miscellaneous	16
	Military	Resistance to the state judiciary, military, or police	290	Opposition to enlistment in militia or gardes-côtes	97
				Opposition to enlistment of recruits	57
				Hostility to regular troops (garrisoning, lodging, passage)	35
				Hostility to the maréchaussée or urban police units	78
				Military mutiny	23
	Judiciary	Resistance to the state judiciary, military, or police	696	Opposition to repossession or eviction	90
				Opposition to confiscation of arms	16
				Revolt due to an arrest or the transfer of a detainee	403
				Revolt during a public execution	24
				Prison or hospital revolt, prison attack, or mass prison breakout	107
				Opposition to the actions of officers of the Eaux et Forêts jurisdiction	56
	Other	Rejection of state reform initiatives	49	Protest against judicial, fiscal, financial, or monetary reform	49
		Resistance to the state judiciary, military, or police	63	Other	63
Against non-state authorities (458 cases)	Church	Acts of hostility toward the Church	63	Tithes disputes	18
				Protest related to the distribution of alms	3
				Anti-seigneurial activity (in secondary type with 401-409)	6
				Other	36
	Seigneurial	Acts of hostility toward a seigneurial authority or its representatives	298	Refusal to pay seigneurial taxes	39
				Opposition to revision of land boundaries	24
				Defence of collective rights (communal, easement, etc.) against the lord	109
				Rejection of the symbols of seigneurial authority (insignia, pillory, seigneurial benches, etc.)	12
				Opposition to the seigneurial monopoly on hunting or fishing	54
				Opposition to the seigneurial police with respect to dances, charivaris, celebrations, etc.	9
				Hostile acts towards a seigneurial representative	25
				Refusal of seigneurial intervention in municipal governance	1
				Other	25

Table A1 —CONTINUED ON NEXT PAGE

Table A1—Continued

Rebellions		Motives			
		General		Detailed	
		Description	Cases	Description	Cases
	Nobility	Acts of hostility toward nobility or nobiliary privilege	6	Disputes over taxes, seigneurial privileges, etc.	6
	Municipal	Accusation of a municipal authority	91	Criticism of municipal governance	8
				Fiscal dispute (city tax and other taxes)	28
				Management of communal property	17
				Hostility toward municipal authorities	21
				Hostility toward the municipal police	15
				Other	2

Table A2. Social Categories of Participants to Rebellions

Social category	#	%
At least one category	4,154	69.23
Laborers	2,351	39.19
Craftsmen	1,925	32.09
Notables	1,365	22.75
Socially marginalized	1,310	21.83
Soldiers	878	14.64
Domestic servants	393	6.55
Skilled agricultural workers	386	6.43

Notes. This table reports summary statistics for the social categories involved in rebellions. The unit of observation is a rebellion between 1714 and 1789. Data conditional on at least one social category mentionned. Social categories are not mutually exclusive. *Laborers* include peasants and agricultural workers. *Craftsmen* include artisans, journeymen, and skilled industrial workers. *Socially marginalized* include inmates, beggars, bohemians, migrants, outcasts, and smugglers. *Soldiers* also include mariners. *Skilled agricultural workers* include vegetable growers, winegrowers, and woodcutters.

Table A3. Characteristics of Parishes that Ever Hosted a Horse-Post Relay

Outcome:	𝟙[Ever hosted a horse-post relay]						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Population (< 500 excluded)							
500–1,000	0.020***			0.016***	0.020***	0.022***	0.023***
	[0.002]			[0.002]	[0.002]	[0.002]	[0.003]
1,000–3,000	0.070***			0.046***	0.054***	0.061***	0.062***
	[0.004]			[0.004]	[0.004]	[0.004]	[0.005]
3,000+	0.397***			0.212***	0.227***	0.240***	0.254***
	[0.020]			[0.020]	[0.019]	[0.019]	[0.020]
Distance to road (< 500m excluded)							
0.5–1km		−0.047***		−0.033***	−0.032***	−0.032***	−0.034***
		[0.006]		[0.006]	[0.006]	[0.006]	[0.006]
1–3km		−0.111***		−0.076***	−0.075***	−0.075***	−0.078***
		[0.006]		[0.006]	[0.005]	[0.005]	[0.006]
3km+		−0.121***		−0.090***	−0.088***	−0.090***	−0.092***
		[0.006]		[0.006]	[0.006]	[0.006]	[0.006]
Administrative center			0.438***	0.300***	0.294***	0.293***	0.304***
			[0.019]	[0.020]	[0.020]	[0.019]	[0.020]
Constant	0.019***	0.124***	0.036***	0.078***	0.074***	0.072***	0.073***
	[0.001]	[0.006]	[0.001]	[0.005]	[0.005]	[0.005]	[0.005]
Fixed effects	No	No	No	No	Généralité	Subdélégation	Canton
Within R-squared	0.077	0.040	0.091	0.133	0.134	0.139	0.147
Parishes	34,671	34,671	34,671	34,671	34,671	34,671	34,671

Summary statistics (𝟙[Ever hosted a horse-post relay]): 0.045 (mean); 0.207 (standard deviation).

Notes. This table reports the coefficients from regressing an indicator variable that equals one if a parish ever hosted a horse-post relay between 1714 and 1789 on a set of parish-level characteristics. The unit of observation is a parish. The sample comprises parishes for which 1793 population data is available. It further excludes parishes in cantons that contain only one parish, so as to keep the sample constant across specifications. Estimates are calculated using Correia's (2023 [2014]) `reghdfe` Stata command in Columns (5)–(7). Standard errors are clustered at the canton level and reported in brackets.

*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A4. Event-Study Effects of New Horse-Post Relays on Rebellions

Outcome:	Number of rebellions									
	Leads			Lags						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Horse-post relay	−0.020	−0.011	−0.014	−0.004	0.033***	0.073***	0.073***	0.144***	0.121***	0.246***
	[0.019]	[0.013]	[0.013]	[0.011]	[0.012]	[0.016]	[0.019]	[0.033]	[0.030]	[0.072]
Period	−3	−2	−1	1	2	3	4	5	6	7
Switchers	384	656	1,026	1,099	817	645	466	261	161	73

Notes. This table reports the period-specific event-study effects δ_ℓ estimated through Equation 1 as displayed in Figure 7. All regressions include parish and decade fixed effects. *Period* denotes the relative time to last period before the treatment changes ($t = 0$). This regression effectively uses 282,296 parish-decades and 35,287 parishes in the estimation. *Switchers* denotes the number of parish-decade observations that switched treatment over the period. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A5. Event-Study Effects of New Horse-Post Relays on Rebellions
Shifting Rebellions Data One Year at a Time

Outcome:	Number of rebellions			
	Lags			
	+ 1	+ 2	+ 3	Average total
	(1)	(2)	(3)	(4)
Rebellions not shifted	0.008	0.023***	0.071***	0.030***
	[0.006]	[0.003]	[0.003]	[0.003]
Rebellions shifted by 1 year	0.010*	0.034***	0.073***	0.035***
	[0.006]	[0.004]	[0.003]	[0.004]
Rebellions shifted by 2 years	0.023***	0.031***	0.079***	0.042***
	[0.006]	[0.004]	[0.004]	[0.004]
Rebellions shifted by 3 years	0.019***	0.035***	0.080***	0.041***
	[0.005]	[0.005]	[0.003]	[0.003]
Rebellions shifted by 4 years	0.013***	0.034***	0.070***	0.035***
	[0.005]	[0.005]	[0.005]	[0.004]
Rebellions shifted by 5 years	−0.002	0.043***	0.062***	0.030***
	[0.005]	[0.005]	[0.005]	[0.004]
Rebellions shifted by 6 years	−0.000	0.038***	0.055***	0.027***
	[0.005]	[0.007]	[0.005]	[0.005]
Rebellions shifted by 7 years	0.010*	0.052***	0.051***	0.036***
	[0.005]	[0.006]	[0.005]	[0.005]
Rebellions shifted by 8 years	0.013**	0.066***	0.044***	0.040***
	[0.005]	[0.006]	[0.005]	[0.005]
Rebellions shifted by 9 years	0.020***	0.067***	0.056***	0.047***
	[0.005]	[0.006]	[0.005]	[0.005]
Rebellions shifted by 10 years	0.023***	0.069***	0.050***	0.048***
	[0.005]	[0.007]	[0.005]	[0.005]

Notes. This table reports the period-specific event-study effects δ_ℓ estimated through Equation 1 in Columns (1)–(3) and the average total effect of non-normalized event-study effects δ_ℓ in Column (4). All regressions include parish and decade fixed effects, as well as wheat prices and canton-by-decade fixed effects. The estimation is restricted to two leads and three lags. It excludes the 1780 decade since we have no data on rebellions after 1789. *Lags* denotes the relative time to last period before the treatment changes ($t = 0$). Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A6. Average Total Effect of New Horse-Post Relays on Rebellions
Shorter Panels

Outcome:	Number of rebellions					
	(1)	(2)	(3)	(4)	(5)	(6)
Horse-post relay	0.029***	0.028***	0.029***	0.019***	0.029***	0.024***
	[0.004]	[0.004]	[0.004]	[0.005]	[0.007]	[0.009]
Panel	1710–80	1720–80	1730–80	1740–80	1750–80	1760–80
Parish-decades	54,672	45,934	37,470	28,715	18,204	10,617
Parishes	6,834	6,562	6,245	5,743	4,551	3,539
Switchers (overall)	1,929	1,826	1,693	1,146	862	584
Switchers (at least once)	849	817	775	694	558	425
Outcome mean	0.017	0.018	0.020	0.022	0.024	0.029
Outcome residual s.d.	0.122	0.130	0.133	0.133	0.135	0.135
Periods $(-t; +T)$	(−2;+3)	(−1;+3)	(−1;+3)	(−1;+2)	(−1;+2)	(−1;+2)

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. The sample of parish decades is indicated in the *Panel* row. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish fixed effects, and other controls are accounted for. *Periods* $(-t; +T)$ denotes the number of event-study effects and placebos estimated. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A7. Average Total Effect of New Horse-Post Relays on Rebellions
Alternative Regions

Outcome:	Number of rebellions								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Horse-post relay	0.029***	0.021**	−0.040***	0.029***	0.129***	0.100***	0.022**	0.030***	0.068***
	[0.004]	[0.008]	[0.004]	[0.010]	[0.024]	[0.013]	[0.011]	[0.004]	[0.010]
Region	France	Paris	Normandy	Brittany	S. West	Languedoc	S. East	East	North
Parish-decades	54,672	20,016	7,328	2,656	2,840	3,920	432	14,408	2,344
Parishes	6,834	2,502	916	332	355	490	54	1,801	293
Switchers (overall)	1,929	698	229	209	110	116	36	458	67
Switchers (at least once)	849	336	96	80	52	51	15	193	24
Outcome mean	0.017	0.022	0.013	0.029	0.018	0.016	0.016	0.010	0.012
Outcome residual s.d.	0.122	0.139	0.113	0.156	0.128	0.119	0.112	0.093	0.105

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags for comparability with the France-level estimate in Column (1). The outcome is the number of rebellions in a given parish-decade. Columns (2)–(9) provide estimates based on the following regional samples: Column (2) includes the parishes of the Parliament of Paris, which includes the généralités of Amiens, Bourges, Chalons, Limoges, Lyon, Moulins, Orléans, Paris, Poitiers, Riom, Soissons, and Tours; Column (3) includes the parishes of Normandy, which includes the généralités of Caen, Rouen, and Alençon; Column (4) includes the parishes of Brittany, which includes the généralité of Rennes; Column (5) includes the parishes of the South West, which includes the généralités of Bordeaux and La Rochelle; Column (6) includes the parishes of Languedoc, which includes the généralités of Auch, Montauban, Montpellier, Perpignan, and Toulouse; Column (7) includes the parishes of the South East, which includes the généralités of Grenoble and Aix; Column (8) includes the parishes of the East, which includes the généralités of Dijon, Nancy, Strasbourg, Besançon, and Metz; Column (9) includes the parishes of the North, which includes the génralités of Lille and Valenciennes. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish, and canton fixed effects, as well as wheat prices are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A8. Average Total Effect of New Horse-Post Relays on Rebellions
Removing One Region at a Time

Outcome:	Number of rebellions								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Horse-post relay	0.029***	0.033***	0.038***	0.029***	0.023***	0.024***	0.029***	0.028***	0.027***
	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]	[0.005]	[0.004]
Removed region	None	Paris	Normandy	Brittany	S. West	Languedoc	S. East	East	North
Parish-decades	54,672	33,984	47,096	52,016	51,720	50,696	54,240	40,008	52,216
Parishes	6,834	4,248	5,887	6,502	6,465	6,337	6,780	5,001	6,527
Switchers (overall)	1,929	1,225	1,700	1,720	1,819	1,813	1,893	1,465	1,862
Switchers (at least once)	849	511	753	769	797	798	834	654	825
Outcome mean	0.017	0.014	0.017	0.016	0.017	0.017	0.017	0.019	0.017
Outcome residual s.d.	0.122	0.111	0.124	0.120	0.122	0.123	0.122	0.131	0.122

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags. The outcome is the number of rebellions in a given parish-decade. Columns (2)–(9) provide estimates based on the following regional samples: Column (2) excludes the parishes of the Parliament of Paris, which includes the généralités of Amiens, Bourges, Chalons, Limoges, Lyon, Moulins, Orléans, Paris, Poitiers, Riom, Soissons, and Tours; Column (3) excludes the parishes of Normandy, which includes the généralités of Caen, Rouen, and Alençon; Column (4) excludes the parishes of Brittany, which includes the généralité of Rennes; Column (5) excludes the parishes of the South West, which includes the généralités of Bordeaux and La Rochelle; Column (6) excludes the parishes of Languedoc, which includes the généralités of Auch, Montauban, Montpellier, Perpignan, and Toulouse; Column (7) excludes the parishes of the South East, which includes the généralités of Grenoble and Aix; Column (8) excludes the parishes of the East, which includes the généralités of Dijon, Nancy, Strasbourg, Besançon, and Metz; Column (9) excludes the parishes of the North, which includes the génralités of Lille and Valenciennes. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish, and canton fixed effects, as well as wheat prices are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A9. Average Total Effect of New Horse-Post Relays on Rebellions in Normandy Dropping Outlier Subdélégations

Outcome:	Number of rebellions					
	(1)	(2)	(3)	(4)	(5)	(6)
Horse-post relay	−0.040***	−0.017***	−0.032***	−0.032***	−0.032***	0.017***
	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]	[0.005]
Dropped subdélégation	None	Saint-Lô	Rouen	Pont-Audemer	Gisors	All outliers
Parish-decades	7,328	7,080	6,808	6,952	7,088	5,944
Parishes	916	885	851	869	886	743
Switchers (overall)	229	222	209	221	221	186
Switchers (at least once)	96	93	89	93	92	79
Outcome mean	0.013	0.013	0.014	0.014	0.012	0.012
Outcome residual s.d.	0.113	0.111	0.115	0.113	0.108	0.107

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1, focusing on the region of Normandy. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags for comparability with the Normandy-level estimate in Column (1). The outcome is the number of rebellions in a given parish-decade. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish, and canton fixed effects, as well as wheat prices are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A10. Average Total Effect of New Horse-Post Relays on Rebellions
Alternative Intensities

Outcome:	Number of rebellions			
	(1)	(2)	(3)	(4)
Horse-post relay	0.029***	0.011***	0.009***	0.008***
	[0.004]	[0.002]	[0.003]	[0.001]
Intensity	Any	Weak	Moderate	Strong
Parish-decades	54,672	54,672	54,672	54,672
Parishes	6,834	6,834	6,834	6,834
Switchers (overall)	1,929	1,929	1,929	1,929
Switchers (at least once)	849	849	849	849
Outcome mean	0.017	0.006	0.008	0.003
Outcome residual s.d.	0.122	0.068	0.079	0.052

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish fixed effects, and other controls are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A11. Average Total Effect of New Horse-Post Relays on Rebellions
Excluding Battle and Frontier Subdélégations

Outcome:	Number of rebellions							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Horse-post relay	0.029***	0.027***	0.030***	0.025***	0.030***	0.029***	0.028***	0.028***
	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]	[0.004]
Excluded subdélégations	None	Battles	Channel	Atlantic	Continental	Mediterranean	Iberian	All
Parish-decades	54,672	54,048	50,736	52,240	47,728	54,376	54,096	40,488
Parishes	6,834	6,756	6,342	6,530	5,966	6,797	6,762	5,061
Switchers (overall)	1,929	1,888	1,785	1,838	1,722	1,917	1,919	1,465
Switchers (at least once)	849	834	790	804	771	844	842	655
Outcome mean	0.017	0.016	0.016	0.016	0.018	0.017	0.017	0.018
Outcome residual s.d.	0.122	0.121	0.121	0.121	0.127	0.122	0.123	0.125

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags. *Battles* corresponds to subdélégations that experienced a military battle over the 1714–89 period; *Channel*, to subdélégations that border the English Channel; *Atlantic*, to subdélégations that border the Atlantic Ocean; *Continental*, to subdélégations that border the Austrian Netherlands, the Holy Roman Empire, Switzerland, or the Duchy of Savoy; *Mediterranean*, to subdélégations that border the Mediterranean Sea; *Iberian*, to subdélégations that border the Iberian Peninsula. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish fixed effects, and other controls are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A12. Average Total Effect of New Horse-Post Relays on Rebellions Excluding War Years

Outcome:	Number of rebellions				
	(1)	(2)	(3)	(4)	(5)
Horse-post relay	0.029***	0.028***	0.030***	0.024***	0.025***
	[0.004]	[0.004]	[0.004]	[0.004]	[0.003]
War		Austrian Succession	Seven Years	Anglo-French	All three
Excluded years	None	1744–7	1756–62	1778–83	All
Parish-decades	54,672	54,672	54,672	54,672	54,672
Parishes	6,834	6,834	6,834	6,834	6,834
Switchers (overall)	1,929	1,929	1,929	1,929	1,929
Switchers (at least once)	849	849	849	849	849
Outcome mean	0.017	0.016	0.015	0.015	0.013
Outcome residual s.d.	0.122	0.121	0.117	0.113	0.106

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish fixed effects, and other controls are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A13. Sources of Rebellious Events

	Type of sources	Rebellions	Base rates
All		6,000	
Archives		5,322	90% of all rebellions
Secondary sources		999	17% of all rebellions
National archives		2,371	45% of rebellions with archival sources
Series `E`	Minutes of government council	273	11% of rebellions with national archival sources
Series `Z1A`	Financial administration (cours des aides)	1,110	47% of rebellions with national archival sources
Series `Z1C`	Maréchaussée jurisdiction	438	18% of rebellions with national archival sources
Départemental archives		2,371	45% of rebellions with archival sources
Series `B`	Courts and justices	1,326	56% of rebellions with départemental archival sources
Series `C`	Provincial administration	949	40% of rebellions with départemental archival sources

Notes. This table reports the sources of the rebellions in Nicolas's (2002) original survey that occurred between 1714 and 1789 on the territory of the kingdom of France. Each event may have multiple sources, so that base rates do not sum to one.

Table A14. Average Total Effect of New Horse-Post Relays on Rebellions
Alternative Sources

Outcome:	Number of rebellions							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Horse-post relay	0.029***	0.023***	0.017***	0.029***	0.021***	0.019***	0.028***	0.025***
	[0.004]	[0.003]	[0.002]	[0.004]	[0.003]	[0.003]	[0.003]	[0.004]
Sources	All	Archives	National archives	No series Natl. `E`	No series Natl. `Z1A`	No series Natl. `Z1C`	No series Dept. `B`	No series Dept. `C`
Parish-decades	54,672	54,672	54,672	54,672	54,672	54,672	54,672	54,672
Parishes	6,834	6,834	6,834	6,834	6,834	6,834	6,834	6,834
Switchers (overall)	1,929	1,929	1,929	1,929	1,929	1,929	1,929	1,929
Switchers (at least once)	849	849	849	849	849	849	849	849
Outcome mean	0.017	0.015	0.007	0.015	0.013	0.015	0.012	0.014
Outcome residual s.d.	0.122	0.113	0.074	0.117	0.107	0.115	0.104	0.111

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags. The outcome is the number of rebellions in a given parish and decade depending on the type of sources used. For details about the meaning of the types of sources mentioned in the *Sources* panel, see Table A13. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish, and canton fixed effects, as well as wheat prices are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.

*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A15. Average Total Effect of New Horse-Post Relays on Rebellions
Taxation, Smuggling, and Gabelles Frontiers

Outcome:	Number of rebellions			
	(1)	(2)	(3)	(4)
Horse-post relay	0.007***	0.002**	0.004**	0.003*
	[0.002]	[0.001]	[0.002]	[0.002]
Target of rebellion	Taxation	Taxation (excl. smuggling)	Taxation	Taxation
Excluded cantons	None	None	Adjacent to *grandes gabelles* frontiers	Adjacent to any *gabelles* frontiers
Parish-decades	54,672	54,672	50,496	46,904
Parishes	6,834	6,834	6,312	5,863
Switchers (overall)	1,929	1,929	1,794	1,674
Switchers (at least once)	849	849	785	730
Outcome mean	0.006	0.001	0.005	0.005
Outcome residual s.d.	0.073	0.034	0.064	0.065

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags. The outcome is rebellions against taxation, excluding smuggling in Column (2). We exclude parishes that are in cantons directly adjacent to the frontier of the *grandes gabelles* in Column (3) and adjacent to any frontier of *gabelles* taxation in Column (4). *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish fixed effects, and other controls are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A16. Average Total Effect of New Horse-Post Relays on Rebellions
Heterogeneous Effects across Military Recruitment Regions

Outcome:	Number of rebellions				
		1716 (Corvisier)		1716–84 (Komlos)	
	(1)	(2)	(3)	(4)	(5)
Horse-post relay	0.029***	0.005	0.059***	0.015**	0.042***
	[0.004]	[0.006]	[0.005]	[0.006]	[0.005]
Military recruitment		Low	High	Low	High
Parish-decades	54,672	24,968	24,112	23,864	30,048
Parishes	6,834	3,121	3,014	2,983	3,756
Switchers (overall)	1,929	969	785	895	1,033
Switchers (at least once)	849	430	353	374	474
Outcome mean	0.017	0.017	0.019	0.013	0.020
Outcome residual s.d.	0.122	0.124	0.132	0.107	0.131

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags. Columns (2) and (3) divide parishes into généralités of low and high military recruitment along data from Corvisier (1964, pp. 410–48) for 1716. Columns (4) and (5) divide parishes into pseudo-provinces of low and high military recruitment along data from Komlos (2003) for 1716–84. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish, and canton fixed effects, as well as wheat prices are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A17. Average Total Effect of New Horse-Post Relays on Rebellions Across Distance to Nearest Horse-Post Relay

Outcome:	Number of rebellions			
	(1)	(2)	(3)	(4)
Horse-post relay	0.029***	−0.007**	−0.005**	−0.002
	[0.004]	[0.003]	[0.002]	[0.003]
Distance to nearest relay (km)	0	0–5	5–10	10–15
Parish-decades	54,672	93,800	122,496	86,648
Parishes	6,834	11,725	15,312	10,831
Switchers (overall)	1,929	9,968	16,627	9,950
Switchers (at least once)	849	4,330	7,197	4,258
Outcome mean	0.017	0.016	0.013	0.012
Outcome residual s.d.	0.122	0.121	0.107	0.100

Notes. This table reports the average total effects of non-normalized event-study effects δ_ℓ estimated through Equation 1 as displayed in Figure 8. All regressions include parish and decade fixed effects as well as wheat prices, decade-by-canton fixed effects, and distance to the nearest horse-post relay. The estimation is restricted to two leads and three lags. *Distance* denotes distance to the closest horse-post relay: 0 kilometer for parish-decades hosting a horse-post in Column (1), up to 5 kilometers away from a new horse-post in Column (2), 5–10 kilometers away in Column (3), and 10–15 kilometers away in Column (4). *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish fixed effects, and other controls are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Table A18. Average Total Effect of New Horse-Post Relays on Rebellions Dropping Parishes with Letter-Post Offices and Maréchaussée Brigades

Outcome:	Number of rebellions			
	(1)	(2)	(3)	(4)
Horse-post relay	0.029***	0.014***	0.012***	0.009***
	[0.004]	[0.003]	[0.003]	[0.003]
Ever hosted a letter-post office	Yes or no	No	Yes or no	No
Ever hosted a maréchaussée brigade	Yes or no	Yes or no	No	No
Parish-decades	54,672	34,832	39,352	31,832
Parishes	6,834	4,354	4,919	3,979
Switchers (overall)	1,929	1,237	1,391	1,126
Switchers (at least once)	849	541	615	494
Outcome mean	0.017	0.011	0.013	0.010
Outcome residual s.d.	0.122	0.098	0.108	0.096

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and canton-by-decade fixed effects. The estimation is restricted to two leads and three lags. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish fixed effects, and other controls are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

Given the concurrent development of the letter-post system and maréchaussée brigades, we provide estimates of the development of the horse-post relay network on rebellion across four different types of parishes: all parishes—our baseline, in Column (1)—those that never hosted a letter-post office in Column (2), those that never hosted a maréchaussée brigade in Column (3), and those that never hosted neither a letter-post office nor a maréchaussée brigade in Column (4). Results above suggest that the "uncontaminated" parishes still exhibit a positive causal relationship between the establishment of horse-post relays and rebellion, with comparable magnitude relative to the sample base statistics.

B. Heterogeneous Treatment Effects

In this appendix, we explore the nature of heterogeneous treatment effects of the development of the horse-post relay network across various parish characteristics. First, we assess whether these sources of heterogeneity can account for the average total treatment effects we identify in Table 2. Second, we analyze the nature of this heterogeneity directly. We do so along six types of parish characteristics: population, administrative status, mode of salt taxation, connectivity, extent of past grievances, and mode of ruling.

Population For population, we divide parishes along quartiles of 1793 population among those with a relay per the following thresholds: less than 500 inhabitants, 500–999, 1,000–2,999, and more than 3,000.[1]

Administrative status We categorize parishes depending on whether they were the seat of an administrative center. We consider six types of administrative centers: subdélégations, relevant for general government administration; *bailliages*, relevant for judicial administration; *évêchés*, relevant for religious administration; *recettes des finances*, relevant for fiscal administration; and *districts*, relevant for general government administration right after the Revolution. The Data Appendix provides more details on the data sources for these administrative statuses.

Mode of salt taxation We distinguish parishes along their modes of taxation by focusing on the *gabelles du sel*, the salt taxation system that was in place throughout the Ancien Régime. The gabelle was the most lucrative indirect tax as it represented up to 15 percent of the total revenues of the state (Guéry, 1978; Pasquier, 1978; Touzery, 2024). This taxation system was organized into six regions (*pays*), each governed by different regulations: the *petites gabelles*, the *grandes gabelles*, the *gabelles de salines*, the *gabelles du réthelois*, the *quart bouillon*, the *province rédimée*, and the *province franche*. There were wide disparities in the level of taxation across these zones, with the highest levels in the *grandes gabelles*, and the lowest, in the *provinces franches*. We classify each parish into a type of gabelle taxation in the 1780s per the map displayed in Figure A14.

[1]Note that the 1793 census was somewhat incomplete, and its accuracy has been questioned for regions that were experiencing military operations at the time, such as the départements of Vendée and Nord (Aberdam, 2004). As a result, about 300 parishes in our sample have missing 1793 population information. We do not attempt to impute these missing data and run the heterogeneity analysis without these observations. Our results are not affected by this omission: the baseline estimate when dropping these observations is 0.028 (standard error: 0.004), essentially identical to the estimate on the full sample.

Connectivity We measure connectivity by the proximity of each parish to the network of roads. Specifically, we divide parishes along quartiles of distance to a road that appears on Cassini's map (Perret, Gribaudi and Barthelemy, 2015): less than 500 meters, 0.5–1 kilometer, 1–3, and over 3 kilometers.

Extent of past grievances To capture the extent of past grievances, we calculate the stock of rebellions against state authorities that occurred before our study period using data from Nicolas's (2002) survey, i.e., between 1661 and 1713. We do so by region, per the geography displayed in Figure A12. The regional distribution of past grievances is shown in the table below. Note that the "ranking" of regions along past grievances is generally similar whether we look at the absolute number of rebellions or the number of rebellions per 10,000 inhabitants in 1793, or whether we focus on rebellions against state authorities or on all rebellions. From there, we classify regions into two groups: those with "high past grievances" (Languedoc, the South East, Brittany, and Paris) and those with "low past grievances" (the South West, Normandy, the East, and the North).

Stock of 1661–1713 Rebellions by Region

Rebellions	Against state		All	
	#	Per 10,000	#	Per 10,000
Languedoc	131	0.042	444	0.140
South East	50	0.038	160	0.122
Brittany	59	0.030	236	0.121
Paris	246	0.029	862	0.103
South West	36	0.021	155	0.088
Normandy	31	0.015	159	0.078
East	45	0.014	158	0.050
North	13	0.014	39	0.042

Notes. This table reports total number of rebellions that occurred across regions in 1661–1713 based on Nicolas's (2002). Population are based on aggregated data from the 1793 population census (Cristofoli et al., 2021).

Mode of ruling Finally, we divide the territory into *pays d'Election*, *pays d'Etats*, and *pays d'Imposition* in 1789. These divisions characterized the fiscal relationship between territories and the central state, and their modes of ruling more generally (Degrave, 2023). In Ancien Régime France, *pays d'Election* were under direct fiscal control of the central state, while *pays d'Etats* were under indirect fiscal control, as these territories' Estates had negotiated the right to levy taxes themselves and transfer a portion of them to the king. These territories were generally located on the periphery of the kingdom and had been incorporated into the royal domain relatively later than other, more central territories. The few *pays d'Imposition* were incorporated even later (after 1648) and represented an intermediate status between

pays d'Etats and *pays d'Election*. We can assume that opposition to the central state was historically stronger in *pays d'Etats* and Imposition than in *pays d'Election*, which had been incorporated in the royal domain much earlier in the course of history. We display the distribution of territories across *pays* in Appendix Figure A12. See the Data Appendix for more details.

B.1. Accounting for Heterogeneity

We first assess whether these sources of heterogeneity can account for the average total treatment effects we identify in Table 2. We do so by expanding the full specification by further including parish type-by-decade fixed effects to compare changes in rebellious activity across parishes within the same canton *and* parish group.

We report the results in Table B1. We find that the stronger response of rebellions to horse-post relays in more populous areas partially accounts for our results as the estimate of 0.015 in Column (2) is lower than the baseline. We similarly find lower estimates than the baseline in Column (3), suggesting that rebellions reacted relatively more in parishes that were the seat of an administrative division. However, we find no evidence that the mode of gabelle taxation (Column 4), the connectivity of a parish to the roads network (Column 5), the level of past grievances (Column 6), or mode of ruling (Column 7) account for our results.

B.2. Estimating Heterogeneity

Next, we analyze the nature of this heterogeneity directly by estimating the effect of the introduction of horse-post relays on rebellions across groups. We divide parishes into two groups relative to the level of various characteristics. For population, we classify as "low population" those parishes that are below the median of 1793 census population data. For modes of taxation, we classify as "low taxation" those parishes that are in *provinces franches*, *provinces rédimées*, *quart bouillon*, *gabelles du réthelois*, or *gabelles de salines*—taxation in these areas was generally lower than 15 *livres* per *minot*—and as "high taxation" those parishes that are in *grandes* or *petites gabelles*. For connectivity, we classify as as "little connected" those parishes that are further than one kilometer from a road that appears on Cassini's maps. And for past grievances, we use the categories defined above. Finally, we compare parishes that were in *pays d'Etats* or *Imposition* relative to those that were in *pays d'Election*.

We report the results in Table B2. We find, as expected, that more populated parishes responded relatively more to the arrival of horse-post relays. Moreover, parishes that were relatively more on the periphery of the kingdom—with lower gabelles taxation or in *pays*

Table B1. Average Total Effect of New Horse-Post Relays on Rebellions Accounting for Heterogeneity across Parish Types

Outcome:	Number of rebellions						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Horse-post relay	0.029***	0.015***	0.016***	0.028***	0.023***	0.029***	0.029***
	[0.004]	[0.004]	[0.003]	[0.004]	[0.004]	[0.004]	[0.004]
Decade × group FE		Population	Seats	Gabelles	Roads	Past rebel.	Pays
Parish-decades	54,672	20,128	43,432	53,952	21,112	53,944	54,144
Parishes	6,834	2,516	5,429	6,744	2,639	6,743	6,768
Switchers (overall)	1,929	1,263	1,570	1,917	1,480	1,923	1,923
Switchers (at least once)	849	552	688	844	655	847	847
Outcome mean	0.017	0.015	0.013	0.017	0.023	0.017	0.017
Outcome residual s.d.	0.122	0.108	0.106	0.122	0.135	0.122	0.122

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags. Column (2) includes population group-by-decade fixed effects, where we define four groups of less than 500, 500–999, 1,000–2,999, and more than 3,000 inhabitants. Column (3) includes parish type-by-decade fixed effects, where we define types depending on whether parishes are the seat of administrative centers, among which subdélégations, bailliages, évêchés, recettes des finances, and districts. Column (4) includes gabelle type-by-decade fixed effects, where gabelle taxation may be of the following types: *petites gabelles*, *grandes gabelles*, *gabelles de salines*, *gabelles du réthelois*, *quart bouillon*, *province rédimée*, and *province franche*. Column (5) includes parish connectivity-by-decade fixed effects, were we define four groups of connectivity depending on the distance of parishes to a paved road: less than 500 meters, 0.5–1 kilometer, 1–3, and above 3. Column (6) includes an indicator for whether the parish is located in a region that had higher-than-median number of rebellions per capita against state authorities in 1661–1713 interacted with decade fixed effects. Column (7) includes pays-by-decade fixed effects, where pays consist in *pays d'Election*, *pays d'Etats*, or *pays d'Imposition* in 1789. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish, and canton fixed effects, as well as wheat prices are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

d'Etats or *Imposition*—also responded relatively more. We also find that parishes with more past grievances toward the central state exhibit stronger treatment effects, although the difference is relatively small. Finally, we find no difference between parishes that were differently connected to the roads network.

Table B2. Average Total Effect of New Horse-Post Relays on Rebellions
Heterogeneous Effects across Parish Types

Outcome:	Number of rebellions										
		Population		Gabelles		Connectivity		Past rebellions		Pays	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Horse-post relay	0.029***	0.014***	0.050***	0.037***	0.020***	0.022*	0.024***	0.026***	0.031***	0.044***	0.017***
	[0.004]	[0.003]	[0.007]	[0.004]	[0.007]	[0.013]	[0.004]	[0.004]	[0.006]	[0.004]	[0.006]
Group		Low	High	Low	High	Low	High	Low	High	Etat	Election
Parish-decades	54,672	26,904	5,904	27,120	27,024	4,440	26,848	26,920	27,024	22,280	31,864
Parishes	6,834	3,363	738	3,390	3,378	555	3,356	3,365	3,378	2,785	3,983
Switchers (overall)	1,929	929	575	1,008	913	219	1,550	864	1,059	834	1,089
Switchers (at least once)	849	419	245	426	420	93	685	365	482	340	507
Outcome mean	0.017	0.009	0.053	0.013	0.020	0.010	0.024	0.012	0.022	0.014	0.019
Outcome residual s.d.	0.122	0.088	0.191	0.107	0.133	0.109	0.139	0.103	0.136	0.109	0.128

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-canton fixed effects. The estimation is restricted to two leads and three lags. Columns (2) and (3) divide parishes into low and high 1793 population groups. Columns (3) and (4) divide parishes into low and high gabelles taxation, where low gabelles taxation include *gabelles de salines*, *gabelles du réthelois*, *quart bouillon*, *provinces rédimées*, and *provinces franches*. Columns (6) and (7) divide parishes into low and high connectivity, following their distance to a road that appears on Cassini's map. Columns (8) and (9) divide parishes into low and high past rebellions, following their per capita regional level of rebellions in 1661–1713. Columns (10) and (11) divide parishes into *pays d'Etats* and *pays d'Imposition*, relative to *pays d'Election*. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish, and canton fixed effects, as well as wheat prices are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

C. Additional Robustness Tests

Zero-inflated data One concern is that our data contains many zeros, which may lead to biased estimates—though this issue is limited as we rely on a linear model.[2] To alleviate this potential concern, we generate a decade-by-canton level dataset with 4,579 canton and 59,784 canton-decade observations, where we sum rebellions by decade-canton and create an indicator variable that equals one if a decade-canton hosted a horse-post relay. In this setting, 2,131 cantons (47 percent) ever experienced a rebellion over 1714–89 and 1,342 (29 percent) ever hosted a horse-post relay. This implies that only 1,891 cantons (41 percent) never either experienced a rebellion or hosted a horse-post relay. We then estimate a specification analogous to our preferred one on this aggregated dataset, i.e., controlling for average canton-level wheat prices and decade-by-subdélégation fixed effects with two leads and three lags and clustering standard errors at the canton level. We find an average total effect of horse-post relays on rebellions of 0.055 (standard error of 0.016), suggesting that our main results are not driven by the large number of zeros in our data.

Clustering We also show that our results are robust to clustering standard errors at higher levels of aggregation than parishes (35,287 units). Specifically, in Table C1, we display standard errors when clustering at the level of cantons (4,579 units), subdélégations (696 units), as well as at intermediate grid-unit levels of 8-by-8 (8,057 units) and 15-by-15 kilometer sides. Standard errors are similar across specifications and leave all estimates significant at the one- or five-percent level. This suggests that the spatial correlation of errors remains limited in our setting even when allowing for relatively wide spatial autocorrelation.

Post-treatment bias A concern with our preferred specification is that we use fixed effects based on administrative divisions that were created right after our last period of study, i.e., 1793 cantons. This may lead to post-treatment bias (Homola, Pereira and Tavits, 2024), although this problem is limited by our difference-in-differences strategy. Nevertheless, to ensure that our preferred estimate is not biased by the nature of canton boundaries, we show in Table C2 that it is robust to using fixed effects based on arbitrary grids composed of 4,436 squares of 11-by-11 kilometer sides, which approximately corresponds to the number

[2]Specifically, among the 35,287 parishes in our data, only 3,172 (9 percent) ever experienced a rebellion over 1714–89 and 1,685 (5 percent) ever hosted a horse-post relay. This implies that 30,962 parishes (88 percent) never either experienced a rebellion or hosted a horse-post relay. Note that in our preferred specification with decade-by-canton fixed effects, the effective sample is composed of 732 cantons and 6,834 parishes, among which 607 (9 percent) ever experienced a rebellion but 891 (13 percent) ever hosted a horse-post relay. This implies that 5,551 parishes (81 percent) never either experienced a rebellion or hosted a horse-post relay. Put differently, 19 percent of the parishes in this effective sample either ever experienced a rebellion or hosted a horse-post relay and thus are non-zeros.

Table C1. Average Total Effect of New Horse-Post Relays on Rebellions
Alternative Clustering

Outcome:	Number of rebellions				
	(1)	(2)	(3)	(4)	(5)
Horse-post relay	0.029***	0.029***	0.029**	0.029***	0.029***
	[0.004]	[0.004]	[0.011]	[0.003]	[0.002]
Clustering level	Parish	Grid 8–8 km	Canton	Grid 15–15 km	Subdélégation
Clusters	6,834	2,285	732	1,071	435
Parish-decades	54,672	54,672	54,672	54,672	54,672
Parishes	6,834	6,834	6,834	6,834	6,834
Switchers (overall)	1,929	1,929	1,929	1,929	1,929
Switchers (at least once)	849	849	849	849	849
Outcome mean	0.017	0.017	0.017	0.017	0.017
Outcome residual s.d.	0.122	0.122	0.122	0.122	0.122

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-unit fixed effects. The estimation is restricted to two leads and three lags. *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish fixed effects, and other controls are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command, except in Column (3) of Panel B, where we use de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_old` Stata command. Standard errors are clustered at the level of units specified in the table and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

of 1793 cantons, but also 2,452 squares of 15-by-15 kilometer sides, and 8,057 squares of 8-by-8 kilometer sides.

Table C2. Average Total Effect of New Horse-Post Relays on Rebellions
Grid Fixed Effects

Outcome:	Number of rebellions			
	(1)	(2)	(3)	(4)
Horse-post relay	0.029***	0.023***	0.030***	0.023***
	[0.004]	[0.003]	[0.006]	[0.002]
Decades × unit FE	Cantons	11-11 km	15-15 km	8-8 km
Number of units	4,579	4,436	2,452	8,057
Parish-decades	54,672	58,232	92,448	34,808
Parishes	6,834	7,279	11,556	4,351
Switchers (overall)	1,929	2,005	2,081	1,842
Switchers (at least once)	849	885	917	814
Outcome mean	0.017	0.018	0.016	0.022
Outcome residual s.d.	0.122	0.127	0.126	0.137

Notes. This table reports the average total effect of non-normalized event-study effects δ_ℓ estimated through Equation 1. All regressions include parish and decade fixed effects, as well as wheat prices and decade-by-unit fixed effects. The estimation is restricted to two leads and three lags. The units used for the fixed effects are cantons in Column (1) and arbitrary squares of various sizes in Columns (2)–(4). *Parish-decades* and *Parishes* denotes the number of observations effectively used in the estimation. *Switchers (overall)* denotes the number of parish-decade observations that switched treatment over the period, while *Switchers (at least once)* denotes the number of parishes that switched at least once. *Outcome residual s.d.* denotes the outcome standard deviation once decade, parish fixed effects, and other controls are accounted for. Estimates are calculated using de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command. Standard errors are clustered at the parish level and reported in brackets.
*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

D. Consequences for Revolution-Era Political Societies

Political societies were clubs created in 1789–95 in which local notables discussed political affairs, social issues, and reforms passed by the National Convention, but also coordinated revolutionary action (Kennedy, 1982; 1988; 2000). Over this period, about six thousand political societies were created (Boutier, Boutry and Bonin, 1992). They played a critical role in the diffusion of the ideas of the Revolution. The most prominent ones were sponsored by the Parisian *Club des jacobins*, which was pivotal during the Revolutionary period. And although "the earliest clubs were dominated by the middle-class elite" (Kennedy, 1982, p. 26), they broadened out in 1793–95 to incorporate a wider socioeconomic and professional range of members. For instance, an analysis of club lists taken from départemental archives in 1793 shows less than 0.1 percent of nobles, 0.9 percent of priests, 9 percent of servicemen and police, 15 percent of peasants, 12 percent of shopkeepers and retail merchants, 3 percent of wholesale merchants, 14 percent of salaried employees and government officials, 8 percent of liberal professions, 34 percent of artisans, and 3.4 percent of manual laborers (Kennedy, 2000, p. 97).

We assess whether the dynamic effects of the expansion of the horse-post relay network on rebellious activities in the *run-up* to the Revolution played a role *during* the Revolution, specifically by fostering local political organization that later emerged under the form of political societies. To do so, we first estimate the direct effect of prior rebellions on the formation of later political societies as follows:

$$\texttt{societies}_{pc} = \alpha + \beta \log \texttt{rebellions}_{pc} + X_{pc} + \gamma_c + \varepsilon_{pc}, \tag{A.1}$$

where $\texttt{societies}_{pc}$ denotes political societies (whether Jacobin societies or all societies, including popular ones with less strict criteria for joining) created between 1789 and 1795 in parish p in canton c, and $\texttt{rebellions}_{pc}$, the number of rebellions that occurred in parish p throughout the eighteenth century. To account for potential omitted factors, we further control for the log distance to Paris, the log 1793 population, an indicator variable that equals one if the parish was the seat of an administration (subdélégation, bailliage, évêché, recettes des finances, district, département), and an indicator variable that equals one if the parish ever had a letter-post office during the eighteenth century. We also include canton fixed effects, γ_c, and cluster standard errors at the level of cantons.

Next, we turn to a 2SLS approach and analyze whether rebellions induced by the presence of a horse-post relay in a parish fostered the creation of these societies. Specifically, we instrument the number of rebellions by an indicator variable that equals one if the parish ever had a horse-post relay during the eighteenth century.

The results of this analysis are reported in Table D1. The OLS analysis reveals that rebellious activities in the run-up to the Revolution are positively correlated with the creation of political societies. Turning to the 2SLS strategy, we find that, consistent with our analysis, the presence of a horse-post relay is associated with more rebellions (first-stage panel) as well as to the creation of political societies (reduced-form panel). Results in the 2SLS panel suggest that rebellions stemming from a horse-post relay was associated with a substantially higher likelihood of a political society emerging during the Revolution.

Table D1. The Horse Post, Rebellions, and Political Societies

	Political societies			
	All		Jacobin	
	OLS. Outcome: political societies			
log rebellions	0.336***	0.098***	0.172***	0.055***
	[0.010]	[0.010]	[0.008]	[0.006]
	First stage. Outcome: log rebellions			
Horse-post relay	0.247***	0.081***	0.247***	0.081***
	[0.014]	[0.011]	[0.014]	[0.011]
Cluster-adj. F-stat	305.089	263.668	305.089	263.668
	Reduced form. Outcome: political societies			
Horse-post relay	0.376***	0.131***	0.178***	0.051***
	[0.013]	[0.011]	[0.010]	[0.007]
	2SLS. Outcome: political societies			
Horse-post relay	1.522***	1.630***	0.722***	0.637***
	[0.084]	[0.252]	[0.042]	[0.116]
Controls	No	Yes	No	Yes
Observations	35,086	34,680	35,086	34,680

Statistics. All political societies: 0.145 (mean); 0.300 (residual s.d.). Jacobin societies: 0.022 (mean); 0.127 (residual s.d.). log rebellions: 0.080 (mean); 0.232 (residual s.d.).

Notes. This table reports the coefficients from estimating Equation A.1. The unit of observation is a parish. All regressions include canton fixed effects. Controls include the log distance to Paris, the log 1793 population, an indicator variable that equals one if the parish was the seat of an administration, and an indicator variable that equals one if the parish ever had a letter-post office during the eighteenth century. Estimates are calculated using Correia's (2023 [2014]) `reghdfe` and `ivreghdfe` Stata commands. Standard errors are clustered at the canton level and reported in brackets.

*** $p \leq 0.01$. ** $p \leq 0.05$. * $p \leq 0.10$.

E. Data Appendix

Shapefile of France in 1789 We focus on the territory of the Kingdom of France as of 1789. This is equivalent to the current territory of mainland France, with three main exceptions: the Duchy of Savoy, the County of Nice, and the Comtat Venaissin—these territories represent approximately three percent of France's current territory.[3] The base shapefile of the extent of France in 1789 we use in Figures 2, 5, A3, A4, A9, A12–A15, A17, and E3 is based on Gay, Gobbi and Goñi's (2024) jurisdictional database.

Historical GIS of the horse-post relay network To create the historical GIS of the horse-post relay network displayed in Figures 2, 6, A3, A4, A7, and A17, we digitized the 1714, 1721, 1731, 1741, 1751, 1760, 1770, 1780, and 1790 editions of the *Liste générale des postes de France* available at the Bibliothèque nationale de France and at the Bibliothèque des postes et télécommunications.[4] These practical publications were designed for portability, with a relatively small and sturdy format that enabled them to be carried in a jacket pocket while riding a horse. Because they were printed for practical purposes, they were not systematically preserved. As a result, not all editions are available today, and in particular the 1709–13, 1720, 1730, 1740, and 1750 editions (Granderoute, 1991; Arbellot, 1992, p. 110–4). We subsequently extracted all the segments between horse-post relays within each listed itinerary, along with their start and end points, and matched this set of locations to a GIS of France's parishes.[5] Finally, we drew straight lines between each node and combined segments to recreate the set of itineraries provided in the various editions of the *Liste des postes*.[6]

Note that the two earliest editions of the *Liste des postes* available are those of 1708 and 1714 (Granderoute, 1991; Arbellot, 1992, p. 110–4). While both editions are equally distant

[3]Other exceptions include several small municipalities (Montbéliard, Salm), independent cities (Avignon, Mulhouse), counties (Saar-Werden, Sault), and lordships (Montjoie, Mandeure, Bidache). Furthermore, Corsica is excluded from the analysis as it was not incorporated into France until November 30, 1789.

[4]The content of these books was updated annually by the horse-post administration and published by royal privilege. This privilege was granted to the Jaillot family from 1708 to 1779, after which it reverted to the postal administration (Fordham, 1922; Arbellot, 1980, pp. 100–2). In addition to the lists of horse-post relays and itineraries, these books also contained a small map of the horse-post relay network (Verdier, 2007, pp. 8–10; Verdier, 2009*b*, pp. 3–4).

[5]Specifically, we use IGN's (2011) Geofla 2011 shapefile of communes as our reference GIS in RGF93 projection, which we match to the set of parishes that existed before the Revolution using Cristofoli et al.'s (2021) tabular version of the *Histoire administrative des communes* (HAC) database, disseminated on the website `cassini.ehess.fr` (Motte et al., 2003; Motte and Vouloir, 2007).

[6]Contemporary maps of the horse-post relay network proceeded in the same way, i.e., by linking relays through straight lines (Verdier, 2009*c*). In fact, these were among the first maps of a network produced in France, such as Sanson's *Carte géographique des postes qui traversent la France* published in 1632 (Arbellot 1980, pp. 97–106; 1992, pp. 115–20.

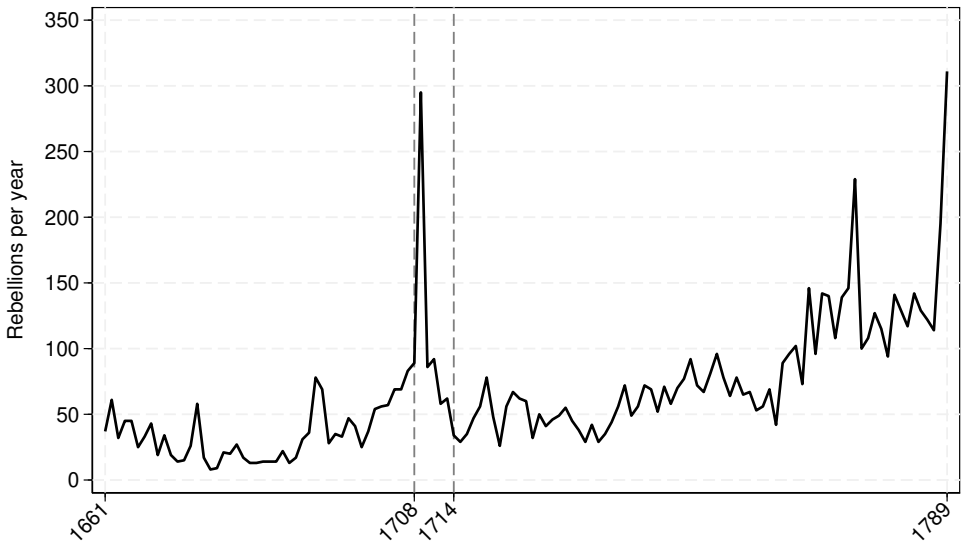


Figure E1. Annual Number of Rebellions

Notes. This figure displays the annual number of rebellions from 1661 to 1789 based on Nicolas's (2002) original survey along with a decade-moving average.

from the "ideal" edition we would like to have accessed—that of 1711—we do not use the 1708 edition because long-run trends in rebellions exhibit a significant break specifically in 1709 with 295 rebellions (see Figure E1). This is almost as many as in 1789, right before the Revolution, when 311 rebellions were recorded in Nicolas's (2002) survey. In fact, Aubert (2023)—in a book entitled *1709: The year the Revolution did not break out*—highlights how the 1709 outbreak of rebellions was due to the combination of agricultural, military, and religious factors: the unprecedentedly cold winter led to a subsistence crisis; France's involvement in the War of the Spanish Succession (1701–14) led to the (temporary) loss of the city of Lille to the Imperial powers, with the risk of an invasion of Paris; and the Protestant Camisard rebellion in the south of the Massif Central was revived due to the execution of one of its leaders, Abraham Mazel. Given that this setting is hardly representative of the typical waves of rebellions occurring throughout the eighteenth century that we aim to explain in this article, we prefer to leave the 1708–13 period out of our analysis and focus on post-1714 rebellions, when this exceptional outburst was over.

We did, however, collect the content of the 1708 edition of the *Liste des postes*. The number of horse-post relays in 1708 at 819 is consistent with posterior data, with 845 in 1714 and 863 in 1721.[7] Our results are robust when using the 1708 edition of the *Liste des*

[7]Bretagnolle and Verdier (2007) report only 532 horse-post relays in 1708 (Table 3, p. 158) because do not account for those located in parishes with fewer than 750 inhabitants in 1809–11 (p. 157). In contrast, our horse-post relay data is exhaustive.

postes instead of that of 1714 and including rebellions that occurred in 1708–20 instead of those that occurred in 1714–20, as we find an average total effect of 0.028 (standard error of 0.011) without controls and fixed effects and a coefficient of 0.017 (standard error of 0.004) when controlling for wheat prices and decade-by-canton fixed effects.[8]

The horse-post network data we construct is more comprehensive than that proposed by Bretagnolle and Verdier (2005; 2007) and used in Bretagnolle and Verdier (2006), Verdier (2007; 2009*a*), and Bretagnolle and Franc (2017), because they only collected information on the horse-post relays located in parishes with fewer than 750 inhabitants in 1809–11 (Bretagnolle and Verdier, 2007, p. 157), thus leaving out about one third of all relays—though Bretagnolle, Giraud and Verdier (2010) completed the missing relays. More importantly, we collect information on the spatial distribution of horse-post relays for every decade in the eighteenth century (1708, 1714, 1721, 1731, 1741, 1751, 1760, 1770, 1780, and 1790). In contrast, Bretagnolle and Verdier (2005; 2007) only collected this information for 1708, 1733, 1758, and 1783. Our data is therefore also more complete than those collected by Sasaki (2024), which digitizes the maps of postal roads for two eighteenth-century cross sections: one for 1731, based on Jaillot's "Nouvelle carte des postes de France," and one for 1792, based on Arbellot, Lepetit and Bertrand (1987). Moreover, because his analysis focuses on France's largest cities, Sasaki (2024) only identifies 190 relays in 1731 and 243 in 1792, while we identify 878 in 1731 and 1,413 in 1790.

Rebellions We gather information on 6,000 rebellions that occurred between January 1714 and April 1789—thus, excluding the French Revolution—based on archival material collected by Jean Nicolas (2002). As is the case with much of the French historiography of popular uprisings in Ancien Régime France (Porchnev, 1963; Mousnier, 1967; Foisil, 1970; Bercé, 1974; Pillorget, 1975), Nicolas (1973; 1974) began systematically collecting archival information on these events in the late 1970s, at a time when this kind of quantitative historical survey was common (Karila-Cohen et al., 2018). While his survey initially focused on the region of the Duchy of Savoy, it expanded in the early 1980s as Jean Nicolas recruited collaborators throughout the country (Nicolas, 1985). This survey was conducted until 1989, during which time a substantial number of coding sheets were produced, amounting to nearly fourty thousand pages. These sheets are currently preserved in the Bibliothèque François Lebrun at the University of Rennes-2.

A database of the entire content of these records was then created—independently from the HiSCoD project (Chambru and Maneuvrier-Hervieu, 2024)—and will be made available.

[8]These estimates are probably attenuated compared to those when using the 1714 edition because the massive number of rebellions in the first period—when the horse-post relay network is the least developed—creates a downward bias.

It is more comprehensive than the one proposed by HiSCoD—for the part that relates to Nicolas's (2002) database—because it contains all the variables available in Nicolas's (2002) original records. Specifically, each record of contains four pages. We provide an example record below in Figures E2. The variables that are included in the HiSCoD database correspond to a subset of the information of each record's first page—except for the bibliographical information, which is located on its fourth page: the date of the rebellion, its location, its type, the number of participants, and whether women participated in the rebellion. In contrast, we collected all the information contained in these records, which we utilize in our analysis. Among these variables, we use the intensity of the rebellion (bottom left of page 1) and the social category of participants (section 11, page 2).

The measure of rebellion size that we use to show that the results are not driven by smaller rebellions in Table A10 is based on Jean Nicolas' measure of the "intensity" of a rebellion. As defined in his book (Nicolas, 2002, pp. 27–8), "weak" rebellions (`intensity` = 1) are those with less than 10 individuals, "moderate" rebellions (`intensity` = 2) are those with 10–50 individuals, and "strong" rebellions (`intensity` = 3) are those with more than 50 individuals: "[n]ous avons affecté chaque cas d'un coefficient d'intensité relative en distinguant trois échelons: affaires de faible, de moyenne et de considérable importance, de 4 à 10 participants, de 11 à 50 et plus de 50" ("[w]e have assigned a relative intensity coefficient to each case, distinguishing three levels: small, medium and large cases, from 4 to 10 participants, from 11 to 50 and above 50"). This information is available for all rebellions in Jean Nicolas' original survey records, which he notes at the bottom left of each record's first page (see Figure E2).

However, note that information on the exact number of participants is missing in many cases. Specifically, a precise number of participants is available for only about 45 percent of rebellions (2,697 out of 6,000). Jean Nicolas was well aware of this issue, as he writes (Nicolas, 2002, p. 28): "[o]n sait que les sources restent souvent imprécises ou peu fiables pour les données chiffrées [sur les participants]" ("[o]ne knows that sources are often imprecise or unreliable when it comes to statistics [on participants]"). His solution was therefore to take into account the qualitative information available in the sources: "[n]ous avons donc tenu compte de toutes les estimations qualitatives fournies par les autorités ou par des témoins" ("[w]e have therefore taken into account all qualitative estimates provided by the authorities or by witnesses").

How accurate is Jean Nicolas' assessment of the intensity of a rebellion? While it is impossible to assess his accuracy for all rebellions, we can make an assessment for rebellions for which we have factual information on the number of participants, i.e., about half of them.

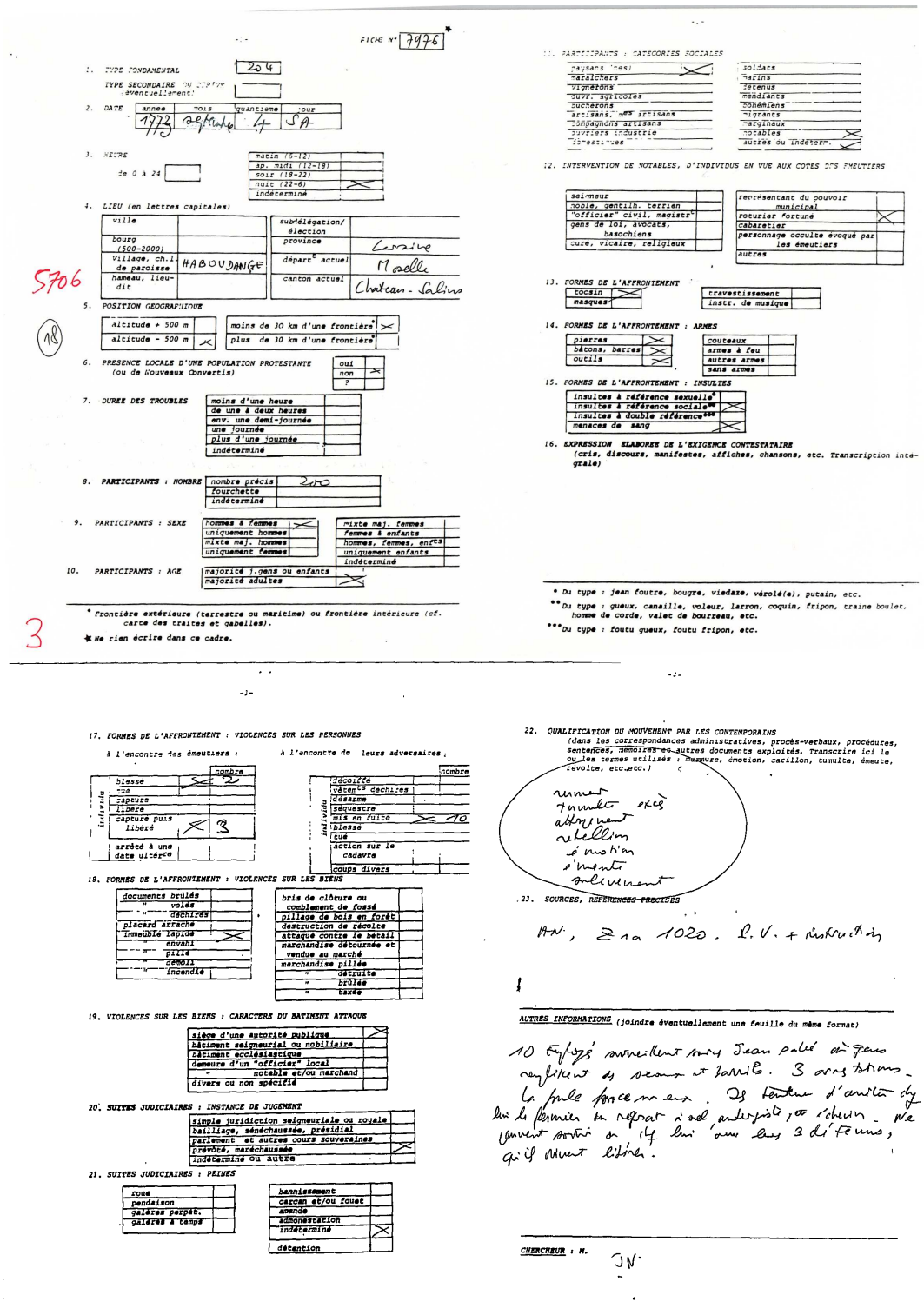


Figure E2. Record 7976 of the Jean Nicolas Survey

Notes. This figure displays record 7976 of the Jean Nicolas Survey (Nicolas, 2002). This record is available at the Bibliothèque François Lebrun at the University of Rennes-2.

Table E1. Number of Participants by Intensity

Participants:	0–10	10–50	50+	*Total*
Intensity				
Weak	**857**	183	7	*1,047*
Moderate	17	**867**	58	*942*
Strong	2	23	**683**	*708*
Total	*876*	*1,073*	*748*	***2,697***

In Table E1, we provide a tabulation of the intensity measure by bin of number of participants for the subset for which this information is available. Although the overlap between Jean Nicolas' assessment and the number of participants (when available) is not perfect, it is relatively accurate, as 90 percent of cases are "correctly" classified $((857+867+683)/2,697)$. We therefore rely on this intensity measure—which is available for *all* rebellions—rather than on the number of participants.

Administrative and territorial divisions We assign each parish to a specific généralité and subdélégations based on Cristofoli et al.'s (2021) dataset, which draws from Arbellot et al.'s (1986) historical atlas.[9] We assign each parish to a 1793 canton based on information in `cassini.ehess.fr` (Motte et al., 2003; Motte and Vouloir, 2007).[10]

Wheat prices To construct a parish-level measure of decade-average wheat prices from the 1710s to the 1780s, we first compute decade-average wheat prices in *livre tournois* per *setier* based on Ridolfi's (2019) 5,605 price quotes across 88 locations, which are drawn from 40 secondary sources. Then, for each decade, we perform an inverse distance-weighted spatial interpolation of these prices over the territory of the Kingdom of France by generating a raster layer of prices through a 300×304 matrix, so that each pixel has approximately the size of one parish. Finally, we compute spatially weighted price averages for each decade and each parish polygon through QGIS' *zonal statistics* command.

[9] For details on the reliability of Arbellot et al.'s (1986) atlas, see Vovelle (1986) and Lepetit (1988).

[10] We further divide the territory into *pays d'Elections*, *pays d'Etats*, and *pays d'Imposition*. As of 1789, *pays d'Etats* included Brittany (généralité of Rennes), Burgundy (généralité of Dijon), Franche-Comté (généralité of Besançon), Languedoc (généralités of Montpellier and Toulouse), Provence (généralité of Aix), Dauphiné (généralité of Grenoble), and smaller territories: Artois, Hénaut, and Cambrésis (généralités of Lille and Valenciennes), Béarn (subdélégations of Pau, Oloron, Orthez, Sauveterre, and Morlaàs), Basse-Navarre (subdélégation of Saint-Palais), Soule (subdélégations of Mauléon, Lombez, Maubourguet, Donnezan, Fleurance, Aubiac, Auvillars, Saint-Girons, and Trie), Bigorre (subdélégations of Tarbes and Lourdes), Nébouzan (subdélégation of Saint-Gaudens), and Foix (subdélégations of Foix and Pamiers). *Pays d'Imposition* included the généralités of Metz, Nancy, and Perpignan. *Pays d'Election* included the rest of the territory.

1793 population We measure the size of each parish by its population in the 1793 census, the first census available in France, based on data in Cristofoli et al. (2021). Moreover, we determine the rural status of a parish if it had less than two thousand inhabitants.[11] Note that the 1793 census was incomplete and that its accuracy has been questioned in some regions (see, e.g., Aberdam, 2004). More specifically, in our sample of parishes—later, 1793 municipalities—about 300 have missing population information. These missings are scattered throughout the country, with a quarter located in the département of Vendée—especially in the districts of La Roche-sur Yon and of Montaigu—and a third located in the département of Nord—especially in the district of Valenciennes—essentially due to military operations there.

Connectivity We assess the connectivity of parishes to the network of roads according to the roads that appear on Cassini's maps published in 1756–90 through Perret, Gribaudi and Barthelemy's (2015) historical GIS.

Seats of administrative divisions We determine whether parishes were the seat of an administrative division among six types of administrations: *subdélégations*, *bailliages*, *évêchés*, *recettes des finances*, and *districts*—with the last two administrative divisions created right after the Revolution. We collect this information from Cristofoli et al.'s (2021) dataset, which is itself based on Nordman and Ozouf-Marignier (1989, pp. 75–81).

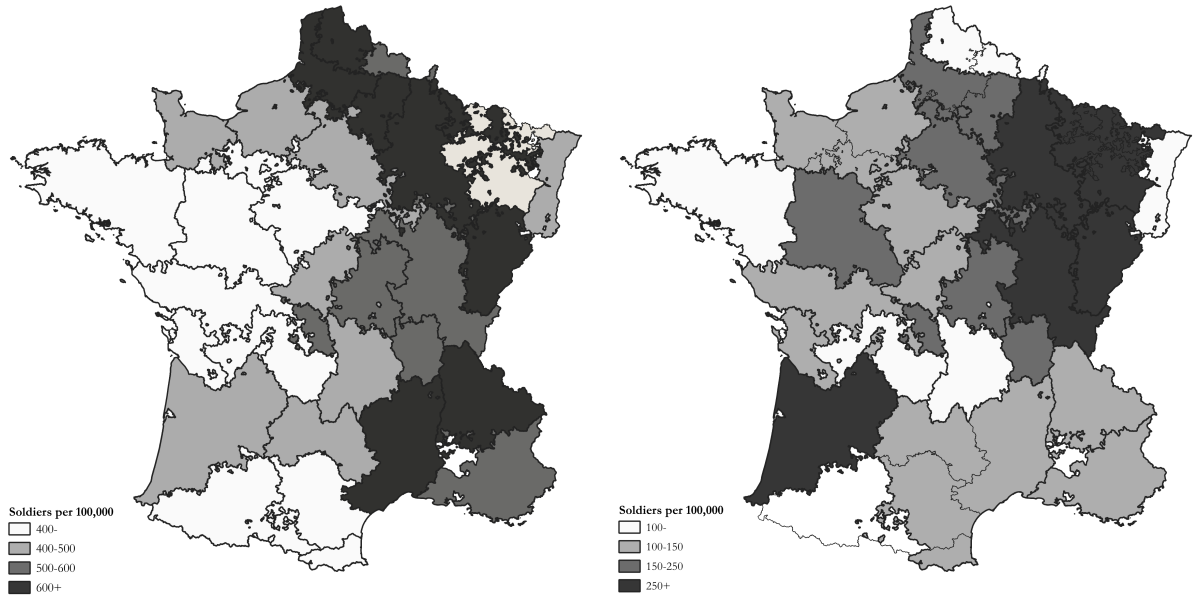
Gabelles We assign each parish to a type of *gabelle* (salt) taxation in the 1780s, as there were wide disparities in the level of taxation across these zones: *petites gabelles*, *grandes gabelles*, *gabelles de salines*, *gabelles du réthelois*, *quart bouillon*, *province rédimée*, and *province franche*. We collect this information based on the manual vectorization of the *Carte des gabelles* of 1781 available on Gallica under Archival Resource Key (ARK): 12148/btv1b8445425x (see Figure A14).

Military recruitment We collect information on military recruitment from two sources. We first rely on data from Corvisier (1964, pp. 410–48), which provides an estimate of recruitment rates per 100,000 inhabitants by généralité in 1716. Specifically, Corvisier (1964, pp. 415–8) surveyed 75 infantry battalions (half of all battalions), 25 cavalry regiments (one third), and 3 artillery battalions (three fifths).[12] The year 1716 is particularly relevant

[11] This threshold has been used by French statisticians throughout the nineteenth century to classify towns as rural or urban (Le Mée, 1972; Roncayolo, 1987).

[12] Corvisier (1964, pp. 419–27) also provides an estimate of recruitment rates by généralité in 1763. However, we do not use these data since they rely on a much smaller sample and are therefore less reliable than those

to evaluate regional disparities in military recruitment as armies were composed of about half a million French soldiers following the War of the Spanish Succession (Corvisier, 1964, p. 158). Our second source of data is based on Komlos (2003) (dataset in Komlos, 2006), which provides a sample of 35 thousand soldiers recruited throughout the eighteenth century (1716—84) based on 80 archival registers covering the whole French territory (Komlos, 2003, p. 161). It provides information on each recruit's year of recruitment and province of birth. To merge Komlos's (2003) data with ours, we create 24 "pseudo-provinces" of birth that are compatible with the généralités available in our data. We then calculate a recruitment rate per 100,000 inhabitants based on population data in the 1793 census. We display the spatial distribution of both military recruitment data in Figure E3.



(a) 1716 (b) 1716–86

Figure E3. Distribution of Military Recruitment

Notes. This figure displays distribution of military recruitment (per 100,000 inhabitants) based on data for 1716 from Corvisier (1964, pp. 410–48) in Panel (a) and for 1716–84 from Komlos (2003) (distributed in Komlos, 2006) in Panel (b), in RGF93 projection. Regions in Panel (a) are généralités, while those in Panel (b) are "pseudo-provinces" based on the geography available in Komlos (2006). Information on généralités is based on Cristofoli et al.'s (2021) dataset, which draws from Arbellot et al.'s (1986) historical atlas. The underlying shapefile of the Kingdom of France as of 1789 is based on Gay, Gobbi and Goñi's (2024) jurisdictions database.

for 1716. Specifically, this estimate relies on 28 infantry battalions (one sixth of all battalions) and 8 cavalry regiments (one seventh). Moreover, it does not include any artillery battalion.

Battles We collect information on the battles that occurred on the territory of the Kingdom of France in 1714–89 from Miller and Bakar's (2023) Historical Conflict Event Dataset (HCED). We retain the following battles, where we indicate their HCED identifiers in parentheses: for the War of the Austrian Succession (1740–8), the Battle of Toulon (1744, `15184`); for the Seven Years War (1756–63), the Battle of Saint-Cast (1758, `12960`), the Raid on Rochefort (1758, `6904`), the Raid on Cherbourg (1758, `3508`), the Raid on Saint-Malo (1758, `2902`), the Battle of Quiberon Bay (1759, `12314`), and the Capture of Belle-Île (1761, `1926`); and for the War of the American Revolution (1775–83), the Battles of Ushant (1778, `15588`; 1781, `15590`). Note that we further include the Raid on Lorient (1746), which is absent from the HCED, and we exclude the Siege of Villafranca (1744) and the Battle of Minorca (1756), which occurred outside of the 1789 boundaries of the Kingdom of France. See Figure A13.

Historical GIS of letter-post offices To create the historical GIS of letter-post offices displayed in Figure A17, we digitized the *Ordre général des courriers* available in the annual editions of the *Almanach royal*, the contents of which we cross-validated with the *Cartes des bureaux de postes* of 1741 and with the 1754 and 1782 editions of the *Dictionnaires des postes*. These three later sources are the earliest and only official publications of the postal administration providing the list of letter-post offices for the eighteenth century. The annually updated list of these offices was transmitted by the postal administration to the royal administration, which included it in its annual editions of the *Almanach royal*. The editions of the *Almanach royal* we use are those for 1714 (pp. 129–44), 1720 (pp. 295–313), 1731 (pp. 369–86), 1740 (pp. 367–81), 1750 (pp. 382–96), 1762 (pp. 442–58), 1770 (pp. 535–46), 1780 (pp. 609–22), and 1790 (pp. 642–66), which are available on Gallica under ARK 12148/cb34454105m. The 1741 *Cartes des bureaux des postes établis sur les différentes routes du Royaume de France* are available under ARK 12148/btv1b53136438t. The 1754 edition of the *Dictionnaire des postes* is available under ARK 12148/bpt6k6283454r (we digitized the 1782 edition of the *Dictionnaire des postes* ourselves). We subsequently matched this set of locations to a GIS of France's parishes.

Historical GIS of the maréchaussée brigades The historical GIS of maréchaussée brigades displayed in Figure A17 is based on Fressin's (2021) *Atlas historique de la gendarmerie*. It provides the spatial distribution of brigades for 1720–30 based on the *État général des maréchaussées de France* (1720–30), for 1738 based on the *Abrégé militaire pour l'année 1738*, for 1750 based on *Les Maréchaussées de France* by Guillotte, for 1771 and 1779 based on the *Registres d'inspection de la maréchaussée* of these years, and for 1790 based on the *État de la maréchaussée pour l'année 1790*.

Political societies We collect information on political societies created between 1789 and 1795, together with their affiliation to the Jacobin societies from Boutier, Boutry and Bonin (1992, pp. 77–101).

F. Software Appendix

Treatment histories To display the 44 treatment histories of the horse-post relays in Figure A10, we use Mou and Xu's (2023 [2022]) `panelview` Stata command (Mou, Liu and Xu, 2023).

Estimation of treatment effects To estimate the treatment effects of horse-post relays reported in Tables 2–4, A4–A11, A14, A15–A18, B1–B2, and C1–C2, and in Figures 7–8, A11, and A20, and of letter-post offices or maréchaussée brigades reported in Panels (b) of Figures A19 and A21, we use de Chaisemartin et al.'s (2025 [2023]) `did_multiplegt_dyn` Stata command, which is an extension of de Chaisemartin, D'Haultfoeuille and Guyonvarch's (2024 [2019]) `did_multiplegt` command. Note that the Stata version of `did_multiplegt_dyn` produces event-study plots that match the standard TWFE output, so that they can be interpreted in the same way (Roth, 2024, footnote 2).

To estimate the treatment effects of the horse-post concurrent with the letter post reported in Panels (a) of Figures A19 and A21, we use de Chaisemartin, D'Haultfoeuille and Guyonvarch's (2024 [2019]) `did_multiplegt_dyn` Stata command, where we follow the guidelines provided in the Stata command's documentation and de Chaisemartin and D'Haultfœuille's (2023, appendix pp. 5–11).

Estimation of consequences for political societies To estimate the correlation between horst-post relays, rebellions, and political societies in Table D1 (and in Table A3), we use Correia's (2023 [2014]) `reghdfe` State command in the OLS and reduced-form panels and Correia's (2023 [2014]) `ivreghdfe` Stata command in the first-stage and 2SLS panels.

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